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Investing in rural people

Republic of Uganda

Agricultural Technology and Agribusiness Advisory
Services Project

PROJECT PERFORMANCE EVALUATION



Independent Office
of Evaluation



Republic of Uganda

**Agricultural Technology and Agribusiness Advisory Services
Project**

Project Performance Evaluation

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Photos of activities supported by IFAD in the Republic of Uganda

Front cover: Men working at a rice and maize mill supported by the Rural Finance Services Programme in Ziobwe, Luweero District, Uganda. ©IFAD/Susan Beccio

Back cover: Sustainable land management initiatives supported by the Agricultural Technology and Agribusiness Advisory Services Project in Mbale District, Eastern Uganda. ©IFAD/Allen Kebba.

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Preface

This report presents the findings of the project performance evaluation of the Agricultural Technology and Agribusiness Advisory Services Project (ATAAS) in Uganda, undertaken by the Independent Office of Evaluation of IFAD (IOE). The project's aim was to enhance the performance of the agriculture sector through support for technology development, extension services and stronger linkages between farmer and the market.

ATAAS was an ambitious project delivering at national scale with a range of components from research through to market access. Its initial focus on strengthening the country's extension and research services through a demand-based, private sector-led approach was critical to raise smallholder productivity, empower farmer groups and ensure longer-term sustainability. However, the changes in the national extension policy mid-way through the project led to reversion of the approach to a publicly funded and delivered extension system that reduced the opportunity for farmer groups to influence how extension should be provided. Inputs and technologies were mainly delivered to existing groups and often to well-connected leading farmers. Thus, targeting weakened as the focus of extension services shifted from supporting farmer groups to host farmers who were identified by local government.

IFAD might have had greater awareness of the underlying political pressures surrounding extension provision, especially given the issues that faced the Government's predecessor programme to ATAAS. Yet, IFAD had a limited influence over the direction that ATAAS would take partly because of the limited level of financing, the limited staffing in the Uganda country office, and the delegation of major decision-making to the World Bank, the larger cofinancier. Its decision towards the end of the project to finance vehicles and training for extension services was relevant, but it was high-risk both in terms of the ability to procure these investments properly within the limited time left, and in terms of the lack of certainty that the vehicles would be used to serve the revised objectives of ATAAS.

Going forward, the evaluation recommends that even where IFAD is a minor contributor to large projects, it should ensure that its comparative advantage is adequately leveraged and its target group is sufficiently and effectively reached. IFAD-supported projects should pay greater attention to political drivers in project design, especially where projects are largely funded from government resources. Finally, in complex projects with a multiplicity of implementation actors, projects should ensure that there is a single project management unit for sound coordination, monitoring and evaluation, and administrative efficiency.

This project performance evaluation was led by Hansdeep Khaira, Evaluation Officer, IOE, in collaboration with Nick Chapman, senior consultant, and Allen Kebba, national consultant. Internal peer reviews in IOE were conducted by Johanna Pennarz, Lead Evaluation Officer, and Fabrizio Felloni, IOE Deputy Director, to ensure that the report met IOE's quality standards. Manuela Gallitto, IOE Evaluation Assistant, provided valuable administrative support. IOE is grateful to IFAD's East and Southern Africa Division, at headquarters and in-country office, and the Government of Uganda for their insightful inputs into the evaluation process and the valuable support to the IOE mission.

I hope the results of this evaluation will enable IFAD's operations to contribute to the perennial development in Uganda whose benefits will accrue to all rural poor people in the country.



Indran A. Naidoo
Director
Independent Office of Evaluation of IFAD

The Mpumwe Farmers' Association in Kigumba Subcounty, Kiryandongo District, work through a problem tree analysis. Through the Vegetable Oil Development Project, the farmers received training on growing sunflowers and processing sunflower oil.

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Currency equivalent, weights and measures

Currency equivalents

Currency Unit = Uganda shilling (UGX)

US\$1.0 = 3,670.00 UGX

Weights and measures

1 kilogram (kg) = 2.204 pounds (lb)

1 000 kg = 1 metric tonne (t)

1 kilometre (km) = 0.62 miles

1 metre (m) = 1.09 yards

1 square metre (m²) = 10.76 square feet (ft)

1 acre (ac) = 0.405 hectares (ha)

1 hectare (ha) = 2.47 acres (ac)

Abbreviations and acronyms

ACDP	Agriculture Cluster Development Project
AEG	Agricultural Extension Grant
AfDB	African Development Bank
ASSP	Agriculture Sector Strategic Plan
ATAAS	Agricultural Technology and Agribusiness Advisory Services Project
CCF	Commercialization Challenge Fund
COSOP	country strategic opportunities programme
DAES	Directorate of Agricultural Extension Services
DARST	District Adaptive Research Support Team
DLG	district local government
DPMO	district production and marketing officer
DSIP	Development Strategy and Investment Plan
FAW	fall armyworm
FID	farmer institutional development
FY	fiscal year
GAC	governance and anti-corruption
GEF	Global Environment Facility
HLFO	high-level farmers' organization
ICR	implementation completion report
ICRR	implementation completion and results review
ICT	information and communication technology
IEG	Independent Evaluation Group of the World Bank
IOE	Independent Office of Evaluation of IFAD
M&E	monitoring and evaluation
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries of Uganda
MoFPED	Ministry of Finance, Planning and Economic Development of Uganda
MoLG	Ministry of Local Government
MSIP	multi-stakeholder innovation platform
MTR	mid-term review
NAADS	National Agricultural Advisory Services Programme
NARO	National Agricultural Research Organization
NARS	National Agricultural Research System

OWC	Operation Wealth Creation
PAD	project appraisal document
PCR	project completion report
PCU	project coordination unit
PDO	project development objective
PIST	project implementation support team
PPE	project performance evaluation
PPP	public-private partnership
SLM	sustainable land management
SSE	Single Spine Extension system
TIMP	technology and improved management practices
TOC	theory of change
ZARDI	Zonal Agricultural Research and Development Institute

Map of the project area

Republic of Uganda

Agricultural Technology and Agribusiness Advisory Services Project (ATAAS)

Project performance evaluation



The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

Map compiled by IFAD | 06-04-2021

Executive summary

A. Introduction

1. The Agricultural Technology and Agribusiness Advisory Services project (ATAAS) in Uganda was selected for a project performance evaluation (PPE) to assess its performance and draw lessons for future operations in the country, and to build IOE's project-level evaluative evidence for the Uganda Country Programme and Strategy Evaluation in 2020. The aim of ATAAS was to enhance the performance of the agriculture sector through support for technology development, extension services and stronger linkages between farmers and the market.
2. ATAAS was a World Bank-initiated project and a successor to the National Agricultural Advisory Services Programme (NAADS), cofinanced by IFAD via a *pari passu* financing arrangement. Since IFAD's contribution was fully blended with the World Bank, its contribution affected all aspects of the project (except for the sustainable land management [SLM] component) and hence the PPE evaluated ATAAS in its entirety. At the same time, emphasis was placed on aspects that particularly concerned IFAD, including its core target group and some specific activities such as purchases of vehicles and training financed entirely by IFAD. The pandemic situation prevented international travel. Therefore, the PPE had a team of national consultants visiting four districts and meeting farmer groups; they also interviewed over 60 relevant national and international experts as well as Government personnel who worked on ATAAS.

B. The project

3. ATAAS was the successor to NAADS and aimed to broaden research and advisory service provision through more demand-led approaches and privatization. ATAAS was launched in 2010, but at the 2014 mid-term review, it underwent substantial redesign. A key change was the introduction of a new extension policy, the Single Spine Extension system, a publicly funded and publicly provided extension system to replace the earlier NAADS model that was more demand-driven and private sector-led.
4. ATAAS included five components that at redesign became four: (i) Developing agricultural technologies and strengthening agricultural research; (ii) Enhancing partnerships between agricultural research and other value chain stakeholders; (iii) Strengthening agricultural support services; and (iv) Programme management, coordination and monitoring & evaluation (M&E). ATAAS had national coverage with the aim to reach 1.7 million farm households, or one quarter of the Ugandan farming population.
5. The original project cost of US\$665.5 million was reduced to US\$421 million during the 2014 restructuring. By closing, the World Bank disbursed US\$110.5 million and IFAD contributed US\$13 million,¹ with the Government financing the largest share, US\$299 million. The Global Environment Facility (GEF) provided US\$7.2 million for SLM activities. Some reallocation of IFAD funding occurred in 2017 when, after fully suspending its loan in 2016 (in response to Government policy changes), the remaining funds were channelled to training and vehicle purchase.

C. Main findings

6. **Relevance.** The relevance of ATAAS has been evaluated from two dimensions: the original design of the project and its redesign. Overall, the original design was relevant from several standpoints. It was relevant as a vehicle to build on NAADS experience and extend reformed extension and research services in order to raise smallholder productivity. The objectives were relevant from the perspective of

¹ ATAAS represented a relatively small proportion of IFAD's portfolio of six ongoing projects in Uganda in 2015 (US\$14 million out of US\$194 million, or 7 per cent).

strategic objectives 1 and 2 of the 2013-18 Country Strategic Opportunities Programme (COSOP). The design was also relevant from IFAD's Private Sector Development and Partnership Strategy to engage the private sector with IFAD's target group. However, poverty targeting was weak and the high share of the project cost going to extension services, largely financed by the Government, exposed the project to risks of policy and institutional shifts.

7. The restructuring in 2014 led to a shift in project focus and management. The redesign removed the technology uptake grants for farmer group enterprises that would have provided them financial support to link to value chains. Further, the redesign merged the delivery of inputs with advisory services, dampening the incentives for the private sector to invest in the distribution networks. Targeting also weakened as the focus of public extension services shifted to supporting "host" farmers who were identified by local government leadership to conduct demonstrations as opposed to farmer groups.
8. ATAAS was a high-level project to continue the reform of the extension system. As such, it was relevant and important for IFAD to join the donor-coordinated initiative. However, with a limited financial contribution and low staff capacity in the country office, IFAD itself had not been in a position to influence the direction that ATAAS took. IFAD's decision to cancel the loan in 2016 was relevant in terms of sending a signal to the Government over the radical change in project design. Subsequently, IFAD's decision to channel 60 per cent of its loan funds for vehicles and training after the loan suspension was lifted in 2017 was appreciated; however, it was very close to the project completion date and was therefore risky, given the limited time to procure these investments and the uncertain prospects for funding after closure.
9. **Effectiveness.** ATAAS met its targets in terms of households reached (1.68 million) and number of women beneficiaries (52 per cent of the total). The project also largely achieved both its development and environmental objectives. Productivity increases were attained due to the legacy of NAADS I and II farmer groups established under these predecessor programmes that provided an existing base for dissemination and adoption of technologies, and to particularly favourable harvests in 2018. The objective of developing agricultural technologies and strengthening the national agricultural research system was successful in terms of fostering technological innovations, collaborative research projects and adaptive research trials. The GEF-funded SLM exceeded its targets, especially in the promotion of terracing and rehabilitation of degraded watershed and rangelands.
10. IFAD funding for the purchase of vehicles (115 pickups and 1,034 motorcycles) reached a large number of extension staff, covering 83 per cent of all districts in Uganda, and the quality of training (of 5,385 staff) was appreciated by the trainees. On the other hand, IFAD's ambitions related to private sector involvement were not achieved with the cancellation at redesign of the competition fund component. The project did not achieve its pro-poor targets, with the majority of beneficiaries coming from the inherited and well-established NAADS groups and beneficiaries thus often being lead farmers with more assets than non-beneficiaries.
11. **Efficiency.** ATAAS started a year late and closed three years after the date set at appraisal. The initial lack of a central project coordination unit, with the National Agricultural Research Organization (NARO) and NAADS managed under separate structures, led to coordination inefficiencies. There were ineligible expenditures resulting from spending loan funds on input provision that eventually led to loan suspension by World Bank and IFAD. The transfer of input delivery to NAADS/Operation Wealth Creation in 2015 resulted in inefficient use of government funds in addition to not being pro-poor. The procurement of vehicles funded by IFAD moved slowly and faced process problems leading to cancellation and re-tendering.
12. **Rural poverty impact.** While caution should be noted in the impact data in terms of attribution of benefits to ATAAS rather than to other factors, the evidence suggests

that household income more than doubled for beneficiaries and improvements in household assets were also slightly higher compared to non-beneficiaries. Food security improved particularly through the use of SLM measures and the use of project funds to reduce the effects of a major fall armyworm outbreak in 2017. However, the documentation suggests that individual and elite farmers instead of farmer groups captured access to inputs, and that ATAAS beneficiaries were in a higher socio-economic group than non-beneficiaries.

