AGRICULTURE DIALOGUE

Case Study

Budget Efficiency in Uganda

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CABRI Agriculture Dialogue

Case Study

Budget Efficiency in Uganda

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Acronyms and abbreviations

CAADP	Comprehensive Africa Agriculture Development Programme
CABRI	Collaborative Africa Budget Reform Initiative
Danida	Danish International Development Assistance
DNC	District NAADS Coordinator
EU	European Union
FF	Farmers Forum
FG	farmers' group
GEF	Global Environment Facility
HLFOs	Higher Level Farm Organisations
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MoA	Ministry of Agriculture
MoFPED	Ministry of Finance, Planning and Economic Development
NAADS	National Agricultural Advisory Services Programme
NARO	National Research Organisation
PMA	Plan for the Modernisation of Agriculture
PROAGRI	Agriculture Sector Public Expenditure Programme
SACCO	Savings and Credit Cooperative
SC	Sub-county Chief
SNC	Sub-county NAADS Coordinator
SPC	Sub-county Procurement Committee
UGX	Ugandan shilling (currency)

Acknowledgements

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About the CABRI Dialogue

The Collaborative Africa Budget Reform Initiative (CABRI), a peer learning network of senior budget officials in Africa, is undertaking a programme of work on improving spending efficiency in various sectors. In 2010, CABRI commenced value for money analysis and policy recommendations in key sectors. The work started with dialogues connecting sector ministries with Ministry of Finance officials to develop an in-depth understanding of better ways to plan, finance and manage spending in the sector. This discussion in the dialogues was based on a set of analytical studies addressing specific policy questions. The Agriculture Sector Dialogue will be the fourth in a series of sector dialogues, following dialogues in infrastructure, health and education. The purpose of the dialogue is to create a platform for interaction among public officials on the policy challenges in the agriculture sector and to discuss better and more efficient ways to plan, finance and manage public spending in the agriculture sector. This report is intended to share Uganda's experience of public-sponsored agriculture service extension. It presents a case study that displays how efficient it has been, what impact has been felt and what lessons can be learned to improve technical and budget efficiency in service extension across Africa.

Key dialogue questions

Question 1 – The idea

What options are there for governments in Africa for channelling state-sponsored agricultural advisory services to farmers? There are at least five overlapping models for delivering extension to farmers:

- Centrally managed services (e.g. training and visit);
- Participatory (e.g. cooperative);
- Demonstration-based (e.g. lead farmers);
- Adaptive research; and
- Private sector.

Some approaches, for example, farmer field schools, combine several models. What determines the best approach in each country? How is the best approach influenced by farming systems, civil service, donor support, private-sector capacity and other factors?

Question 2 – Technical efficiency

What information is required to provide clear evidence of whether extension has been efficiently managed? How should this information be collected, analysed and used in management? Is it appropriate to spend more than 20% of total expenditure on programme management?

Question 3 – Allocative efficiency

Looking at this case study, would you agree that the NAADS implementation has been cost-effective? With limited resources, how best can countries increase allocative efficiency to maximize the outcomes from extension of agricultural services to farmers? What systems of monitoring, management and evaluation are required to achieve this?

Question 4 – Maximising impact

What would you do differently to NAADS in your country to ensure that the efficient delivery of extension actually achieved the desired impact and resulted in sustained improvements in growth and rural livelihoods? Are there any complementary activities that would be required and any issues of timing to ensure maximum impact?

1. Extension of agricultural advisory services in Uganda

1.1 Background to the agricultural sector

About 73% of Ugandans are employed in an agriculture sector blessed with rainfall received for most of the year. While progress in the agro-processing sector has been slow, it has propelled agriculture to contribute about 24% to Uganda's gross domestic product (Figure 1) (MoFPED 2013).

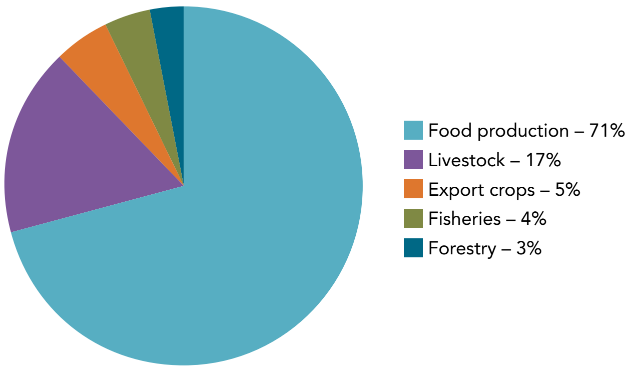
Coffee, tea and cotton are Uganda's leading cash crops. However, as the number of commercial farmers has increased over the last decade, food crops like maize, rice and beans are now both food and cash crops. This is partly due to their high demand in neighbouring South Sudan and Kenya. Other food crops include bananas, cassava, sorghum, millet, potatoes, sweet potatoes, yams, simsim, cow peas and a range of other fruits and vegetables. Uganda has also made progress in growing cocoa, vanilla, sunflowers and tobacco in response to global market demand.

There are three types of farmers in Uganda:

- Subsistence farmers[1] (who comprise about 70% of the farming population);
- Semi-commercial farmers who also engage in agri-business (25% of the total); and
- Commercial farmers (about 5% of the total).

Of the 5.13 million hectares of land that is owned, 4.2 million hectares (86%) are cultivable but only 58% is under cultivation (MoFPED 2010a).

Figure 1: Contributions to Uganda's gross domestic product by the different agricultural sub-sectors



Source: Opio et al. (1998).

Over the last decade the growth of the agriculture sector has slowed from a peak of 7.7% in 2001/2002 (related to the tea and coffee boom) to 0.1% in 2006/2007, when Uganda experienced a severe drought (Figure 2). Since then the sector has recovered, with current growth at 1.8%. Recent studies project optimistic growth rates for some developing sub-sectors. For example, the dairy sub-sector has undergone institutional reforms since 2008, with a new focus on milk processing across the country.

1 Small-scale farming dominates the total composition of Uganda farmers, constituting almost 99% of all farmed land. Small-scale farmers are defined as farmers who earn less than 300 000 UGX (US$112) a year. Most of these farmers hold less than an acre (0.4 hectares) of farmland, compared to semi-commercial and commercial farmers who hold more than 1.3 hectares.

Overall sector growth is hampered by the inability of farmers to increase farm productivity. Uptake of modern farming technologies (including irrigation, use of fertilisers and pesticides, soil health practices and minimising post-harvest losses) remains low and results in a slow rate of growth in the sector as a whole, and in production in particular.

There are some positive developments, though – Uganda is exporting fine processed coffee to Europe, cut flowers (especially to East Asia), tea and processed beef. However, if agriculture in Uganda continues to operate below its potential, it will be very hard to achieve growth or make progress on socio-economic transformation. To date, strategies that focus on improving supply-side constraints are not delivering the changes required to accelerate growth. Key supply-side constraints include:

- Skills and knowledge development (technical and commercial);
- Infrastructure to support and enhance productivity (storage, irrigation, etc.); and
- Access to high quality inputs.

These problems are particularly acute in the informal sector and small farmer businesses.

Figure 2: Growth rate in the agricultural sector, 2005–2012

Source: Civil Society Budget Advocacy Group (2012).

1.2 Trends in agriculture financing

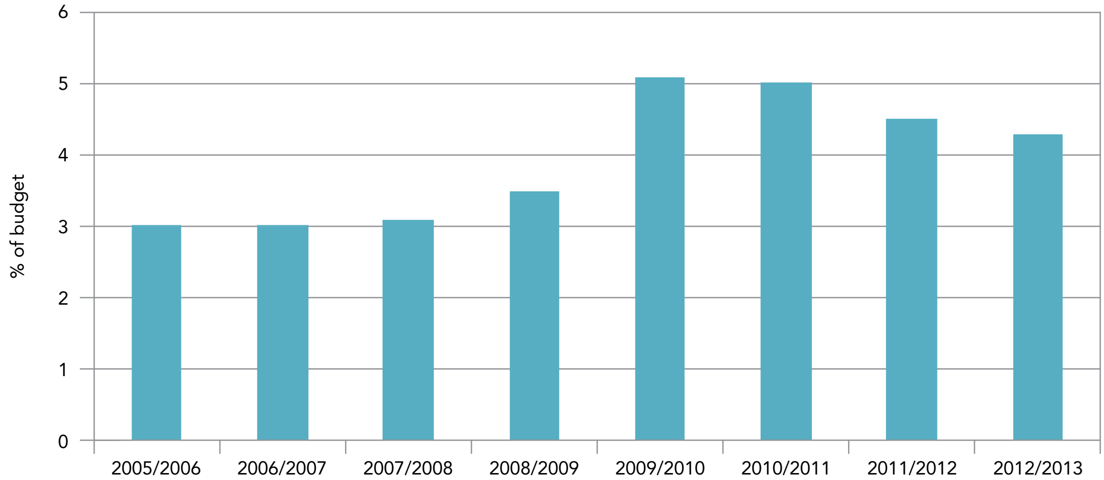
In Uganda, funding for the agriculture sector has declined steadily over the last decade. Uganda is a signatory to the Comprehensive Africa Agriculture Development Programme (CAADP), which requires commitment of up to 10% of budget to this sector. Figure 3 shows the trend in financing the sector over the last eight years.

The budget allocation to the agriculture sector covers mainly administrative costs and the wage bill, split into ten major budget items:

- Ministry Headquarters;
- Directorate of Crop Resources;
- Farm Development Department;
- Crop Protection Department;
- Crop Production Department;
- Directorate of Animal Resources;

- Animal Production Department;
- Livestock Health and Entomology;
- Fisheries Resources Department; and
- Development Planning.

Figure 3: Funding of the agriculture sector expressed as a percentage of the total budget, 2005–2013



Source: MoFPED (2013).

1.3 The NAADS programme

The Government of Uganda is implementing a Plan for the Modernisation of Agriculture (PMA) (MAAIF 2000) with a focus on farmer extension services through the National Agricultural Advisory Services Programme (NAADS). NAADS is one of the seven components under the PMA aimed at redressing past shortcomings in the provision of agricultural extension services through far-reaching reforms and innovative approaches in service delivery. This programme was set up under the NAADS Act of Parliament in 2001 with the aim of modernising the agricultural sector in order to increase total factor productivity and land and labour productivity for the benefit of farmers.

Support is provided to farmers of both food and cash crops, using technical extension services under a decentralised framework. Extension service support for farmers has historically been very low; 2009 national statistics estimated that only 14% of all farming households (estimated to number 5.2 million) were visited at least once a year by an extension service worker (UBOS 2009).

The NAADS guiding principles are based on the 'Common Framework for Agricultural Extension' developed by the Neuchâtel Group between 1999 and 2002. This donor coordination group had originally been formed with a view to developing an alternative to the 'Training and Visit' system that was widely promoted by the World Bank in more than 50 countries, including in Africa. With NAADS, Uganda became one of the first African countries to implement this common framework for agricultural extension.

At national level, the NAADS institutional framework consists of the following:

- Ministry of Agriculture (MoA), which provides oversight;
- Ministry of Finance, Planning and Economic Development (MoFPED);
- Ministry of Local Government;
- NAADS Board; and
- NAADS Secretariat.

NAADS operates within the structures of the local government system and farmer institutions at the sub-national level:

- District local government;
- District Farmers Forum (FF), linked to the National FF;
- Sub-county FF, linked to the District FF;
- Existing farmers' groups, associations or cooperatives formed as group promoters; and
- Village or parish groups at the grassroots level.

The NAADS implementation manual stipulates the functions and roles of all parts of the framework. All NAADS activities – including financial administration, procurement, monitoring and evaluation and coordination – fall under local government structures.

District officials are directly responsible for implementation of NAADS supported by subject matter specialists who have technical expertise in agriculture (production, veterinary and entomology). The following are also found at district level:

- NAADS District FF, comprising the chairpersons of the Sub-county FF;
- Secretary of Production; and
- District NAADS Coordinator (DNC) – the overseer of NAADS in the district on behalf of the national NAADS Secretariat.

The bulk of NAADS implementation is at the sub-county level. The key players in NAADS implementation at the sub-county are:

- Sub-county NAADS Coordinator (SNC);
- Sub-county Chief (SC);
- Service providers (private companies);
- FFs; and
- Farmers.

According to the NAADS implementation system, SNCs are usually sub-county extension (veterinary or crop) officials who are assigned the extra duties of SNC. The SNCs are not paid a salary but various allowances. NAADS institutions at the sub-county level are the Sub-county Farmers Forum (SFF) and the Sub-county Procurement Committee (SPC). Savings and Credit Cooperative organisations (SACCOs) are also institutions that have evolved as part of the NAADS implementation.

1.4 NAADS objectives

The fundamental aim of the NAADS programme is to 'develop a demand-driven, client-oriented and farmer-led agricultural service delivery system', particularly targeting poor women.

NAADS was officially launched in 2002 with the following objectives:

- Creation of options for financing and delivery of appropriate advisory and technical services for different farmer types;
- Gradually reducing the share of public financing of farm advisory costs such that public financing of farm advisory services does not exceed 50%;
- After the first phase of NAADS, to realise a shift from public to private delivery of advisory services;
- To empower subsistence farmers with access to private extension services and market information; and
- To develop the professional capacity of the private sector to sustainably meet the demand for agricultural services at the grassroots level.

Since government alone did not have enough manpower to cover the entire country, contracting extension service provision out to private firms was the main option. This new approach needed thorough preparation of contracted private firms in training farmers to appreciate and adopt technologies at the right time and with proven levels of success (IFAD 2008). Reaching out to farmers with extension methods and technological development has been an integral and largely successful element of NAADS.

Challenges included the following:

- Timing of service provision;
- Quality of inputs;
- Location and accessibility of demonstration sites; and
- Weak exploitation of the potential of links between technology development and adaptive research.

It is important to note that NAADS did not simply provide advisory services but was also linked to the national agricultural research system.