13. In terms of institutional and policy impact, the Government produced a new National Agricultural Extension Policy and Strategy, while NARO improved its capacity to deliver. Through the Competitive Grant Scheme, capacity was also built within private sector seed companies as well as farmer group seed producers to deliver improved seed materials. On the other hand, the reversion to a centrally managed extension system reduced the opportunity for farmer groups and NGOs to influence how extension should be provided. Similarly, after the project was restructured, high-level farmer organizations received little project support and training in farmer institutional development was dropped and many groups have since collapsed.
14. **Sustainability.** In terms of institutional sustainability, the SLM groups, the savings cooperatives, the community facilitators as well as the landscape committees have good prospects. However, the sustainability of many farmer producer groups appears to be limited, driven partly by the withdrawal of matching grants. In terms of financial sustainability, free input distribution will impact NARO's plans for the commercialization of technology outputs and weaken the ability of private sector actors to engage in the supply of inputs. Prospects for the continued maintenance of the IFAD-supported vehicles seems reasonable given the budget provisions for local government. Regarding technical sustainability, the training to extension service staff was expected to continue under government financing. However, support for continued farmer training is less assured.
15. **Innovation.** Innovation under ATAAS occurred in agricultural research, as the stock of agricultural technologies generated by NARO grew substantially, far exceeding the appraisal target. The Competitive Grant Scheme for research partnerships also effectively tapped into private sector skills. However, in extension, the expected shift to innovative, private sector-led approaches failed to materialize, and instead there was a reversion to a more conventional model of public sector-led services combined with subsidized inputs.
16. **Scaling up.** ATAAS, with its greater outreach, did represent an ambitious scaling up of the earlier innovations introduced by NAADS, and the adoption of new technologies has been boosted especially through NARO's continued programme of adaptive trials and demonstrations. SLM measures such as conservation agriculture and rehabilitation of degraded watersheds have been scaled up.
17. **Gender equality and women's empowerment.** The project was relatively successful in terms of equitable participation of women, although there is little evidence to suggest that this led to wider changes in the roles of women. The Government Implementation Completion and Results Review (ICRR) indicated that 94.3 per cent of women reported that their voice had been considered for decision-making in farmer groups, substantially exceeding the project target of 65 per cent. Increased joint decision-making in households was reported around the purchase, sale and utilization of assets such as land, livestock and farm equipment. While it is possible that the 2.5 times increase in incomes of women could potentially lead to their greater empowerment, there are reservations related to the attribution of this result to the project.
18. **Environment and natural resources management.** SLM practices and structures with GEF funds significantly exceeded targets and improved livelihoods, especially of the resource-poor and women, and were well maintained through community landscape committees. Guidelines to integrate environmental issues into research

and into risk management planning in the Ministry of Agriculture, Animal Industry and Fisheries of Uganda (MAAIF) were instituted, while at local level improved bylaws and mainstreaming of SLM into work plans occurred as planned.

19. **Adaptation to climate change.** The impact evaluation observed that the SLM practices promoted by the project to avert climatic risks to agricultural production were relevant to the environmental objectives of Uganda. The same evaluation also noted that the project conformed to the national and global environment concerns targeting enhancement of environmental sustainability and resilience of agricultural production in situations where agricultural activities occur under enormous climatic variability and increasing population pressure. Measures promoted by the project to reduce climate risks featured significantly in SLM practices and an e-weather information system was also initiated. A key outcome of the climate-related activities was the sequestration of nearly 2 million tons of carbon with an estimated value of US\$151 million.

D. Conclusions

20. As a high-level programme, ATAAS was affected in terms of major policy shifts, in addition to financial mismanagement and loan suspension. For IFAD this meant a considerable reputational risk, even though the financial risks were modest. IFAD took a hands-off approach in project design, mid-term redesign and most of the implementation period, as evidenced in the low number of its supervision missions. However, this also meant that themes that are strategic priorities for IFAD, such as farmer empowerment, targeting and gender, were not high on the agenda.
21. Despite some notable achievements from ATAAS investments in research and extension, there remains an unmet demand for technology improvements and extension advice in as much as 75 per cent of Uganda's farming households. The disruption to the extension system halfway through ATAAS had the effect of reducing the delivery and uptake of technology and improved management practices. The continued supply of subsidized farm inputs acted as a disincentive to the growth of private sector channels for input supply and marketing.
22. The introduction of environmental conservation measures was a success and had marked demonstration effects on recipient communities. Targets were exceeded for SLM, and continued maintenance and scaling up may be expected if the developed and disseminated guidance and bylaws as well as ordinances are more widely adopted.
23. While the evidence suggests that ATAAS investments led to considerable increases in production and incomes for beneficiaries, the potential to reduce poverty diminished for the more vulnerable members of the rural community. They could not benefit from the increasingly "clientelism" nature of the host farmer system. The Impact Survey shows that beneficiaries tended to be the better-resourced farmers.
24. As a project with national coverage, public expenditure allocations were critical for providing future resources, particularly at local level, for dissemination of research technologies and increasingly proximate advisory services. Yet the evidence indicates that investments are not sufficiently prioritized over spending on recurrent costs. Development partners have moved from support of public advisory services towards funding selected value chains where public and private actors can link more effectively.
25. Weak M&E and a split Project Coordination Unit in the early years of implementation made it difficult to find reliable evidence on results. The complexity of the project design, the national scope of the project, the disruptions in M&E staffing, delays in producing surveys, and the lack of attention in supervision missions to M&E, together prevented the collation and reporting of routine data. Evidence from periodic studies reported on productivity and incomes but were not able to attribute the claimed impacts on the project.

E. Recommendations

26. **Recommendation 1. Even where IFAD is a minor contributor in large projects, it should ensure that its comparative advantage is adequately leveraged and its target group is sufficiently and effectively reached.** Even where IFAD has a smaller funding role to play in a project, it should ensure that certain conditions are present. It should have a clear comparative advantage in the activities it funds, including building the capacity of farmer groups and institutions, productivity and market participation of rural people. Further, it should ensure that there is sufficient vulnerability mapping and needs assessment at design to allow its target group of smallholder farmers, women and youth to be reached effectively. Some other dimensions to pay attention to in such cases include the availability of sufficient supervisory resources to ensure that its interests are followed through in implementation, the possibility of scaling up of results so that it can leverage its resources and partnerships to deliver larger results, and “ring-fencing” funding through grants in specific areas of support, particularly for the provision of services that form a public rather than a private good.
27. **Recommendation 2. Pay greater attention to political drivers in project design, especially when projects are largely funded from government resources.** This implies conducting a thorough political economy analysis for projects being prepared in sensitive sectors and/or in states where governance issues could be a known risk. Depending on the level and significance of the political obstacles/risks to achievement of a project’s objectives identified through such an analysis, solid and relevant risk mitigation measures should be proposed, or the project should even be redesigned.
28. **Recommendation 3. Ensure that in complex projects with a multiplicity of implementation actors, there is a single project management unit for sound coordination, M&E and administrative efficiency.** Under ATAAS, NARO and NAADS at the start were jointly responsible for component 2 and research and extension interfaces. However, an explicit coordination unit was not created within MAAIF and this made implementation and M&E difficult. While it may be useful to create decentralized units to manage implementation and monitoring, particularly in complex projects with a wide geographic spread, IFAD should advocate that the overall coordination and oversight of the project in such cases be vested in an apex project coordination unit. This can free up considerable time and monetary resources and, in principle, lead to more efficiency gains.

IFAD Management's response²

1. Management welcomes the findings of the Project Performance Evaluation (PPE) of the Agricultural Technology and Agribusiness Advisory Services Project (ATAAS), conducted by the Independent Office of Evaluation of IFAD (IOE).
2. Management agrees with the PPE assessment of overall project performance as moderately unsatisfactory, though it recognizes the positive impacts, which include: productivity and incomes improved for beneficiaries, including women; positive results under the research and sustainable land management components; and the handling of the fall armyworm (FAW) outbreak.
3. Management agrees that the performance of ATAAS was affected by major policy shifts, in addition to financial mismanagement and loan suspension. These led to a disruption to the extension system halfway through ATAAS implementation and had the effect of reducing the delivery and uptake of technology and improved management practices.
4. Management also agrees to IOE's observation that IFAD played the role of a junior partner, with limited financial contributions (US\$14 million) and modest IFAD Country Office staff capacity, for a large project with a total cost of US\$665.5 million, including significant domestic and international cofinancing. It was against this backdrop that IFAD's Project Completion Report was largely based on the World Bank's Project Implementation Completion and Results Report and did not focus exclusively on the IFAD contribution.
5. Management appreciates the PPE's recommendations, which we expect will improve performance in the Uganda portfolio. Management's views on the proposed recommendations are as follows:

6. **Recommendation 1. Even where IFAD is a minor contributor in large projects, it should ensure that its comparative advantage is adequately leveraged and its target group is sufficiently and effectively reached.**

Agreed. In the Uganda 2021-27 COSOP, IFAD has already committed to focus on the poor and the smallholder farmers in the most deprived areas of the country through a package of support. IFAD's strategy will continue to focus on both specific and geographic targeting of the poorest smallholder farmers. The principal targeting mechanisms for smallholders will include well-defined criteria, which will include size of holding, income, vulnerability, gender and age. These criteria will be strictly adhered to in the selection of project participants, and investments will be tailored to the needs of the target group to encourage them to self-select. This will be done in close consultation with cofinanciers and reflected in financing agreements and project implementation manuals, as applicable.

7. **Recommendation 2. Pay greater attention to political drivers in project design, especially when projects are largely funded from government resources.**

Agreed. Management recognizes the role of political drivers in development projects. IFAD is already paying attention to the political context during design and through periodic updates of the Integrated Project Risk Matrix for each project. This includes assessment of political commitment and, where the risk is considered high or moderate, appropriate mitigation measures are put in place. Management also recognizes that political contexts may suddenly change during implementation and will take proactive actions to make adjustments as needed to improve development effectiveness of IFAD-financed projects and safeguard the institution's reputation.

² The final Management response was sent from the Programme Management Department to the Independent Office of Evaluation of IFAD on 15 February 2021.

8. **Recommendation 3. Ensure that in complex projects with a multiplicity of implementation actors, there is a single project management unit for sound coordination, monitoring and evaluation, and administrative efficiency.**

Agreed. Management recognizes the importance of sound project management and coordination for improving the project's efficiency. In this context, the option of a single project management unit will be considered during design, in close consultation with the Government. However, there should be flexibility to tailor the implementation arrangements to best respond to the institutional capacity assessment conducted at design.

9. Management commends IOE for conducting a thorough PPE, and also for taking into account the comments from the East and Southern Africa Division and making pertinent adjustments in the PPE final report. Management will ensure that the PPE findings and lessons learned from this exercise are internalized to further improve the performance of IFAD-funded programmes and projects in Uganda and elsewhere.