The following three main changes are planned for NAADS Phase 2 to improve efficiency both in programming and technical delivery of outputs:

- In a recent interview with *New Vision*, Uganda's leading daily newspaper, the Minister of Agriculture conceded that NAADS Phase 1 was not limited to the core objective of 'provision of advisory services' and instead became preoccupied with providing implements, which brought about unnecessary (and sad) cases of misappropriation of funds, over-costing of inputs and 'leaving farmers clamouring for implements' (*New Vision* 2013). The change now envisaged is to focus on providing direct on-farm advisory services and encourage farmers to use their own SACCOs to generate funds for purchasing the inputs they require.
- Another failing of NAADS Phase 1 was that farmer groups rushed to select enterprises without concrete feasibility studies or assessments of their capacity to support and sustain them. In Phase 2 there should be more focus on developing demonstration farms, while providing substantial support to 'model farmers' and using them to transfer knowledge to others.
- Phase 2 should reduce the top-heavy bureaucracy and focus more on farmer forums in order to cut administration costs (of the former) and increase impact (for the latter). One of the ways to do this is to cut back on the number of NAADS Coordinators and strengthen the district structure of production and marketing under District Agriculture Officers.

A recent review of NAADS (Rwamigisa et al. 2013), based on key informant discussions and other evidence, identified two themes in the discourse on the design of NAADS:

(a) An approach of radical reform with a rapid move towards decentralisation and private-sector participation; or
(b) A more gradual reform process that builds on existing capacity.

The study concluded that some of the blockages encountered during NAADS could have been avoided if a more gradual approach had been taken. It argues that leading government policymakers took over the strategic direction of NAADS, starting with a programme to subsidise inputs in 2005, but then suspending it in 2007. The suspension may have been related to the perceived failure of the subsidy programme. Thereafter the operation of the programme was changed to rely more on lead farmers and to include government officials in local decision-making groups.

1.5 Implications for key dialogue question one

The first dialogue question asks how to determine which extension model best suits the country concerned. Uganda chose to adopt a decentralised private sector model because of the perception that private sector capacity was strong and because this model was expected to address the diversity of situations across the country. The experience in Uganda suggests that decentralisation was successful, but could have been even more successful if the programme had been designed with more local participation. However, the experience also shows that decentralisation can involve higher costs; these are addressed in the other key dialogue questions. There is some evidence that, whatever the model adopted, reforms should be designed in a way that builds consensus and accepts that this can take some time.

The key factors that determine the best model for extension services are the following:

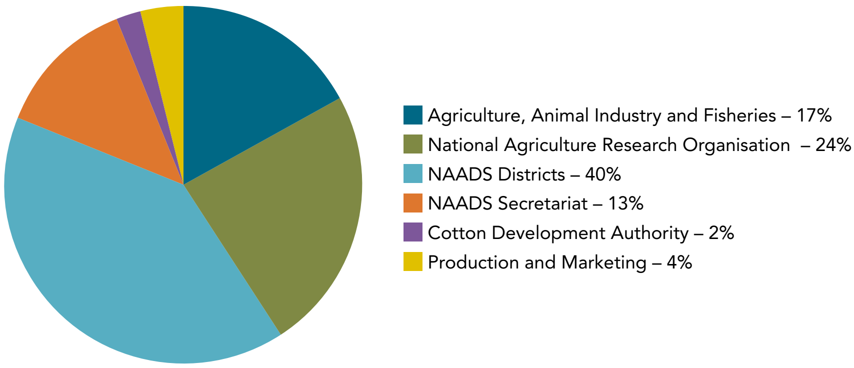
- The existence of a clear vision for the agricultural development of the country, with clearly associated extension needs;
- The capacity and interest of the private sector to participate, either in partnership with government or through their normal commercial links with farmers;
- The capacity of government, including the availability of trained extension workers with reliable and sustainable funding of operating costs;
- The existence of any tendency towards institutional blockages within government systems, whether caused by procedural traditions, social divisions, corruption or other factors;
- The nature of the extension to be provided and whether this involves a clearly defined number of techniques with commercial inputs, or marginal improvements in traditional practices with strong reliance on adaptive research and farmer exchange;
- The diversity of situations across the country and the challenges this poses for efficient central coordination;
- The existence of local traditions of participation in planning and knowledge exchange, including the social traditions governing the relationship between leading farmers and less advanced farmers;
- Land ownership patterns and, in particular, any traditions of outgrower arrangements between estates and smallholders that can be used as a basis for extension;
- The extent to which financial resources are highly constrained; and
- Any complications with donor coordination.

2. NAADS technical efficiency

2.1 Introduction

Uganda's fiscal decentralisation architecture uses a sectoral grant system. Under Uganda's sector-wide approach to public spending, each sector implements programmes funded by a series of grants. Each grant has parameters that define and determine budget allocations. This grant-based system allows for expenditure-sharing with donors that aims to achieve development harmonisation through ensuring spending on national priorities. Allocation is based on criteria set by sector ministries and by the government budget framework papers. This system is also used for the NAADS grant. Under the intergovernmental fiscal transfers are grants to various sectors, including the agriculture sector, with allocations made under 'votes' (also called budget lines). Figure 4 shows the relative distribution of the total budget for agriculture for 2012/2013; a detailed breakdown of the grant is provided in Table 1. It is evident that during this financial year, NAADS spending (both for the national secretariat and in the districts) constituted more than half of the entire funding of the agriculture sector in Uganda. This information provides a general context for the financial management of NAADS, but does not provide any direct evidence about technical efficiency.

Figure 4: The distribution of the total budget for agriculture in 2012/2013



Source: Government of Uganda, 2010/11–2014/15 National Budget Framework Paper Ministry of Finance Planning and Economic Development, Kampala Uganda.

Table 1: Structure of agriculture sector allocations for 2012/2013 (UGX billion)

		Recurrent		Development		
	Sector description	Wage	Non-wage	Domestic	Donor	Total
010	Agriculture, Animal Industry and Fisheries	4.15	12.05	34.73	7.51	58.44
142	National Agriculture Research Organisation (NARO)	–	46.03	13.83	21.15	81.01
152	NAADS Secretariat	–	8.26	0.18	35.49	43.93
155	Cotton Development Authority	–	7.37	–	–	7.37
160	Coffee Development Authority	–	1.13	–	–	1.13
501-850	District Agricultural Extension	–	–	–	–	–
501-850	NAADS Districts	–		137.31		137.31
501-850	Production and Marketing	–	13.12	–	–	13.12
Subtotal		4.15	87.97	186.05	64.14	342.32

Note: There is no budget for District Agricultural Extension as this allocation went wholly to NAADS.
Source: Government of Uganda, 2010/11–2014/15 National Budget Framework Paper Ministry of Finance Planning and Economic Development, Kampala Uganda.

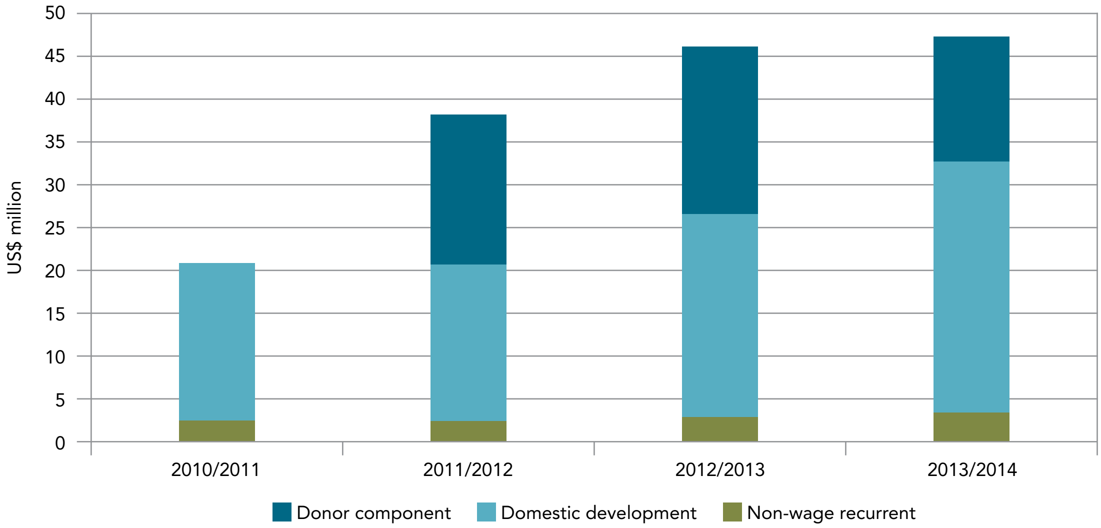
2.2 NAADS funding

The funding arrangement for NAADS is as follows:

- Cooperating partners/donors were to contribute 80% of the financing;
- The government of Uganda was to contribute 8%;
- Local governments 10%; and
- Farmers were to make in-kind contributions of 2%.

Overall NAADS had a clear tracking of funds as they flowed from the center to districts and down to project beneficiaries (World Bank 2010). It is estimated that close to US$108 million was spent on Phase 1, which ended in 2008. Phase 2 began in 2009 and was expected to cost US$666.5 million; however, reviews are under way to cut back on this amount. Figure 5 shows the total yearly NAADS grant from 2010/2011 to 2013/2014; the detailed figures are available in Table 2. The grant includes a non-wage recurrent budget that covers operational costs from the secretariat down to the SNCs. Allocations to purchase implements and other equipment are classified under the domestic development line. The donor component consists of funding from development partners and is used for the wage bill, consultancies and capacity-building.

Figure 5: Total NAADS grant, 2010–2014 (US$ million)



Source: NAADS website, http://www.naads.or.ug/funding/naads-phase-ii-funding/.

Table 2: Structure of the NAADS grant, 2010–2014 (US$ million)

	Non-wage recurrent	Domestic development	Donor component	Total
2010/2011	2.49	18.35	–	20.84
2011/2012	2.43	18.25	17.47	38.15
2012/2013	2.88	23.72	19.5	46.10
2013/2014	3.43	29.23	14.59	47.30
Subtotal	11.23	89.55	51.56	152.39

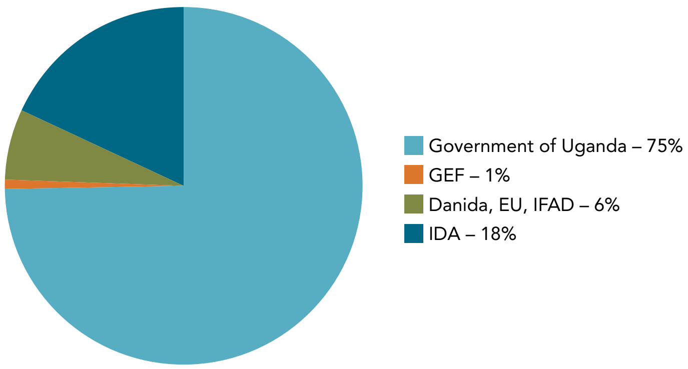
Note: The projection for 2013/2014 in the National Budget Framework Paper may rise to US$52.12 million.
Source: NAADS website, http://www.naads.or.ug/funding/naads-phase-ii-funding/.

2.3 Donor spending on the NAADS programme

The World Bank, the European Union (EU) and several other donors provided close to 80% of the financial support required for NAADS Phase 1 (Benin et al. 2009). Further financing required that the government of Uganda and the donors agreed on aspects of NAADS implementation, including the quality of interventions, transparency in spending and sound economic management as evidenced by annual Auditor-General reporting. There was a set of agreed 'basic principles' or key activities that were to take place at a given frequency (e.g. annual preparation of an updated NAADS financing plan). Compliance with these would be continuously monitored.

Under the Joint Assistance Framework, Uganda has made significant progress on coordinating donor support to the country. This progress has been due mainly to concentration on four key priority sectors – education, water and sanitation, health and transport – with which the majority of budget and sector budget support is engaged. Donors that support NAADS have a Joint Donor Group that undertakes its own oversight of the programme. Figure 6 illustrates the relative contributions of the various donors to the NAADS Phase 2 budget. Table 3 shows a breakdown of the figures.

Figure 6: Relative contributions of donors to the NAADS Phase 2 budget



Source: NAADS website, http://www.naads.or.ug/funding/naads-phase-ii-funding/.

Table 3: Donor financing for NAADS Phase 2 (US$ million)

Source	Local	Foreign	Total
Borrower/recipient (Government of Uganda)	497.3	0.0	497.3
International Development Association (IDA)	46.1	73.9	120.0
Global Environment Facility (GEF)	5.1	2.1	7.2
Financing gap (to be financed by Danida, EU and IFAD)	15.8	25.2	41.0
Total	564.3	101.2	665.5

Source: NAADS website, http://www.naads.or.ug/funding/naads-phase-ii-funding/.

2.4 NAADS spending on programme management and coordination

As mentioned above, NAADS funding has a separate budget line within the total agriculture budget and has its own grant guidelines. This was set up at the inception of the programme.

Evidence on expenditure is only available at a very aggregated level and it is very difficult to interpret this information. The best information available is from the NAADS Annual Reports (MAAIF 2006, 2007, 2008), but this does not break down expenditure below the headings shown in Figure 7 and does not provide an explanation of the definitions used. This suggests that NAADS management paid little attention to technical efficiency, although it is possible that internal reports were produced and that these have not been made available publically.

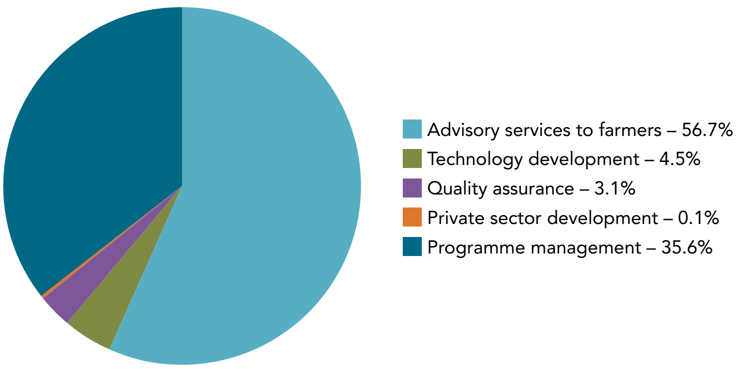
According to the Annual Reports (MAAIF 2006, 2007, 2008), about 57% of the total NAADS Phase 1 financing of US$108 million was spent on advisory and information services to farmers (Figure 7). Because mobilisation work had to be undertaken across the country, a substantial 36% of all financing went to programme management and administration, including the following costs:

- Salaries for DNCs;
- Salaries for SNCs;
- Four-wheel-drive vehicles for each district (including fuel and driver costs);
- Support to office logistics in all districts; and
- Facilitation of workshops over the programme period.