Republic of Uganda

Agricultural Technology and Agribusiness Advisory Services Project

Project performance evaluation

I. Objectives, methodology and process

1. This project performance evaluation (PPE) of the Agricultural Technology and Agribusiness Advisory Services Project (ATAAS) in Uganda was prepared by the Independent Office of Evaluation IFAD (IOE).

A. Objectives

2. The main objectives of this PPE are to: (i) assess the results of the project on the basis of the standard evaluation criteria used by IOE; (ii) generate findings and recommendations for the design and implementation of ongoing and future operations in Uganda; and (iii) provide inputs to the country strategy and programme evaluation of Uganda being conducted by IOE in parallel with this PPE.

B. Scope

3. The aim of ATAAS was to enhance the performance of the agriculture sector through a technology-powered productivity boost, coupled with farmers having deeper and stronger linkages to the market. It was a World Bank-initiated project cofinanced by IFAD via a *pari passu* financing arrangement.¹ Hence, although the World Bank and IFAD had different shares of funding (with IFAD having a relatively smaller share), at the time of design both financed the same components. IFAD's contribution was fully blended with the World Bank so that its contribution affected all aspects of the project (except for the sustainable land management [SLM] component, which was funded through a Global Environment Facility [GEF] grant). Therefore, the scope of the PPE covers the entire project.
4. It is to be noted that following the amended financing agreement in 2017, the particular focus of IFAD's support was more on public sector extension services, and in particular on the provision of vehicles and training. Thus, while the PPE scope covers the entire project, particular attention was paid to the role played by IFAD in these areas. While IFAD's partnership with the World Bank could also have yielded benefits, this was not explicit in the design documents or likely to occur given its low level of involvement during project implementation.
5. While the above was the overall scope of the PPE, there was further refinement based on the following criteria: (i) areas identified through a desk review – the PPE reviewed additional evidence and proposed a complete list of consolidated ratings; (ii) selected issues of strategic importance for IFAD in Uganda; and (iii) limitations set by the available time and budget.

C. Methodology

6. The PPE exercise was undertaken in accordance with IFAD's Evaluation Policy and the IFAD Evaluation Manual (second edition, 2015). The PPE evaluated the project performance with regard to the standard evaluation criteria. These criteria are detailed in annex II. In line with the practice adopted in many other international financial institutions and UN organizations, IOE has used a six-point rating system to evaluate the performance criteria, where 6 is the highest score (highly satisfactory) and 1 is the lowest score (highly unsatisfactory).

¹ The project was cofinanced with the World Bank through a *pari passu* arrangement: 90 per cent for World Bank and 10 per cent for IFAD. Accordingly, IFAD and World Bank resources were pooled together. See annex I for details of funding by financier.

7. As mentioned earlier, taking into account the complex structure and size of the project, with multiple implementing partners and sources of funding, the PPE took the approach of assuming that for the main project period IFAD's contribution was fully blended with the contributions of the other financiers. Following the amended financing agreement, the PPE adapted the theory of change (TOC) that was reconstructed by the World Bank at project closure (annex VI) in order to highlight the particular components that IFAD focused on in the final years of the project.
8. The PPE relied on a series of studies that were commissioned by the Government and the World Bank to ascertain project impacts. These follow the normal practice of comparing a random sample of beneficiaries and non-beneficiaries, but they do not all satisfactorily compare before and after (so meeting the requirements of a 'difference in difference' approach) due to issues with the baseline conducted by the Uganda Bureau of Statistics. The main Impact Study conducted in 2018 used farmer recall to obtain baseline estimates from 2014 – four years earlier (and three years after effectiveness) – raising questions of reliability. The World Bank conducted an implementation completion report (ICR) and also an independent completion report review (ICRR) by its Independent Evaluation Group (IEG) in 2019.² These provide additional validations of outcomes and impacts but still contain issues of attribution and data reliability that are discussed in the relevant sections of this report. Interviews were conducted with the authors of all these reports in an effort to assess the quality of the data.

D. Process

9. Due to extraordinary circumstances arising from the COVID-19 pandemic over the period from March 2020, travel restrictions meant that fieldwork was limited to 12 days as part of the subsequent country strategy and programme evaluation undertaken by a national consultant team. The main sources of evidence for the PPE were therefore based on an extensive round of remotely conducted interviews as well as a document review and data analysis. Interviewees were identified from documents and through "snowballing" or referrals from initial interviews.

E. Limitations

10. The main limitations of the approach used was the reduced opportunity to meet stakeholders in person and to visit a range of field locations to validate documented results, as would be the case in PPEs normally. This especially applied to gathering the views of rural beneficiaries. The limitation was mitigated to some extent by the national PPE team that undertook visits to ATAAS sites in four districts,³ where it met with some farmer groups in addition to interacting with implementers (district production and marketing officers [DPMOs], district agricultural officers, subcounty extension staff and Zonal Agricultural Research and Development Institutes [ZARDI] staff) in all the 11 district local governments (DLGs). Potential bias may nevertheless arise from the reduced opportunity to gather such local views. In terms of data quality, there were weaknesses in the monitoring and evaluation (M&E) system for ATAAS (described later in the report) that affected the availability of the surveys, and because of staff turnover there are gaps in institutional memory. These were partly addressed by interviewing over 60 relevant national and international experts as well as Government personnel who worked on ATAAS.

² IFAD's own project completion report (2019) was a relatively light study of seven pages that largely summarized the World Bank ICR.

³ Iganga, Lwengo, Lira and Mbale DLG, where interaction with focus groups occurred and ZARDI infrastructure was located.

II. The project

A. Project context

11. **Economic development.** Uganda is a low-income country with a GDP per capita of US\$643.⁴ Following the end of the armed conflict in 2005, the ruling National Resistance Movement led by President Yoweri Museveni introduced a number of structural and pro-market reforms and investments.⁵ This resulted in improved macroeconomic stability generating a sustained period of growth from 1987 to 2010 of 6.7 per cent average annual real GDP. This trajectory declined over the period from 2011 to 2016 to 5.7 per cent⁶, but projections for 2019 and 2020 show a resurgence to 6.2 per cent.⁷ However, over this same period, real GDP per capita growth declined from an average of 3.6 per cent (1987–2010) to 2.2 per cent and 1.6 per cent in 2015 and 2016, respectively, mainly driven by a high population growth rate of 3.3 per cent per year.⁸
12. The main sources of growth have come from the services sector (information and communications technology, transport and financial services) and less so from agriculture and manufacturing.⁹ Newly discovered oil reserves have given the country important future growth prospects, but the pace of development has been slow and significant benefits may not emerge in the near term.¹⁰
13. **Rural poverty.** Past economic growth contributed to reducing poverty in the country from 56.4 per cent in 1993 to 24.5 per cent and 19.7 per cent in 2009 and 2013, respectively.¹¹ Uganda therefore met the 2015 Millennium Development Goal 1 target – of halving poverty – ahead of schedule. However, Ugandans also remain vulnerable to slipping back into poverty – for every three Ugandans who escape poverty, two fall back in.¹² More worryingly, national estimates show that poverty levels have worsened in recent years, rising to 21.4 per cent in 2016.¹³ Similarly, the proportion of people living in extreme poverty, based on the international poverty line, increased from 36 per cent in 2012 to 42 per cent in 2016.¹⁴ The 2017 Human Development Index value for Uganda was 0.516, ranking it 162 out of 189 countries and above average in the low human development group but below the average for countries in sub-Saharan Africa.¹⁵ Uganda’s progress towards the Sustainable Development Goals, relevant for human development, was mixed, principally due to unsatisfactory and ineffective public service delivery. Good progress was made on access to HIV treatment and reduction in incidence of malaria and other major diseases, while progress was slow and, in some cases, reversed regarding universal primary education, gender equality, maternal health and the spread of HIV/AIDS.¹⁶
14. Poverty and vulnerability remain a primarily rural phenomenon, concerning large families and households relying on farming as their main source of income. Poverty reduction and economic growth have not been inclusive, and inequality persists. Over the last two decades, the Gini Index – measuring income inequality – has oscillated

⁴ In 2018. World Bank data, accessed 10 January 2020.

⁵ World Bank 2016.

⁶ African Development Bank (AfDB) 2017.

⁷ 2.3 per cent in 2016, 5 per cent in 2017 and 6.1 per cent in 2018. International Monetary Fund (IMF 2019) World Economic Outlook.

⁸ AfDB 2017. Uganda had the third-highest rate of population increase in the world (World Bank Project Appraisal Document 2010).

⁹ In 2018, Services accounted for 47.6 per cent of GDP and saw 7.8 per cent annual growth; Agriculture, forestry and fisheries accounted for 24.2 per cent of GDP and saw 3.8 per cent of annual growth; and Industry accounted for 19.9 per cent of GDP with 6.1 per cent of annual growth. World Bank data, accessed 23 January 2020.

¹⁰ Economist Intelligence Unit 2019.

¹¹ AfDB 2017.

¹² World Bank 2016.

¹³ World Bank data, accessed 10 January 2020.

¹⁴ World Bank data, accessed 10 January 2020. Poverty headcount ratio at US\$1.90 a day (2011 PPP purchasing power parity).

¹⁵ United Nations Development Programme 2018.

¹⁶ World Bank 2016.

between 40 and 45 per cent.¹⁷ Inequality is most pronounced in terms of area (rural versus urban), regions (northern and eastern regions compared to the rest of the country¹⁸), gender and age. The resultant drivers of inequality include: high women and youth unemployment; low access to basic social services and infrastructure; jobs-skills mismatches; low savings; declining productivity; gender discrimination (such as women's rights to land, assets and inheritance); and lack of and/or insufficient social safety protection services.¹⁹

15. **Governance.** The National Resistance Movement is still in power, creating a politically stable environment. However, there are widespread reports of governance issues in public institutions adversely affecting how public policy is debated and delivered, the provision of public services and, more generally, the economic development of the country.²⁰ Some argue that through the National Agriculture Advisory Services Programme years (a Government flagship predecessor programme to ATAAS), for example, the Prosperity For All programme operated as a parallel structure and that public funds were used extensively for input provision and credit schemes.²¹
16. **Private sector.** The domestic business community is young, with most businesses (90 per cent) being micro, small and medium-sized enterprises. They operate in the informal sector and mainly in the light manufacturing and retail sectors.²² Only 14 per cent of these businesses operate in the agriculture sector. Enterprises are fragmented and weakly integrated into the national, regional and global industrial value chains and markets. They are further characterized by low and declining productivity, low levels of product, process and organization innovation, low competitiveness (due to high operating costs and unstable product quality), informality, weak governance standards, and limited access to finance.²³
17. Although leveraging private investment in agriculture is critical for Uganda to fully realize the transition to middle-income status expressed in the country's Vision 2040, private sector investment in agricultural value chains has not always flourished. Besides coffee, which is Uganda's major agricultural export and has been overwhelmingly produced by small-scale farmers, it is challenging for private firms to invest in value chains where extension services are weak and where production is dominated by small-scale producers with limited access to markets and aggravated by government subsidies (implicit and explicit). The challenges that private firms encounter in providing agricultural services to small-scale producers vary depending on the value chain and the area of engagement along the value chain – for example, they depend on whether the firms are involved as input and equipment suppliers, nucleus producers and processors, or marketers. In general, private provision of agricultural services in Uganda is characterized by asymmetry of information.²⁴
18. **Agriculture sector.** In Uganda, there are high levels of biodiversity, rich volcanic soils, multiple freshwater lakes with irrigation potential, and two rainy seasons per year – all beneficial to agricultural production.²⁵ Agriculture also continues to employ

¹⁷ World Bank data, accessed 10 January 2020.