The scale of overhead costs became a major source of criticism for the programme, especially from researchers and civil society organisations. While it is expected that service extension would ordinarily require substantive spending on overheads, the problem with NAADS was that there were unnecessary costs, as the government already had district agricultural and veterinary officers to do the job that the NAADS Coordinators were contracted to do.

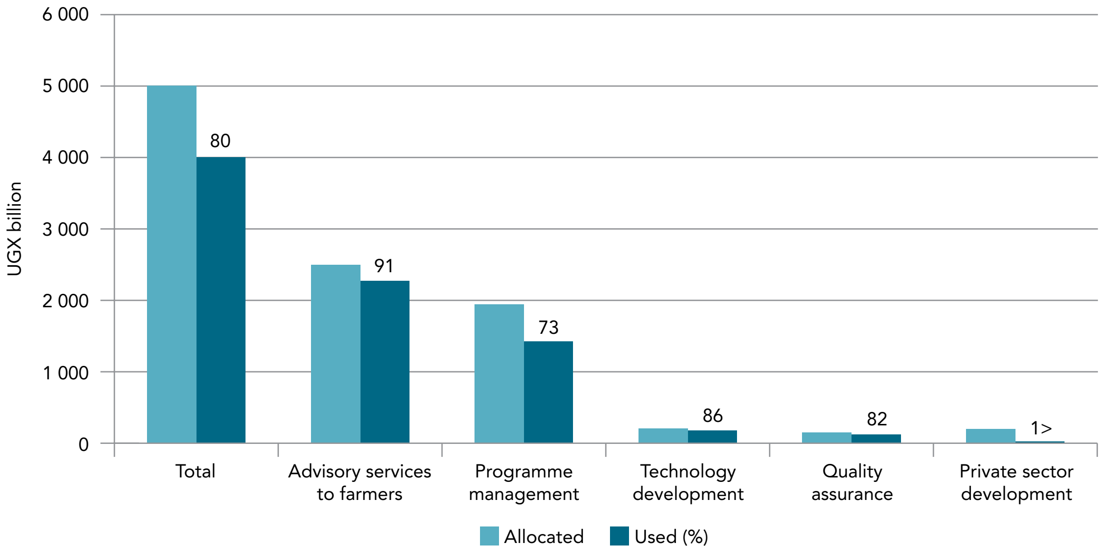
Only 1% of the funds allocated to private sector development were used (0.1% of the total budget) (Figure 8). About 7% was spent on quality assurance and technical auditing of service providers, technology development and linking of farmers to markets.

Figure 7: Relative amounts of the total US$108 million budget spent on different areas during NAADS Phase 1



Source: MAAIF (2006, 2007, 2008).

Figure 8: Differences between allocated budget and funds used during NAADS Phase 1



Source: MAAIF (2006, 2007, 2008).

2.5 Assessment of NAADS technical efficiency

The NAADS Monitoring and Evaluation System is supported by the NAADS institutional framework and fed by data collected on all aspects of the implementation. DNCs and SNCs plan, supervise and document implementation of activities as they occur. They are also responsible for financial management and reporting, financial auditing and oversight of service contracts with private providers.

NAADS had a weak Monitoring and Evaluation System during Phase 1, which makes it difficult to ascertain expenditure on each activity in each district. Where information is available, it is generalised and not broken down. Most of the information refers only to NAADS outputs and does not address the benefits generated for beneficiaries. For example, Table 4 shows data published in the *National Budget Framework Paper 2010/2011–2014/2015* (MoFPED n.d.: 67), which shows the target outputs, but provides only a single budget figure and thus makes it impossible to calculate, compare and monitor the unit costs of activities.

Table 4: NAADS activities and overall annual spending

	2009/2010	2010/2011	2011/2012	2012/2013
Functional Sub-county FFs set up	1 060	1 100	1 100	1 100
Agricultural processing facilities equipped	900	3 000	3 000	3 000
Agribusiness firms supported	21	83	100	100
Farmer groups linked to market information	18 010	34 100	45 000	45 000
Farmer groups trained in quality standards of products	15	70	190	190
Farmers who received extension services	26 000	51 000	60 000	60 000
Farmers who trained in commodity value chain	18 500	50 000	60 000	60 000
Farmers linked to technological demonstration sites	13 134	50 000	60 000	60 000
Cost (US$ billion)	**58.6**	**117.2**	**127.1**	**149.5**

Source: MoFPED (n.d.: 67).

There is still strong consensus (from both donors and the government) that the decentralisation policy has worked and has helped to 'bring services to the people'. The reduced burden on the central government frees it to focus more on policy reforms and support supervision. The decentralization approach, however, seems to have led to substantial overheads and has therefore reduced the technical efficiency of the programme.

Pooling of donor financing during NAADS Phase 1 made it possible for the programme to finance research and quality assurance of various aspects of farming. The pooling of donor funds was intended to remove some of the technical inefficiency associated with project-based lending, including the tendency for duplication and inconsistency. Unfortunately, no analysis has been done on whether these gains have been made and, if so, how significant the gains were.

Some development partners feel that farmer participation happens too late in the process. Farmers should be involved in the planning and strategy processes to benefit rural development. Whilst the main purpose of farmer participation is to improve allocative efficiency by ensuring that local priorities are funded, there are also implications for technical efficiency. In theory, relying on local participation should make it possible to reduce the costs to government because farmer participation is voluntary. However, establishing and supervising a system of participation involves substantial investment. Unfortunately, no analysis has been done on the technical efficiency of the work that has taken place to promote participation.

NAADS aimed to improve technical efficiency and make a departure from its criticised predecessor, the Agricultural Extension Project. Unfortunately, the NAADS programme itself had elements of a mechanical approach and suffered from resource misappropriation, high overhead costs and slow implementation, according to the audit reports of the Auditor General (MoFPED 2009, 2010b).

2.6 Implications for key dialogue question two

The second key dialogue question asks what information is required to provide clear evidence on whether extension has been efficiently managed and how this information should be collected, analysed and used in management.

NAADS had high management costs that were strongly criticised in the media and that called into question the efficiency of the programme. It must be stressed, however, that the evidence on management costs was collected and published in a way that makes it difficult to look at trends or to compare NAADS to models used in other countries. In particular, no analysis has been done on the following three key questions:

- Whether the overhead costs were higher or lower than its predecessor, the Agricultural Extension Project.
- Whether the pooling of donor support had led to efficiency gains arising from reduced duplication and inconsistency.
- Whether farmer participation reduced spending on management costs to offset the costs of establishing and supporting such participation.

There were relatively few problems with financial management and budget execution rates were good for NAADS, at least compared to some other lines of expenditure, despite the challenges of coordinating various sources of funding. However, the financial information available does not allow for the execution rates of different activities to be analysed to determine whether some activities encountered more implementation problems than others, which would give some indication of problems with allocative efficiency.

3. NAADS allocative efficiency

3.1 Parameters and determination of allocations

Allocating funds under the NAADS grant has been a key area of contention. The three parameters that have been used are:

- District land area;
- District population; and
- District poverty headcount.

A study undertaken by the Local Government Finance Commission to review local government financing noted that these parameters are shallow and that in some cases, they lose the attribute of fairness and allocative efficiency. Compare, for example, a district that has a low population and a large surface area with people engaged mainly in pastoral livestock farming, to a densely populated district with limited number of farming households. How should funds be allocated in these two cases?

The study noted that additional indicators should be used when determining grant allocations:

- Categorisation of farming enterprise undertaken in a particular district;
- Redefining land area to farming area;
- Redefining population size to include a definitive number of actual farming households while including accommodation of urban and rural farming households since their needs are diverse;
- Consideration of districts regarded as 'hard-to-reach', such as high terrain or islands in lakes Victoria and Kyoga; and
- Inclusion of elements of support and service supervision and other specific interventions that may not be needed in all quarters of the financial year.

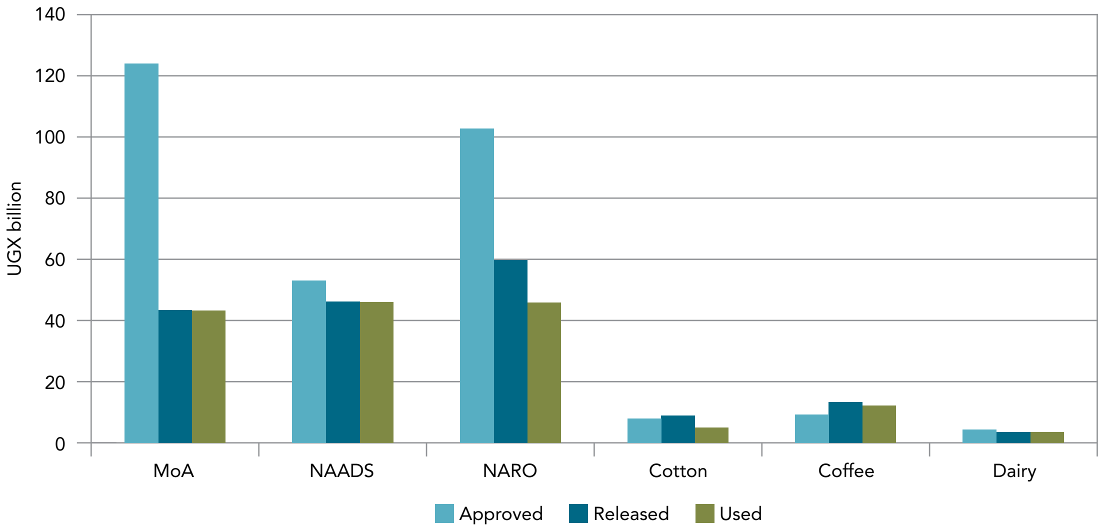
3.2 Budget execution

According to the annual review of government performance conducted by Uganda's Office of the Prime Minister (2012), there have been high levels of budget efficiency in agriculture budget spending. The report highlighted that the total budget of UGX124 billion received by the MoA had been used (Table 5), which helped the ministry achieve 68% of 15 output targets. These were:

- Crop pests and disease control measures;
- Construction of irrigation schemes;
- Increased value addition in the sector;
- Policies, laws, guidelines, plans and strategies;
- Quality assurance systems along the value chain;
- Food and nutrition security;
- Animal breeding and genetic development;
- Promotion of sustainable fisheries; and
- Livestock marketing facility construction.

However, in many cases actual budget releases do not match approved budgets. This remains a key concern for various sub-sectors within agriculture in Uganda (Figure 9). In 2011/2012, for example, only 69% of the approved budget was actually released (Table 5). Consequently, some components within the MoA suffered budget cuts that adversely affected NAADS outcomes.

Figure 9: Agriculture budget performance, 2011/2012



Source: Office of the Prime Minister (2012).

Table 5: Agriculture budget figures, 2011/2012 (UGX billion)

	Amount approved (A)	Amount released (B)	Amount used (C)	Percentage released (B/A) (%)	Approved amount used (C/A) (%)	Released amount used (C/B) (%)
Ministry of Agriculture	124.01	43.42	43.30	35	35	100
NAADS	**52.96**	**46.11**	**45.96**	**87**	**87**	**99**
Cotton Development Authority	7.94	8.95	5.06	113	64	57
Coffee Development Authority	9.29	13.27	12.12	143	130	91
NARO	102.67	59.78	45.92	58	45	77
Dairy Development Authority	4.26	3.55	3.56	83	83	100
Sector total	**434.08**	**301.55**	**283.70**	**69**	**65**	**94**

Source: Office of the Prime Minister (2012).

3.3 Challenges to NAADS budget efficiency

Government sets national priorities that guide the national budget framework paper from sectors down to districts. The challenge is that while national priorities are being set, sectors are already elaborating their investment plans (usually five or ten years in duration), and these plans are often contradicted by national policy. This fortunately has not been a challenge for NAADS, which was a key feature of the political manifesto over the last decade. Uganda has profited from relatively strong annual sector review processes, which keep sector strategies in check and allow an internal appraisal that is good for efficiency. The main challenge of comprehensive budgeting arises when shocks in the budget process force the Treasury to reduce allocations to various sectors.

NAADS set up structures parallel to the already existing structures within the MoA, down to the district production and agriculture departments. This has had implications for management costs, but also results in overlapping responsibilities for decisions about allocating resources. However, it has taken place in the context of a policy of decentralisation, which explicitly delegates decisions about allocative efficiency to local levels and accepts that optimal allocative efficiency varies greatly between locations. Recent reports suggest that there will be a cut-back on the number of NAADS coordinators, with concomitant strengthening of district veterinary and agriculture offices to implement NAADS. This would save money and also strengthen the decentralised structure of agriculture extension services.

At some point during NAADS Phase 1, it became apparent that providing only advisory services was inadequate – farmers also required implements on their farms. According to Dr Kisamba Mugerwa, former Minister of Agriculture, 'It was no longer enough to provide advisory services to poor farmers who did not even have enough hoes to till the land'. Towards the end of Phase 1, NAADS – in a direction viewed by most researchers as a diversion from its original purpose – began to provide inputs such as seeds and farming equipment. This increased the overall budget and created unanticipated demand for such support. Combined with already high overhead costs (salaries, management costs, vehicles, fuel) provision of implements meant that under Phase 1 about 57% of the budget went to advisory services while 36% went to programme overheads, which were anticipated to reduce overtime. Audit reports from the Auditor-General (MoFPED 2009, 2010b) point to fund misappropriation and underreporting on allocations to this programme.