¹⁸ The north suffered from a brutal 20-year insurgency by the Lord's Resistance Army starting in the late 1980s. The conflict held the region back by several years, resulting in a slower rise in incomes and high poverty levels. The northern and eastern regions also suffer from significant land degradation and vulnerability to climate change, exacerbating development efforts. Uganda hosts more refugees than any other country in Africa, including people from Burundi, the Democratic Republic of Congo and South Sudan. Its "no camp" approach sees the Government giving refugees plots of land to cultivate, to encourage their self-sufficiency. However, as the number of refugees grows, these plots gradually become smaller. World Bank 2016.

¹⁹ AfDB 2017.

²⁰ World Bank 2016; AfDB 2017. Since 2013, the Corruption Perceptions Index score for Uganda shows no sign of improvement, remaining at 26 out of 100 in 2018 – the same as in 2013. Transparency International CPI 2018, <https://www.transparency.org/cpi2018>, accessed 18 February 2020.

²¹ Joughin J. & Kjaer, M. The politics of agricultural reform, Forum Development Studies, 2010. The Case of Uganda.

²² United Nations Development Programme 2018.

²³ AfDb 2017.

²⁴ Agriculture Sector Public Expenditure Review, World Bank, September 2019.

²⁵ Concern & Welthungerhilfe 2018.

about two-thirds of the country's labour force, whose earnings have been the main driver of poverty reduction over the past couple of decades. The gains have been fragile, however, owing to a still largely underdeveloped sector with below-par performance²⁶ and the difficulty of raising land and labour productivities. Agricultural incomes have depended on external factors, such as good weather and commodity prices as well as unsustainable expansion of acres under cultivation.²⁷ The sector has also been beset with droughts and damaging diseases and pests, such as fall armyworm (FAW).

19. Over the past three decades, the structure of the Ugandan economy has gradually changed from agriculture to manufacturing and services. In that time, agriculture's contribution to GDP has declined to just under 25 per cent. Since 2012, the sector has grown at a low average annual rate (2.6 per cent) relative to population growth (3.5 per cent) and agricultural growth in other East Africa Community countries (3 to 5 per cent).^{28,29}
20. The predominance of subsistence farming highlights several structural deficiencies: limited research and development and innovation; low-quality inputs; low yields and product diversification; high post-harvest losses; weak land and water resources management; and inefficient and uncompetitive farm to agroprocessing and market linkages.³⁰ The sector is also constrained by farmers' limited access to rural and agricultural finance.³¹ Agricultural productivity is characterized by a persistent gender gap, owing to gender discrimination in the land tenure system, women's concentration in lower-value activities and crops,³² and social and cultural constraints.
21. Agriculture is recognized as critical towards achieving the National Development Plan II goal of transforming Uganda into a middle-income country by 2040. The key sectoral strategies over the project period were the agricultural sector policy contained in the Development Strategy and Investment Plan (DSIP) for 2010/11 to 2014/15 and the Agriculture Sector Strategic Plan (ASSP) for 2015/16 to 2019/20.
22. **Extension services.** In 1990, as a result of the parallel approaches to extension implementation seen in the 1981–1991 period, the World Bank supported the Government of Uganda in creating a new policy on the provision of agricultural extension services. Therefore, three ministries (Ministry of Agriculture, Ministry of Animal Industry, and Ministry of Fisheries) were merged in 1992 to create the present Ministry of Agriculture, Animal Industry and Fisheries of Uganda (MAAIF). Following the merger, overall responsibility for agricultural extension was consolidated into a Unified Extension System. The objective of this consolidation was to improve the efficiency and effectiveness of public extension programmes by eliminating duplicative efforts. The unified extension system followed the "train and visit" approach and recruited extension workers at the district level. These workers were supposed to transverse the entire district and provide farmers with advisory services. With a required extension ratio of one extension worker to 33,000 farmers, the system had too few extension workers to meet with farmer demand.
23. The period from mid-2001 to 2013 was marked with a shift in approach from a supply- to a demand-driven system, resulting in the creation of the National Agricultural Advisory Services (NAADS).³³ Essentially, the NAADS intended to be decentralized, largely farmer-owned (through formation of farmer groups) and private sector-led in terms of the provision of advisory services. Nonetheless, like

²⁶ World Bank 2016; AfDB 2017.

²⁷ World Bank 2016; AfDB 2017.

²⁸ World Bank data, accessed 10 January 2020.

²⁹ World Bank 2018.

³⁰ AfDB 2017.

³¹ World Bank 2018 <https://www.worldbank.org/en/country/uganda/publication/closing-the-potential-performance-divide-in-ugandan-agriculture-fact-sheet> accessed 18 February 2020.

³² World Bank 2016.

³³ The name is the same as that of the National Agricultural Advisory Services Project.

other extension initiatives, during its more than 12-year tenure, NAADS was associated with a myriad of challenges that caused inefficiencies in the delivery of extension services. According to the National Agricultural Extension Strategy³⁴ these challenges included inadequate funding, the need to undertake too many roles beyond extension (e.g. input procurement and distribution), local government-based service providers' inadequate numbers and technical capacities, and limited outreach to farmers due to too rapid a pull-out.

B. Project design and implementation arrangements

24. ATAAS was a World Bank-initiated project and a successor to the Second Agricultural Research and Training Project as well as NAADS, cofinanced by IFAD via a *pari passu* financing arrangement. IFAD's contribution to the project costs was only 2 per cent (annex I). The World Bank considered NAADS and the follow-up ATAAS as flagship interventions in Uganda and the East Africa region. The project was administered and supervised by the World Bank, including IFAD's loan. It was designed to continue the strengthening and privatization of research and advisory services throughout Uganda. It built on the direction of Uganda's ambitious Plan for the Modernization of Agriculture, which aimed to transform the agriculture sector by building a more competitive and productive environment.³⁵ ATAAS sought to reform extension services to be more demand-driven and private sector-led. At design, the Government agreed to provide three quarters of the financing for ATAAS.
25. Following the Government's policy change in 2014,³⁶ however, the World Bank suspended *de facto* the disbursements for both the World Bank and IFAD loans (July 2014) due to ineligible expenditure on inputs. In 2015, the project was restructured in terms of reassigning the role of implementing agency and modifying the components. In February 2016, IFAD then officially suspended disbursements to the project. The financing agreement was amended in February 2017³⁷ with IFAD focusing its support on one component, i.e. the provision of equipment, including vehicles and training for extension services at district and subcounty levels. The vast bulk of subsequent IFAD financing since 2017 went to vehicles and training for district extension activities (see figure 1 in annex IX).³⁸ IFAD also administered and supervised its own loan thereafter (see annex VII for changes during the project life span).
26. In the last two years, IFAD's support focused on component 3 (agricultural support services) and on the activities in bold in the TOC (annex VI). It is noted that the delivery of vehicles and training (since procurement was delayed until 2018) would have not yet had sufficient time to show any major impact on the ground, although training activities proceeded from 2017.
27. **Project goal and objectives.** The aim of ATAAS was to enhance the performance of the agriculture sector through a technology-powered productivity boost, coupled with farmers having deeper and stronger linkages to the market. The overall goal was to enhance agricultural growth and reduce poverty. The development objective was to "increase agricultural productivity and incomes of participating households" by improving the performance of agricultural research and advisory service systems in the Republic of Uganda. The project also had a global environment objective to "enhance the environmental sustainability and resilience of agricultural production to land degradation and climate risks".³⁹
28. Over its lifetime, the project was restructured twice to respond to government policy reforms and the infestation of FAW. Although the project objectives remained the

³⁴ National Agricultural Extension Strategy 2016/17-2020/21, MAAIF, October 2016, Chapter 2.1.5.

³⁵ Plan for Modernisation of Agriculture, Evaluation, by Oxford Policy Management 2007.

³⁶ Implementation of ATAAS was deeply affected by the policy shift in the extension delivery system from pluralistic "publicly funded, privately provided" to the earlier model of "publicly funded and publicly provided" system.

³⁷ IFAD 2017 Amendment to the financing agreement, ATAAS.

³⁸ Including 1,034 motorcycles and 115 pickups.

³⁹ World Bank 2019 ATAAS Implementation Completion and Results Report.

same, the results framework to measure performance towards these objectives was altered to match the revised scope.

29. **Project components.** The original design of the project had five components: (1) Developing agricultural technologies and strengthening the National Agricultural Research System (NARS); (2) Enhancing partnerships between agricultural research, advisory services and other stakeholders; (3) Strengthening NAADS; (4) Supporting agribusiness services and market linkages; and (5) Project management.
30. In 2014, following the mid-term review (MTR), the project was restructured for the first time. One of the main reasons was the weak fiduciary compliance that saw the use of technology uptake grants for input provision, for which they were neither designed nor approved.⁴⁰ Restructuring was also in response to reforms adopted by the Government in agricultural extension services. The Government adopted a “single spine” publicly funded and publicly provided extension system to replace the earlier publicly funded, privately provided model. This also involved transferring the extension services function from NAADS back to a newly created Directorate of Extension Services at MAAIF. NAADS was reassigned the role of input distribution and strategic interventions, separating it from the provision of advisory services to eliminate the recurrence of ineligible expenditures.
31. After this restructuring and the resultant new mandates of the institutions involved, the project components were modified to:
 - 1) Developing agricultural technologies and strengthening NARS;
 - 2) Enhancing partnerships between agricultural research and other value chain stakeholders;
 - 3) Strengthening agricultural support services (replacing components 3 and 4); and
 - 4) Programme management, coordination and M&E (replacing component 5).
32. *Component 1* provided support to NARS through two subcomponents: (1.1) Technology identification and development; and (1.2) Institutional strengthening of NARS. Subcomponent 1.1 supported implementation of strategic research programmes while subcomponent 1.2 strengthened the effectiveness and efficiency of the National Agricultural Research Organization (NARO) by reinforcing its human, financial, physical and organizational capacities. The expected outputs of this component were an increase in the number of technological innovations generated for dissemination, and the number of collaborative research projects implemented.⁴¹
33. According to the World Bank completion report, the main activities of the component were: (i) implementation of strategic national and zone-specific research programmes; (ii) support to competitive research grants; (iii) support to build the competencies of public and private agricultural research service providers; (iv) equipment, facilities, and transport for research; (v) enhanced governance through stakeholder participation and research partnerships; and (iv) exploring options for sustainable financing mechanisms for NARS.
34. After the first restructuring, the component was allocated a larger budget to: (i) develop outreach-strengthening activities at NARO to maintain an uninterrupted flow of new technologies from research to farmers; (ii) finalize research infrastructure rehabilitation and procurement of laboratory equipment; and (iii) increase allocation for competitive grant support, especially for “targeted” or solution-oriented competitive grants focused on priority value chain issues and partnerships.
35. *Component 2* supported closer linkages between NARO, NAADS and later MAAIF and other stakeholders. It financed the development of programmes and joint activities

⁴⁰ This issue was resolved with ineligible expenditures of US\$1.36 million being identified and refunded to the World Bank. World Bank Implementation Completion and Results Report, 2019.

⁴¹ IFAD supervision report, February 2019.

to facilitate better linkages and collaboration between research and other stakeholders through five subcomponents: (2.1) joint planning, priority- setting, adaptive research, and demonstrations; (2.2) enabling technology upscaling of SLM; (2.3) institutional capacity-strengthening for the research– extension interface; (2.4) joint M&E; and (5) development of joint information and communication technology (ICT) systems.