Early reports, including the results of an impact evaluation by the International Food Policy Research Institute (IFPRI), showed positive results (Benin et al. 2007). Later, however, the programme became increasingly controversial. Anecdotal evidence, newspaper reports and research evidence revealed major problems, including the following:

- Farmer ambivalence towards the programme;
- Limited understanding of the programme by farmers;
- Low technology uptake by farmers;
- Questionable capacity of private service providers;
- Mismanagement; and
- Too rapid roll-out of the programme (Rwamigisa et al. 2013).

NAADS suffered significant group fall-out. There was limited financing for Farmer Institutional Development (including the cross-cutting themes of environment, gender, HIV/Aids and persons with disabilities), exacerbated by failure of technology development sites to fully meet the expectations farmers had of training (IFAD 2008).

To increase efficiency in the phase that is currently under way, resource allocation is being shifted to give more priority to three new aspects:

- Value chain;
- Market linkages; and
- Public–private partnerships.

Helping movement along the value chain will require getting the balance right between local knowledge and technology. Institutional development with focus on HLFOs will in turn nurture newly emerging farmer groups. The government also aims to provide incentives to the private sector to get involved in purchasing produce for further processing, thus increasing the value for money for farmers.

3.4 Implications for key dialogue question three

The third key dialogue question asks how governments can ensure that expenditure is allocated to the most efficient programmes.

The NAADS solution to optimising allocative efficiency has been to decentralise responsibility so that priorities can be set at local levels. This approach is based on the assumption that local representatives will be more likely to understand which actions are most relevant and effective for farmers. The validity of this assumption has not yet been examined.

Because of the reliance on decentralisation, NAADS defined the primary outputs as institutional and no evidence has been presented about the benefits to farmers in terms of improved productivity and/or production. Evidence on institutional development is adequate and has allowed conclusions to be drawn about successes and failures. These have been used to revise the focus of the next phase to provide a stronger emphasis on Higher Level Farm Organisations (HLFOs). It is not clear whether the increased emphasis on markets and the private sector in the next phase is based on evidence about the efficiency of the first phase.

This reliance on institutional and process indicators is similar to the experience in Mozambique, which adopted a similar major programme of support for extension, over a similar period (see Box). Although there was a less radical change in the model of extension, the use of pooled funds to provide a major increase in agricultural services was similar and the programme similarly suffered from a lack of clear field benefits. As a result, it is also undergoing a period of major change.

The NAADS programming does not appear to include any targets for improved farm productivity or production. No arrangements have been made to monitor this aspect. This key evidence on outputs is therefore not available to NAADS management to help with revision of the programme for the next phase. Most programmes similar to NAADS have a monitoring and evaluation function that is funded by up to 2% of total project spending. This produces a regular stream of evidence to help management to make adjustments to the programme. Although there is a budget for monitoring and evaluation in NAADS, evidence on yields and production has not been reported. The collection of information on yields and other farming practices would also help to retain a focus on farmer benefits.

It might have been possible to get evidence for these outputs from farm surveys done as part of an evaluation of NAADS, but this does not appear to have happened. It would be useful for such a survey to be undertaken. It would cost about US$100 000 and take six months to conduct and analyse.

Despite the decentralised philosophy, the next phase of NAADS includes some reorientation of focus to give higher priority to market-related activities and the private sector. It is not clear whether this change has been made in response to broader national policy or as a result of specific analysis of the efficiency of support to these activities compared with support to other activities.

PROAGRI in Mozambique

The US$30-million multi-donor supported Agriculture Sector Public Expenditure Programme (PROAGRI) was implemented in Mozambique between 1999 and 2006. PROAGRI proposed to improve institutional arrangements for financing and delivery of agricultural services for smallholders with the aim of increasing capacity for efficient and effective provision of essential public functions of the MoA. The project design was influenced by four factors affecting the country at the time:

- A post-conflict environment required an expedited process to address food shortages, respond to weather-related shocks and extensive investment;
- Mass poverty warranted interventions that would secure broad-based growth across different sectors, especially agricultural support sectors (feeder roads, etc.);
- An institutionally weak MoA needed human capacity and financial resources to increase its institutional capacity; and
- An over-reliance on donor financing, which comprised about 90% of all agricultural expenditure through large programmes was a fiscal situation that needed to change gradually.

Table 6: Comparison of NAADS (Uganda) and PROAGRI (Mozambique)

	NAADS	PROAGRI
Budget efficiency	High absorptive capacity and efficiency in use of programme resources. Uganda was in 1997 in a better macro-economic shape than Mozambique.	Phase 1 concentrated on institutional capacity-building, skills formation and human resource management and a framework for budget efficiency before Phase 2.
Engagement with private sector	Limited expertise in government necessitated the use of contracting out to private sector to undertake service extension with significant levels of success.	Improving capacity of MoA in Mozambique was vital for success of PROAGRI. It is difficult to assess the success of contracting out to the private sector.
Service extension and research	A general lack of clarity of various criteria for enterprise selection and at times became a trial and error process. Extension service and follow-up gradually waned.	Funding for research increased but did less in actual extension. Lack of efficient linkages resulted in a fragmented approach to decision-making and implementation.
Capacity-building and farmer support	Focused more on technical aspects and provision of implements but took long to elaborate a strategy for farmer access to credible sources of financing, e.g. village banks and micro-credit. This did not overwhelmingly compromise performance.	While distancing itself from direct ‘intervention in the functions of production and marketing’, the MoA has continued to provide services related to research, extension, plant protection, seed certification and other aspects, such as infrastructure development.

4. Impact of NAADS

4.1 What has NAADS achieved?

NAADS Phase 1 began in 2002 and ended in 2012. Phase 2 is under way with new implementation guidelines. The programme's first phase achieved three key outputs:

- For the first time in Uganda there is a deliberate government policy to reach farmers with on-the-farm service support and implements, which has promoted adoption of new crop and livestock varieties as well as new technologies, including post-harvest technologies.
- The programme made a bold attempt to organise farmers in various groups (albeit ad hoc). In many ways this increased inter-farmer and inter-group learning exchanges. Organisation in groups has other off-farm benefits and most grew to become efficient savings and credit organisations.
- An impact assessment of NAADS (IFAD 2008) noted that farmers had appreciated diversification, new methods of improving soil fertility and the essence of agricultural commercialisation to a level that had increased household incomes for beneficiary households.

NAADS had been visualised as a decentralised, farmer-owned, private-sector extension system that would help economically active poor farmers in Uganda to increase their incomes and productivity (Figure 10), and raise themselves from poverty to prosperity. The overall impact of NAADS has been mixed. While the programme was very successful in reaching almost 80% of targeted beneficiaries, studies conducted by various research institutions (e.g. IFAD 2008) deduced a 'less than desired' impact.