36. After the first restructuring, component 2 was modified to be jointly implemented by NARO Secretariat and MAAIF, with extension activities scaled up to fill the vacuum left by the exit of NAADS advisory provision. The transfer of extension functions from NAADS to MAAIF meant that all NAADS staff positions in the districts and sub-counties, as well as agricultural advisory service provider contracts, were terminated. This required the project to strengthen the district extension system under MAAIF. The main changes included: (i) greater budget allocation for enhancement of technology upscaling activities, especially adaptive research through district adaptive research support teams (DARSTs), demand-driven technology demonstrations through multi-stakeholder innovation platforms (MSIPs), and institutional and human capacity-strengthening for other partners; and (ii) the acceleration of SLM interventions after procurement delays.
37. In 2017, the project was restructured for a second time. The Government had requested support to address the outbreak of FAW in Uganda, which threatened to damage the productivity gains made by ATAAS. In response, project resources were reallocated to support FAW interventions. Under component 2, the project supported work to develop management interventions for FAW in the short to medium term and its containment strategy in the long term. The work involved: establishing the level of FAW infestation in the country and its impact on maize production; recommending specific evaluated pesticides to be used in an integrated pest management strategy; identifying potential novel control options involving the use of biological control agents; and making proposals for coordination of FAW management efforts and surveillance.⁴²
38. *Component 3* replaced the original components 3 and 4, which were the remit of NAADS, with some of their activities retained.⁴³ The new component supported MAAIF and partners to develop sustainable channels for market-oriented technology uptake through: (i) farmer empowerment and organization of strengthened linkages to markets; (ii) supporting the design of a new extension strategy and its institutional and implementation arrangements; and (iii) developing and operationalizing ICT tools to improve the effectiveness of public agricultural programmes. The component also supported start-up activities for the World Bank-funded Agriculture Cluster Development Project (ACDP).
39. *Component 4* replaced component 5 and established a project coordination unit (PCU) that linked the existing NARO and MAAIF management and coordination functions as well as a consolidated M&E function.
40. **Project area and target group.** At appraisal, beneficiaries were defined as participating farming households that directly benefit from NAADS support through farmer groups. After the first restructuring, the definition of beneficiaries was changed to “members of farmer groups receiving support from contracted project group promoters or district extension workers under MAAIF”. The IFAD President’s report (2010) states that at the time of appraisal, about 20 per cent of farming households in the country had benefited from advisory services through NAADS. Under ATAAS, the aim was to reach 1.7 million households. This target was later lowered to 1.58 million households. By completion, it was estimated that the project

⁴² Supervision Mission, February 2019.

⁴³ As noted in the MTR, the restructuring by the Government of Uganda of the mandate and functions of the NAADS Secretariat from extension to input supply services and the cancellation of Agricultural Advisory Service Provider service contracts renders implausible the continued implementation of project activities by the NAADS Secretariat, paragraph 45.

had reached 1.68 million, exceeding the revised target number of households and representing 25 per cent of all rural households.

41. The project did not track indirect beneficiaries, including members of farmer groups who learned from direct beneficiaries. Other indirect beneficiaries were seed dealers, producers and outgrowers, private sector seed producers, farmer-based community seed producers and seed inspectors for quality assurance, whose capacities were built by the project for multiplying technologies generated by research.
42. **Project costs and financing.** The original total project cost of US\$665.5 million was reduced to US\$421 million during the first restructuring. By closing, the World Bank disbursed US\$110.5 million and IFAD contributed US\$13 million.⁴⁴ The Government of Uganda financed the largest share, contributing US\$299 million but much lower than the US\$499 million planned at design stage. Lastly, the GEF provided a grant of US\$7.2 million to finance SLM activities to respond to land degradation, erosion, erratic rainfall, and other climate risks in Uganda.
43. At design, the European Union and the Danish International Development Assistance committed to finance US\$26.3 million but this did not materialize owing to policy changes in their aid programmes.⁴⁵ The table in annex I shows project costs at project design and closing.
44. Following the original financing agreement (2011), the World Bank administered and supervised IFAD financing. The GEF grant from the World Bank-led GEF Strategic Investment Program was blended into the project.
45. After the Government's policy change in 2014, the World Bank suspended *de facto* the disbursements to NAADS for both the World Bank and IFAD loans (July 2014) due to ineligible expenditures. In February 2016, IFAD officially suspended all disbursements under the IFAD loan to ATAAS. In the suspension letter, it requested the Government to provide solid evidence and arguments proving that the project development objective (PDO) was still achievable after the main policy change introduced in NAADS; in the event that IFAD did not receive this, the procedure for loan cancellation would have been activated. The Government provided evidence, in the last quarter of 2016, that ATAAS could still meet its PDO, and IFAD agreed to lift the suspension. The financing agreement was amended (in February 2017), focusing support on the provision of equipment, including vehicles and training for extension services at district and subcounty levels.⁴⁶ IFAD also administered and supervised its own loan.
46. **Time frame.** World Bank and IFAD financing were approved by the respective Boards in June and September 2010. IFAD reports a 12-month lag to effectiveness owing to a lengthy Parliamentary ratification process, a national election campaign and the subsequent period before the constitution of a new Parliament.⁴⁷ The World Bank reports an 18-month time lag for the same reasons, as well as: negotiations with the Government on accountability and governance issues that were addressed through enhanced governance and anti-corruption (GAC) measures; revisions in draft NAADS guidelines to align beneficiary selection methods with project design; approval procedures under the Government; and restructuring of the NAADS Secretariat.⁴⁸
47. IFAD financing of ATAAS eventually entered into force in November 2011. As mentioned above, the World Bank suspended *de facto* IFAD disbursements to NAADS in 2014 and IFAD officially suspended disbursements to ATAAS in 2016. Disbursements of the IFAD loan were then recommenced in 2017.

⁴⁴ ATAAS represented a relatively small proportion of IFAD's portfolio of six ongoing projects in Uganda in 2015 (US\$14 million out of US\$194 million, or 7 per cent).

⁴⁵ World Bank Implementation Completion and Results Report, 2019.

⁴⁶ IFAD 2017 Amendment to the financing agreement, ATAAS.

⁴⁷ PCR.

⁴⁸ World Bank Implementation Completion and Results Report, 2019.

48. The project time frame was extended twice. The first restructuring extended the closing date by 1.5 years to implement the new and revised activities. The second restructuring gave the project a six-month no-cost extension to the closing date to address both the outbreak of FAW and the effects of the prolonged drought of 2016/17. World Bank financing was completed and then closed on 25 June 2018.⁴⁹ The completion and closing dates for IFAD financing were 31 December 2018 and 30 June 2019, respectively. The main project dates for World Bank and IFAD financing are in table 1.

Table 1
Key dates of project financing by IFAD and the World Bank

Key dates of project financing		IFAD	World Bank	World Bank**
Approval		16 Sept 2010	22 June 2010	22 June 2010
Effectiveness		9 Nov 2011	20 Dec 2011	6 June 2013
Completion	Original	31 Dec 2016*		
	Final	31 Dec 2018*		
Closing	Original	30 June 2015	30 June 2015	30 June 2016
	Final	30 June 2019	25 June 2018	25 June 2018

* IFAD ATAAS Supervision mission (October 2018) report, February 2019; ** Uganda Sustainable Land Management Country Programme.

Source: World Bank Implementation Completion and Results Report, 2019.

49. **Implementation arrangements.** MAAIF had overall responsibility for ATAAS, which was to be implemented within the framework of MAAIF's DSIP (2010–2015),⁵⁰ with the Agricultural Sector Working Group providing overall policy direction.⁵¹
50. The initial implementing partners were MAAIF, NARO, NAADS and NARS. The NARO Secretariat, as the oversight and coordination body for NARS, was the implementing agency for ATAAS-financed research activities. The NAADS Secretariat was responsible for planning, directing, guiding, supporting and managing the NAADS programme and was responsible in ATAAS for the provision of advisory services.⁵²
51. Following the transfer of the extension services mandate from NAADS to MAAIF, the first restructuring of the project changed implementation arrangements accordingly. The revised component 5 on Programme management, coordination and M&E then supported NARO and MAAIF to manage and coordinate ATAAS. Furthermore, overall coordination between NARO and MAAIF was strengthened through the establishment of a project implementation support team (PIST) in MAAIF, with lead responsibilities assigned under a single designated task manager. The PIST was intended to address earlier administrative inefficiencies and coordination challenges stemming from the NAADS and NARO Secretariats working in parallel.⁵³
52. Initially, the World Bank acted as the cooperating agency of the project. IFAD also undertook supervision missions but only after the lifting of the suspension of disbursements and subsequent amendments were made to the Financing Agreement.

⁴⁹ Supervision mission February 2019.

⁵⁰ The DSIP (2010–2015), developed by MAAIF as a tool for moving the sector's agenda, produced four programme areas: (i) enhancing sustainable production and productivity; (ii) improving access to markets and value addition; (iii) creating an enabling environment; and (iv) institutional strengthening in the agriculture sector.

⁵¹ World Bank Implementation Completion and Results Report, 2019.

⁵² IFAD 2010 President's report on ATAAS; World Bank Implementation Completion and Results Report, 2019.

⁵³ World Bank Implementation Completion and Results Report, 2019.

III. Main evaluation findings

A. Project performance and rural poverty impact Relevance

53. Relevance measures the extent to which the objectives of development interventions are consistent with beneficiaries' requirements, country needs, institutional priorities and partner and donor policies. It also entails an assessment of project design and coherence in achieving its objectives.⁵⁴ In the context of ATAAS, two dimensions of relevance are examined: (i) relevance of design; and (ii) relevance of objectives, including pro-poor orientation.
54. **Relevance of design.** Overall, the initial ATAAS design was premised on the commitment of all parties to continue the radical NAADS reform agenda, with the objective of strengthening and privatizing research and advisory services throughout Uganda. However, such agreement did not exist as reflected in the differences between the World Bank project appraisal document (PAD) and the Government's implementation guidelines, as well as the departure of two of the four development partners' funders (European Union and Danida) because of disagreement over the final design. Given the emerging differences between the development partners and the Government over the ATAAS approach to extension reform as described above, pooled funding arrangements were not a viable option for all partners. Although sector budget support had been the objective in 2008, conditions were not in place. A basket funding arrangement was used instead, in which Government, World Bank and IFAD funds were all placed within a single account at the Bank of Uganda. From IFAD's perspective, this approach would allow it to participate in the project while keeping its operational involvement to a minimum.
55. A key feature of the funding was that nearly 50 per cent of the total project cost was allocated to component 3, 75 per cent of which was to be financed by the Government and to be allocated to NAADS. This design feature left the project highly exposed to a risk of policy and institutional shifts, especially in a political environment in which the role of NAADS came under high public scrutiny during preparation and immediately after the project's Board approval. In fact, the risks around governance, financial management and political interference, all of which were recognized in the PAD as substantial, proved to have a serious influence on implementation and led to loan suspensions and major redesign.
56. IFAD might nevertheless have had greater awareness of the underlying political pressures surrounding extension provision and the history of NAADS. The predecessor of ATAAS, NAADS, had had a controversial history, with two suspensions in 2007 and 2009, as well as differing views on what impact had been achieved and on the principles of a private sector-led extension system. IFAD had limited influence over the direction that ATAAS would take partly because of the limited level of financing but also because of the limited capacity in the IFAD country office and the deliberate strategy to act as a silent partner with the World Bank.⁵⁵ Further, the late decision by IFAD to use 60 per cent of its loan funds for vehicles and training, while relevant in terms of extension service mobility and capacity needs, was high risk both in terms of the ability to procure these investments properly within the limited time left, and more importantly because of the lack of certainty that the vehicles would be used to serve the revised objectives of ATAAS, especially given the findings from its own COSOP review in 2015.
57. ATAAS was predicated on several critical assumptions for achievement of objectives. These hinged around the Government's continuing commitment to research and advisory services reform, good coordination between implementing agencies, transparent governance, and the ability of farmers to contribute as expected to costs.

⁵⁴ IOE Evaluation Manual 2015.

⁵⁵ Interview with former IFAD Uganda Country Director.

Given the history of NAADS and the divergence of views around reform, these assumptions were all high risk.⁵⁶ Broad ownership of the intended direction of ATAAS did not in fact exist. In essence, *“the ... programme represented market-oriented values that were not echoed in large parts of the Ugandan polity”*.⁵⁷

58. The components of ATAAS at design focused on the key issue of linking research and extension to meet farmers’ needs. This was a critical area, but the design did not find an effective way to link NARO and NAADS – the two key institutions involved at national level, although at zonal and district level important mechanisms were introduced to enhance the research–extension–farmer continuum such as MSIPs and DARSTs. ATAAS also sought to introduce more pluralistic and private sector- led services by extending the farmer-managed contracts for advisory services as well as the competitive grant scheme for research.
59. The change in design in 2014 was a substantial shift in direction for the advisory services and farmer empowerment aspects of ATAAS as well as project management, although research under NARO remained largely unaffected. From the perspective of the Government, and particularly MAAIF, the redesign was a needed adaptation to the weaknesses perceived under the NAADS model. The introduction of a new agricultural extension policy and strategy in 2016 paved the way for a reorientation to a state-driven delivery of advisory services through the Single Spine Extension (SSE) system. This sought to provide broader coverage than had been achieved under NAADS, and to restore the role of local extension staff, both of which were relevant changes. Even so, the imperative to emphasize input provision over extension was an unsatisfactory move. The establishment of Operation Wealth Creation (OWC) using retired military personnel in 2014 to handle this, with logistical support from a reconfigured NAADS, diverted resources away from extension delivery.
60. The redesign led to the cancellation of NAADS staff contracts, and the removal of the technology uptake grants and market linkage mechanisms that had been included at design. The dropping of technology uptake and the Commercialization Challenge Fund (CCF) matching grants for farmer group enterprises meant that improved technologies would not have the financial support to link to value chains.⁵⁸ The World Bank accepted the change largely because of its commitment to research and SLM measures and because its new project ACDP was premised on building on ATAAS achievements.
61. This change, and the fact that NAADS was already being increasingly used for subsidized input delivery, left IFAD with a difficult choice. The change violated the principle of keeping delivery of inputs separate from advisory services and dampened the incentives for the private sector to invest in the distribution networks. Further, it left a vacuum in the short term in the Government’s capacity to provide the extension function at scale, as it would take some time to put a new system in place.⁵⁹ Yet IFAD continued its association with the project (albeit after suspending the loan for some time) by rechanneling its funds into provision of vehicles for extension offices and training to extension services.
62. **Relevance of objectives.** The original objectives of ATAAS, particularly for extension and market-led reforms, were not fully aligned with the Government’s emerging priorities. ATAAS was a central investment vehicle to implement the National Development Plan and DSIP⁶⁰ at the start, and this was reflected in the willingness of the Government to contribute 75 per cent of total project costs. Subsequently, the redesign of ATAAS in 2014 reflected a desire by the Government

⁵⁶ The PAD rated the overall risk as High before mitigation measures, and Substantial after them (PAD, p. 21).

⁵⁷ Kjær, A.M. & Joughin, J. 2012. The reversal of agricultural reform in Uganda: Ownership and values, Policy and Society, <http://dx.doi.org/10.1016/j.polsoc.2012.09.004>.

⁵⁸ World Bank Independent Evaluation Group Implementation Completion Report Review 2019, p.7.

⁵⁹ IFAD COSOP Results Review 2015.

⁶⁰ DSIP identifies agricultural research and advisory services as two of the core mandates.

for the project to align with the dominant thinking in MAAIF towards a more public sector-driven advisory system while continuing with the research platform already established. This also meant that IFAD's Private Sector Development and Partnership Strategy to engage the private sector in bringing benefits and resources to IFAD's target group, as articulated in the President's Report, could not be followed.

63. In terms of IFAD's 2013–2018 COSOP, the design of ATAAS aligned well with Strategic Objectives (SOs) 1 and 2. SO1 aimed at sustainably increasing the production, productivity and climate resilience of smallholder agriculture, and SO2 sought to enhance the integration of smallholders into the markets. These were both central elements in the original design. However, the emphasis on SO2 was reduced after redesign, as the commitment to commercialization and inclusion of a key role for private sector actors fell away with the change in role of NAADS.
64. Although a targeting strategy was well articulated at design, the objectives of ATAAS did not sufficiently prioritize poverty reduction. The targeting strategy categorized three groups according to commercialization potential. Poorer, more vulnerable and women-headed households would receive support for enterprises focusing on food security rather than more commercial approaches. Measures for gender, youth and HIV/AIDS awareness-building were also included for all target groups. However, there was no vulnerability assessment exercise carried out to understand the exigencies of IFAD's target group. The contract system for hiring private sector extension actors also meant that the poor would have less access to advisory services. The targeting focus was changed after restructuring, as public extension services concentrated more on supporting host farmers and the pace of group formation declined.
65. Although the project was a flagship intervention for delivering on the DSIP, the focus of the DSIP was recognized as being more on growth than on poverty reduction.⁶¹ Moreover, the inherited focus of NAADS was on selected commodities that would not necessarily benefit the vulnerable, and providing extension support through private contractors that would be partly funded by farmers. Empowerment of farmer groups supported by conditional grants to access technology and services required considerable investment in building group capacity, including requiring a financial contribution from the group members. While groups focusing on food security were included,⁶² they were not the main target of the commercialization process championed by ATAAS.⁶³ There was no specific poverty objective stated in the logical framework at appraisal, and outcome indicators did not specifically mention poverty reduction.
66. **In summary,** ATAAS was initially relevant as a vehicle to build on NAADS experience and expand reformed extension and research services in order to raise smallholder productivity. However, the major redesign occurred because the original approach did not fully reflect MAAIF's views on public extension delivery as well as the practical difficulties of retooling public extension agents to become service providers in the private sector. From the Government's point of view, the redesign was intended to improve the coverage of extension and so achieve greater relevance for its public service provision. However, the major change in approach and the reallocation of funds to OWC for input provision can be seen as substantially reducing relevance in terms of the original design.
67. As for IFAD, appropriate risk analysis at the design stage did not fully take into account the issues which had plagued NAADS; had this taken place, it could have perhaps led to a rethinking of its approach to, or involvement in, the project. While it can be argued that a private sector orientation at design was in line IFAD's strategy

⁶¹ Joint Preparation Mission Aide-memoire 2009.

⁶² Poorer farmers were to be included by having one farmer category that prioritized food security, although they were to be supported alongside three other categories of farmers that were more market-oriented. A third of grants funds were earmarked for food security enterprise groups (World Bank PAD, p. 83).

⁶³ IFAD President's Report, 2010, paragraph 12.

to engage the private sector, IFAD did not voice its concern when, after the redesign, delivery of extension services was taken away from the private sector. In terms of pro-poor orientation, this was not sufficiently prioritized in the design, and IFAD did not exert strong influence over the design process, which might have led to a more pro-poor emphasis. Aspects such as vulnerability analysis, which would have ensured that the needs and challenges facing the vulnerable population in agriculture were taken into account, were missing. Although, the targeting focus was well-articulated, it was somewhat narrowed after restructuring, as public extension services concentrated more on supporting host farmers and the pace of group formation declined. The PPE rates project relevance as *moderately unsatisfactory* (3).

Effectiveness

68. Effectiveness corresponds to the extent to which the development interventions' objectives were achieved or are expected to be achieved. The evaluation also provides an assessment of the outreach of the project and the effectiveness of targeting.
69. **Effectiveness of outreach.** ATAAS met its outreach targets in terms of households reached and women beneficiaries. The project completion report (PCR) and the ICR state that ATAAS reached 1.68 million farm households, i.e. at least 25 per cent of Uganda's rural households. This exceeds the post-restructuring revised target by 4.5 per cent. Measured against the appraisal target of 1.71 million, the closing number is 1.7 per cent lower. Further, women have been estimated to account for 52 per cent of this total number of beneficiaries, close to the appraisal target of 54 per cent. The project did not track the number of indirect beneficiaries – members of farmer groups who learned from direct beneficiaries – thus underestimating total beneficiaries. Other indirect beneficiaries included seed dealers, producers and outgrowers, and private sector and community seed producers, whose capacities were built by the project for multiplying technologies generated by research.
70. **Effectiveness of achieving overall project objectives.** The PDO was to increase agricultural productivity and incomes of participating households by improving performance of agricultural research and advisory service systems. The Global Environment Objective was to enhance the environmental sustainability and resilience of agricultural production to land degradation and climate risks. The two dimensions of productivity and income are also discussed in further detail in the section on rural poverty impact, which comes later.
71. According to the draft Government Project Implementation Closing and Results report (July 2018) and World Bank Closing aide-memoire (of June 2018), overall, the project largely achieved both its PDO and Global Environment Objective. In the five tracked commodities – maize, rice, cassava, beans and dairy – the target percentage increases in average agricultural yields of participating households over baseline were achieved in cassava (10 per cent) and exceeded in beans (25 per cent), maize (33.3 per cent), and milk production (237.5 per cent). These increases were verified by the World Bank's completion reviews⁶⁴ and supported by PPE field visits as well as key interviews. Part of the explanation for productivity increases relates to the inherited benefits from the earlier NAADS farmer groups, and to favourable weather in 2018.⁶⁵
72. The Impact Survey estimated that the average incomes of male farmers increased from the baseline by 14 per cent and that of female farmers increased by 27 per cent, against the target of raising incomes by 20 per cent and 15 per cent for male

⁶⁴ Implementation Completion and Results Report (ICRR) World Bank, 2019, and Implementation Completion Report Review, IEG, World Bank 2019.

⁶⁵ It should be noted that 2018 was recorded as a bumper year for maize (see MAAIF Annual Performance Report 2017/18).

and female farmers, respectively. Hence, the end-of-project target increase in income was only achieved among female farmers.⁶⁶

73. It is noteworthy that the reported increases in income occurred over a period when there was significant disruption to the extension system, major disease outbreaks and a switch to input provision through OWC. An assessment of OWC performance in 2018 concluded that although the quantity of inputs distributed increased markedly, the productivity of farmers did not match. The causes were wrong timing of input delivery to farmers, incidences of poor-quality inputs delivered, and inadequate extension services to advise on their use.⁶⁷ Another assessment concludes that OWC has resulted in huge losses due to limited extension services, inadequate information with regard to farmer, soil and water profiles, and elite capture of the programme.⁶⁸
74. As outlined in the TOC, the three project development objectives were to be achieved based on intermediate outcomes mostly related to development and adoption of new production technologies, SLM practices and increased market linkages. The achievement of these intermediate outcomes was in turn underpinned by results of project sub-objectives, which are articulated in the paragraphs that follow. The **sub-objective of Developing Agricultural Technologies and Strengthening the National Agricultural Research Systems** can be regarded as successful in meeting or exceeding its targets. Key achievements were on staff training: 39 scientists were supported for graduate training (31 at PhD level and 8 at MSc level). Staff were bonded to work for NARO on their return for five years. The capacity of a further 409 staff was boosted through tailored short-term skills training courses.
75. Under infrastructure development, targeted research and development structures were completed at the Public Agricultural Research Institute, especially the ZARDIs. These included: office and administrative blocks; new laboratory facilities, and conference and training facilities at eight ZARDIs; specialized laboratory equipment and field machinery; water works at selected ZARDIs; and other equipment including transport and ICT.
76. From the enhanced capacity, the NARO's research systems performed well and generated a range of deliverables. A total of 198 technological innovations were disseminated, exceeding the project target of 110 by 80 per cent. These innovations spanned yield, nutrition climate-smart adaptation as well as labour-saving technologies. Six breeding pipelines were designed across several commodities including maize resistance to maize lethal necrosis, cassava adaptable to highland areas and tea with superior cup quality attributes. In addition, seven prototype designs of gender-responsive and cost-effective farm equipment for selected commodity value chain actors were developed and 91 collaborative research projects were implemented through the Competitive Research Grants, exceeding the target of 60 by 51.7 per cent.
77. For the **sub-objective of Enhancing Partnerships between Agricultural Research, Extension and Stakeholders**, such enhancements were achieved. Achievements under this framework involved NARO, NAADS coordinators and (after redesign), the Directorate of Agricultural Extension Services (DAES) and DLGs undertaking joint planning, adaptive research, on-farm demonstrations, technology upscaling, and SLM interventions. It also entailed capacity-building of 5,385 mostly public agriculture extension staff but also including those from the private sector and NGOs (to facilitate harmonious extension messaging), through various training activities.