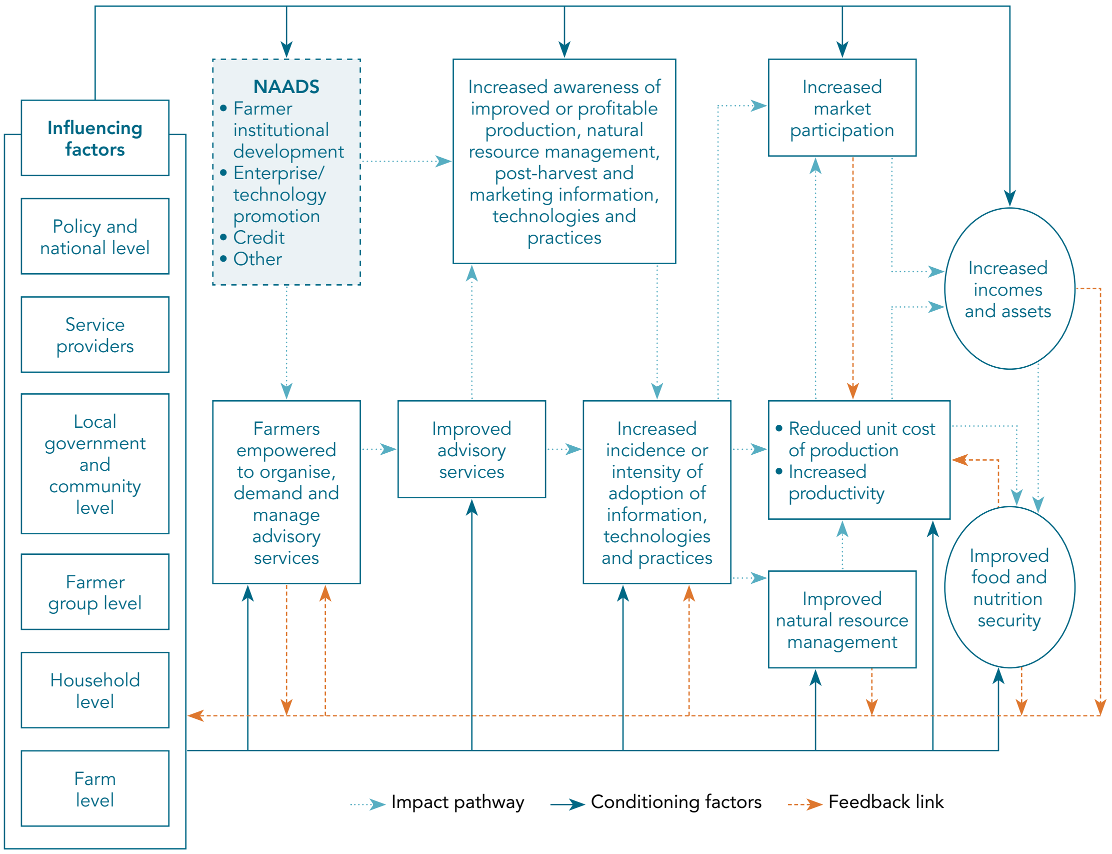
While FFs became a success in most parts of the country, they lacked basic competencies needed for group management and handling of group dynamics. Many studies have documented that most households 'came together to form ad hoc groups for the purposes of meeting eligibility criteria' only to disintegrate after receiving implements. Because this occurred often, impact assessment became problematic.

Poor farmers characteristically face other risks that also had an impact on NAADS performance:

- Competing household needs in the face of limited cash income;
- Limited access to critical resources, especially land; and
- Limited know-how to increase yields.

Selection of enterprises was in some instances done without prior 'preparation to receive and manage' them. For example, in areas where veterinary services were scarce, it became a challenge to manage and increase the numbers of high-breed goats and cattle.

Figure 10: NAADS impact pathways



Source: Benin et al. (2011).

In the agribusiness sector, the levels of success varied from enterprise to enterprise. The private sector has the expertise to propagate and deliver seedlings of high-value crops to farmers and to provide pre- and post-harvest farmer support. NAADS sought to tap into this proficiency during programme implementation. However, most private-sector commercial players in Uganda are keen to own land and to produce high-value crops themselves, with limited or no benefits to other farmers. They are therefore less interested in products from small farmers who are organised to supply in bulk at harvest time (although this is being done to some extent, especially for coffee, cotton, tobacco and maize).

The agribusiness sector also includes 'middlemen' who purchase produce to resell to larger wholesalers and exporters. As they incur transport costs and carry the risks related to keeping the produce fresh before resale, they mostly buy at very low prices. This can negate the purpose of farmer investment in high-value crops as prices are not as high as had been anticipated.

A large section of farmers who received technical support and technologies when adopting high-value crops remain heavily reliant on private extension service providers. NAADS envisioned a sustainable mutual relationship between such service providers and farmers. The ability to sustain this relationship is a challenge that will be addressed under NAADS Phase 2 (Benin 2009). By doing so, the government would focus on critical extension service gaps and prioritise its approach to service extension.

NAADS was also intended to be a programme that tackled poverty, especially among poor women farmers. After 2005, NAADS moved from providing only advisory service extension to providing implements such as hoes and tractors, as well as seed and hybrid and exotic breeds of goats, sheep and cattle.

4.2 Impact expected from NAADS Phase 2

There are five aspects that NAADS Phase 1 did not fully achieve and now intends to address in Phase 2:

- Reviewing grant parameters to more accurately reflect divergent district farmer support needs;
- Implementation of interventions with a focus on food security and commercialisation;
- Provision of planting and stocking materials to households struggling financially;
- Improving the information, monitoring and evaluation system by engaging a consultant; and
- Tightening financial accountability in a manner that ensures that releases are sanctioned and pegged to approved audits and accountability, as well as improving community procurement to address high implementation and technology costs.

4.3 Implications for key dialogue questions three and four

The third and fourth key dialogue questions focus on the extent to which NAADS delivered benefits to farmers and others and what evidence would be required to judge which of the activities was most efficient at delivering benefits. As mentioned before, there is no evidence available of the benefits generated by the various activities and this makes it difficult to judge which were most efficient in delivering the benefits.

Extension programmes that are based on adaptive research and consultation should normally include feedback mechanisms from farmers to provide evidence of which activities are most efficient. This would normally be a central feature of adaptive research programmes. In a decentralised model based on the private sector, the willingness of farmers to pay for extension is a good indicator of whether they are deriving benefits from such extension. However, evidence on this is not available for NAADS. Even when the monitoring and evaluation run as part of the management of the programme does not provide this evidence, most countries would include some form of household or agricultural survey that could be adapted to provide evidence on the outputs achieved from the improved practices supported by extension.

The fourth key dialogue question focuses on the long-term impact of NAADS. There is some evidence from Phase 1 that while over 715,000 farmers had been reached through the Farmer Institutional Development component, the institutional successes of NAADS may not be sustained after the end of the programme (IFAD 2008). The programme had also not fully met the expectations of farmer training, access to credit and delivery of material inputs. In some cases, farmer group formation was ad hoc, leading to their collapse soon after support ended. This suggests that sustained impact may come through more indirect benefits, perhaps associated with other independent initiatives amongst farmers, regardless of the support provided by extension services. Nonetheless, farmers who benefitted (especially through their own initiatives or those who took advantage of other similar interventions) demonstrated the capacity of service extension to translate into on-farm productivity. The NAADS experience suggests that, while government provides service support, it remains the responsibility of the individual farmer to implement the skills learnt to tap into the benefit.

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