⁶⁶ However, the gender comparisons when split by commodity give highly varying estimates and are based on small sample sizes such that the ICR treats them as corroborative rather than definitive evidence (ICR, para. 41).

⁶⁷ Implementation Review of NAADS interventions under Operation Wealth Creation, Empower Consult, June 2018.

⁶⁸ Public Expenditure Governance in Uganda's Agricultural Extension System, Advocates Coalition for Development and Environment, Centre for Budget and Economic Governance, 2018.

78. A total of 120 adaptive research trials were undertaken by seven ZARDIs in all agro-ecological zones and 11,585 on-farm demonstrations were conducted by the nine ZARDIs and DLGs. The demonstrations involved new and improved technologies and included application of SLM practices and climate-smart agriculture techniques. While the end-of-project target of 275 adaptive research trials was not met, this was compensated by the number of demonstrations, which surpassed the project target by 28.2 per cent. This was due to the emphasis on demonstrations, which involved a total of 25,688 farmers.
79. Under the GEF-funded SLM, targets were exceeded, especially in promotion of terracing and rehabilitation of degraded watershed and rangelands where a total of 3,391 ha and 3,337 ha, respectively, were achieved against overall targets of 440 ha and 600 ha. These represented achievements of 771 per cent and 556 per cent, respectively. According to the Government, the apparent over-achievement was due to a shift in strategy away from smaller farmer group-based adaptive trials and demonstrations on SLM to the implementation of a sustainable integrated landscape management approach that included all beneficiaries and the total land in an area.
80. The World Bank, NARO and MAAIF also responded swiftly and disseminated drought- and disease-resistant varieties, especially pest management techniques to protect yields and develop management interventions for FAW. This was recognized as an effective response to a major pest infestation across the country, and the project was subsequently given an award from the World Bank for its efforts in mitigating the outbreak.
81. Under the **sub-objective Strengthening Agricultural Support Services**, ATAAS strengthened the capacity of MAIFF staff through long- and short-term training, including 476 short-term courses, as well as the IFAD-funded training of the majority of extension staff in the final year. Furthermore, ATAAS through GEF funding also increased resident SLM capacity through training-of-trainers of 517 community-based facilitators, who in turn trained the SLM groups, as well as increased skills and knowledge of 240 subcounty agriculture extension officers. Greater use of Information and Communication Technology (ICT) tools improved research and extension management.
82. Extension outreach coordinated through NARO, MAAIF, and the LGs led to greater availability and adoption of technologies, as per the ICR, and IOE's field mission findings largely validate the ICR. The adoption rate at the end of project by project beneficiaries was 78 per cent (95.3 per cent by crop enterprises, 63.3 per cent by livestock enterprises, and 31.7 per cent by SLM farmers, respectively).⁶⁹ However, the ICR did not provide evidence as to how adoption was defined, which technologies it covered, and how it was measured under the project.⁷⁰
83. The redesign also led to the original component 4 dedicated to market linkages being dropped, together with the CCF. The CCF design relied on matching contributions from farmer groups, which had caused severe delays, and the 270 public-private partnerships (PPPs) that had been planned did not materialize. Yet the ATAAS TOC, which had relied on this element to increase the role of agribusiness and market linkages as farm production rose, was not reviewed. Instead, the matching-grant concept has been taken up under the World Bank successor project ACDP.
84. **Factors accounting for the overall achievements.** There were several key factors that account for the achievement of objectives. Firstly, the legacy of NAADS I and II – i.e. farmer groups established under these predecessor programmes – provided an existing base for dissemination and adoption of technologies. Secondly, market demand and access improved due to rapidly growing urban centres and

⁶⁹ DPMOs interviewed were largely in agreement with the crop adoption (cassava, beans and maize), cautious on the livestock adoption percentage and had limited knowledge on SLM adoption. Adoption was understood simply as focus group members' changes in behaviour through use of improved seed and row-planting.

⁷⁰ Implementation Completion Report Review, IEG, 2019.

improving road networks. Thirdly, the work of NARO was relatively free of political interference because it did not enjoy extensive farmer access compared to extension services, and this allowed it to continue developing and supplying target technology and improved management practices (TIMPS) to drive productivity increases. Fourthly, was the good weather in the five years since drought spells/FAW outbreak (in 2015/16), with a bumper maize harvest in 2018. Finally, the support of the President initially for using NAADS to deliver inputs and then for the use of the military in OWC for the same were heavily influential on ATAAS chances of success.

85. **Effectiveness of IFAD's funding.** Insofar as IFAD funding was concerned, the most significant effort in financial terms came at the end of the project, when 60 per cent of IFAD's loan funding was used for vehicles and training. The supply of vehicles included 1,034 motorcycles, worth UGX 7.9 billion (US\$2.2 million) (the Government funded 12 per cent and IFAD 88 per cent), to cover 74 per cent of the lower LGs (the Government prioritized the most needy LGs) and 115 double-cabin pick-up trucks, worth US\$8.4 million, to be supplied to DLGs, enough to cover 83 per cent of the 138 districts. Distribution of the vehicles and motorcycles was confirmed in all of the districts visited during the mission.⁷¹
86. Training support covered 5,385 extension staff (2,304 as at mid-2018) from LGs at a cost of UGX 8.76 billion (US\$2.4 million). While there were delays, the 18 courses provided field and classroom skills development on a range of topics related to crop management, livestock disease control, value chains and SLM (table 2 annex IX). Eight DPMOs and other subcounty extension staff interviewed during the field mission acknowledged and generally appreciated the training. However, in their view, the broad coverage and mostly generic content could have been supplemented by more issue/needs-based training at zonal level using expertise available at ZARDIs. A few DPMOs perceived the rapid delivery and heavily supply-driven content as a response to imminent project completion.
87. IFAD's ambitions related to private sector involvement were not achieved; the private partnership element was dropped with the cancellation at redesign of the competition fund component since very few applicants had come forward. Also, the idea that private sector actors would lead on service delivery through contracts did not succeed – partly because of the challenges of retooling public sector extension services and because farmers were not able to manage the contract arrangements well.
88. **Effectiveness of reaching IFAD's target group.** In terms of targeting effectiveness, the field mission revealed higher and more consistent female (including youth categories) involvement and participation in ATAAS activities. Attribution was reportedly due to higher female interest in profitable production-related activities, a perceived negative "fixed male mindset" mostly on gender roles in production, cultural issues as well as reported slower (but changing) male appreciation of the opportunities offered through participation.⁷² Beyond this, the extent to which the rural poor, youth or the vulnerable were effectively reached is missing in impact studies, supervision reports and M&E results.
89. The majority of beneficiaries were from the inherited and well-established NAADS groups, not necessarily IFAD's core target group, and beneficiaries were often lead farmers with more assets than non-beneficiaries. Beneficiary selection targeted different groups of households, with the largest classified as semi-commercial (43.5 per cent), followed by poverty status (safety nets; 32.8 per cent), commercial (9.2 per cent) and other (14.5 per cent). However, the Government's Impact Study reports that nearly half of beneficiaries (45 per cent) were in a leadership position

⁷¹ Five vehicles were allocated to MAAIF DAES staff responsible for regional coordination and two for administration and training. ZARDI SLM focal points also received vehicles for SLM activities, which were withdrawn at project completion.

⁷² Interviews with DPMOs, extension staff and ZARDI focal points in the 11 districts as well as with two ATAAS farmer groups, whose female members reported increased involvement in production (and increasingly marketing) activities, while male members' activities also extended to small businesses, trading and motorcycle transportation, to which a few men in the two groups "reluctantly" agreed as being true.

(either political, social, LG or religious), while only 20 per cent of the non-beneficiaries interviewed were in similar positions.⁷³ The Impact Survey also found that beneficiaries tended to be better educated, have more assets, better housing and water, and more land than non-beneficiaries. Interviews suggested that ATAAS targeted lead farmers with potential for commercialization.

90. Targeting further weakened after the redesign of the project, and IFAD's low engagement in the project did not help this situation. Indeed, part of the reason for the redesign was the Government's concern that NAADS focused on too few farmers, those who could afford to pay for services, and there was a need to reach all farmers.⁷⁴ After redesign, the evidence suggested, and was later confirmed by the field mission, that targeting weakened as outreach was driven mostly by input delivery using military personnel through a top-down system of procurement that was more supply-led than demand-driven. Furthermore, IFAD's absence during the major part of project implementation meant that there was no pressure to ensure that its preferred/main target group would be considered.
91. The reversion to a centrally managed single-spine extension system reduced the opportunity for local actors such as farmer groups and NGOs to influence how extension should be provided. Prioritized commodities were established nationally, and host farmers were identified by LG leadership to conduct demonstrations. This contrasted with the NAADS period when farmer fora were well established and had access to local council meetings. The involvement of farmers in input selection or distribution was reported in 2018 to be limited under the OWC system. Although procedures were put in place to establish the roles of stakeholders, inputs like seedlings and fertilizer were sometimes given without sufficient attention to the actual needs of farmers. There was also evidence of corruption in the way inputs were sourced and distributed under OWC, resulting in the intended recipients failing to receive their allocations.⁷⁵
92. **In summary**, the project achieved good results on its overall objectives, fueled by the positive results under the research and SLM components and the handling of the FAW outbreak. On the other hand, these were offset by the effects of the ineligible use of NAADS for inputs, the weak targeting of IFAD's main target group and the lack of evidence around targeting beyond outreach to women, and the disruption in the advisory services that occurred during the policy redesign, including the marked decrease in government funding for this component and the dropping of market linkage activities. The PPE gives an effectiveness an overall rating of *moderately satisfactory* (4).

Efficiency

93. The slow start-up (with a year's delay due to extended negotiations between the World Bank and the Government and then slow parliamentary approval) and the subsequent two loan extensions that were provided slowed implementation and in turn the delivery of benefits. The project closed three years after the date set at appraisal.
94. The initial lack of a central project coordination unit, with NARO and NAADS managed under separate structures, led to coordination inefficiencies at national level, including significant delay in start-up and implementation of the GEF-funded SLM component, and at LG level the underuse of LG staff (NAADS coordinators bypassing LG extension staff, although some of them did not want to leave public service to take up roles as part of private advisory services). Others were to be offered a retrenchment package to launch them into private sector service provision, although

⁷³ Final Report on Impact Evaluation of ATAAS August 2018, table 10.

⁷⁴ A study of NAADS impact showed that targeting was weak, subsidized inputs did not spur adoption, and service providers were not well qualified. See Okoboi, G., Kuteesa, A., & Barungi, M. (2013). The impact of the NAADS program on household production and welfare in Uganda. Africa Growth Initiative Working Report 7.

⁷⁵ Advocates Coalition for Development and Environment (ACODE).

this did not progress as planned with the rejection of the NAADS model. These issues were addressed after the redesign, and with the setting up of the PIST in MAAIF and the termination of most NAADS staff contracts.

95. ATAAS has been credited with good efficiency in terms of building stronger research/extension/farmer links, which meant that the research budget of NARO's various institutes was used in a more relevant way to meet the needs of farmers, and the adaptive trials and demonstrations sought to address productivity issues in each zone.⁷⁶ The level of efficiency was affected by the redesign. For example, the termination and removal of the Technology Link Dissemination Officers function at ZARDIs affected the links between research and extension. However, new links were established between ZARDIs and DPMOs so that some research/extension linkages continued through the DARSTs.
96. The ineligible expenditures that arose in 2013 and 2014 as a result of NAADS spending its loan funds on input provision represents inefficient use of funds, as these had to be refunded to the World Bank and IFAD at mid-term. The pooled funding mechanisms allowed the World Bank as the majority lender to act on behalf of both itself and IFAD, and to this extent allowed IFAD to operate as a silent partner and commit fewer supervisory resources.
97. The abrupt policy change for extension and then redesign with the switch to MAAIF from NAADS was very disruptive. The termination of NAADS contracts in 2014 and the hiring of extension staff over the next four years disrupted relations between farmers and LG staff. Support for farmer groups formerly established under NAADS was not sustained, and a new "host" farmer process for technology delivery was introduced. The introduction of OWC also brought initial disruption and a loss of alignment between farmers' needs and inputs provided.
98. In terms of IFAD's specific support, the slow procurement of vehicles by the Government in 2018 was inefficient, with serious issues over the process, leading to cancellation and appointment of United Nations Office for Project Services, which in turn led to a rushed delivery of both training and vehicles. Once procured, the vehicles supplied through IFAD funding were fairly distributed and, according to the 11 DPMOs, reasonably well-managed, although with sporadic/isolated instances of abuse at district level that required MAAIF/DAES intervention. Those deployed to the ZARDIs to facilitate SLM activities were withdrawn by MAAIF after project closure. The GPS tracker system offered on all the vehicles also included an immobilization option when a vehicle moved out of the district or when under unauthorized use. This reportedly reduced the level of improper use.⁷⁷
99. The IFAD-funded extension training was delayed because it took six to eight months for the Government to procure suppliers due to the Government and IFAD administration systems, leaving three months for delivery in a rush before project closure. This resulted in trainings being given concurrently without due reporting and at higher costs because the training took place during the university⁷⁸ teaching semester, so that it was necessary to pay lecturers more to compensate them for the additional work burden. Records were not kept on the training expenditures, preventing IFAD from easily checking on value for money. However, spot checks showed that there were fewer trainees per course than claimed; as a result the Government refunded some costs to IFAD where documentation was missing.⁷⁹
100. The use of public funds to provide subsidized inputs, as occurred from 2015 through OWC, while reflecting a desire on the part of the Government to improve the food

⁷⁶ Interviews and ICR.

⁷⁷ Field mission findings revealed instances of misuse, with some instances leading to court proceedings and others to intervention from MAAIF DAES that involved communication on ultimate withdraw of vehicles absent corrective action and also possible interdiction of the Chief Agricultural Officers by MoLG.

⁷⁸ Makerere University Kampala was the service provider.

⁷⁹ Interviews with the IFAD country office.

security of poorer farmers, represents poor functional efficiency, whereby public expenditure is not well aligned with national policies and strategies and crowds out private sector provision. In addition, the increase in the DAES budget at MAAIF and its reduction at LG level goes against the spirit of decentralization promoted in the DSIP and ASSP.⁸⁰

101. The transfer of input delivery to NAADS/OWC resulted in inefficient use of government funds and is also not pro-poor. This way of spending public resources – i.e. allocating public expenditure to private goods – is economically inefficient and distorts markets. *“The approach used to distribute subsidized inputs has been technically inefficient as well: it favoured the wealthiest farmers, who can already afford the inputs. Nor did it strengthen private input suppliers, improve the targeting of subsidies (with e-vouchers, for example), or invest in rural infrastructure to reduce transaction costs and ensure that farmers can obtain inputs easily”.*⁸¹ A priority of the Government should be to steer public investments in agriculture away from input provisions and toward the provision of public goods, such as research and development, extension and advisory services, and rural infrastructure.
102. The Parliamentary Committee on Agriculture (2017) report found that the unit costs of some of the inputs procured were 20–50 per cent higher than comparable market prices. The report also found that free inputs procured under OWC were often of poor quality; they were distributed late, without communication or consultation with districts; without extension services (and rarely with complementary inputs such as fertilizers, pesticides and irrigation); and with no monitoring of results. This approach resulted in the wastage of inputs. The report further states that “giving free inputs to farmers is not sustainable and will in the long run breed dependency syndrome.”
103. The total project costs at closing represented 63.1 per cent of the project costs at appraisal, with a drop in Government commitment of US\$198.2 million accounting for most of the difference. Consequently, the restructured project scaled back significant direct support to several activities planned at the design stage – notably farmer institutional development (FID), technology uptake grants, and matching grants for commercialization – thus reducing the potential number of beneficiaries, technology adoption, farmer-farmer learning, and long-term integration with value chains.⁸² IFAD managed to disburse 92 per cent of its loan at project closure.
104. The cost-benefit analysis in the ICR shows very positive returns, albeit based on the Impact Survey data, which in the view of the PPE have some reliability issues. The World Bank’s analysis concluded that the project yielded an economic internal rate of return of 37.5 per cent, a net present value (NPV) of US\$700 million, and an NPV per beneficiary of US\$309. The project was therefore more profitable than estimated at appraisal, mainly due to larger yield growth than anticipated, and accounting for substantial environmental benefits. However, the NPV is lower than estimated at appraisal, reflecting the different cost and benefit flows generated by a longer project implementation period. Project management costs were reasonable at 11 per cent of total expenditure.
105. Overall, the gaps around project coordination, ineligible expenditures, procurement delays, staff reorganization, subsidized provision of inputs and sharp drop in government funding outweigh the improvement in research–extension linkages and the putative cost–benefit returns. The PPE gives efficiency an overall rating of *unsatisfactory* (2).

Rural poverty impact

106. Impact is examined along four dimensions: household income and net assets; food security and agricultural productivity; human and social capital and empowerment;

⁸⁰ World Bank, Agricultural Sector Public Expenditure Review Uganda, 2019.

⁸¹ Op. cit. p.47.

⁸² IFAD PCR.

and institutions and policies. Since IFAD's funding was fully blended with World Bank funds, it is not possible to ascribe any impact to IFAD in particular during the project period and hence the overall impacts of ATAAS are presented below. The exception to this is the SLM activities that were supported through a separate GEF grant. As noted in the discussion on Scope (Chapter 1), the bulk of IFAD's support finally focused on the provision of training and transport for extension services in the final year of execution. However, the impact of this investment is more speculative since there has been insufficient time for these assets to have meaningfully delivered benefits to households on the ground.

Household income and net assets

107. The PPE presents the data from the World Bank ICR, which investigated available data from several sources on income, including the Government Impact Survey. Caution should be expressed before accepting the data. As noted earlier, ATAAS beneficiaries were in a different socio-economic group than non-beneficiaries (a distinction confirmed during the mission through interaction with DPMOs), having been included already under earlier NAADS support and having higher levels of household assets and social capital. Furthermore, and linked to this, the analysis does not probe into the question of attribution – that is, to what extent being an ATAAS beneficiary correlates with any gains or losses compared to other characteristics of the sampled farmers.
108. The ICR concluded that household income more than doubled over the project period. Even after adjusting for inflation, the ICR found that incomes doubled for men and increased by 2.3 times for women, far exceeding the restructuring targets of 20 per cent and 15 per cent. It even stated that at closing, project beneficiaries reported higher agricultural income than non-beneficiaries across all enterprise and gender subsamples. Household assets among beneficiaries, including the quality of housing materials, sanitation and consumables, were also slightly higher than for non-beneficiaries.

Food security and agricultural productivity

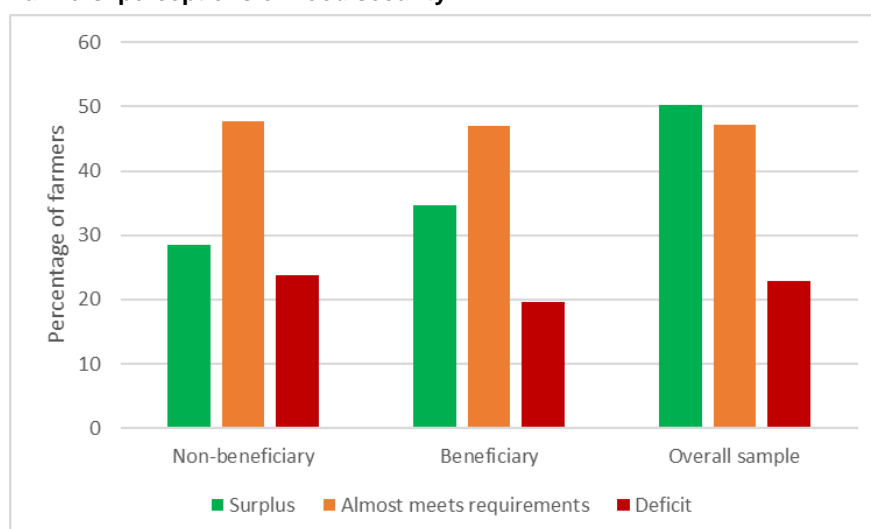
109. The evidence on food security is limited, due to weak reporting. For example, 308,000 farmers received food security grants in 67 districts from 2011 to 2013, but no data are available on the results obtained. The rollout of support during these years did not reach the intended food insecure farmers as the project supported individuals whose selection did not follow the procedures set out in the Project Implementation Manual. This led to individual and elite farmers instead of farmer groups capturing access to the inputs.⁸³
110. The Government Impact Survey assessed improvements in food security and found some evidence that beneficiary farmers suffered lower periods of food deficit than non-beneficiaries, with 35 per cent having a food surplus compared to 28 per cent (figure 1). DPMOs in Iganga, Lira and Masaka with institutional memory of NAADS and ATAAS reported that, in general, increased food security may have been one of the few significant impacts of ATAAS.⁸⁴ The successful completion of SLM works in 40 districts supported food security in fragile environments subject to land degradation and soil fertility decline.⁸⁵ The rapid response to the FAW outbreak in 2016 as well as to other plant diseases ensured that farmers suffered less in terms of crop losses.

⁸³ Draft mid-term report ATAAS, 2014.

⁸⁴ They averred that while ATAAS had demonstrated some promise, the unpredictable periodic changes to NAADS design, subsequent disruption in service delivery and then the rapid implementation of activities towards project completion did not build an adequate foundation for holistic impact. Two DPMOs also believe that any impact (food security) was due to or built on the legacy of earlier NAADS phases.

⁸⁵ Confirmed through site visits, interviews with members of a beneficiary focus groups and by Bugi District, ZARDI SLM focal point/soil scientist in Mbale District.

Figure 1
Farmers' perceptions on food security



Source: ATAAS impact evaluation, 2018.

111. Among project beneficiaries, the ICR states that agricultural productivity gains surpassed project targets (see above). While careful efforts were made to validate yield estimates in the ICR by comparing final results with baseline and midterm yield estimates, the increases are extremely high, especially for rice and cassava. Some of this growth is assumed to be a result of continued use of technologies disseminated under NAADS and the initial years of ATAAS, even though the extension delivery system went through major redesign.⁸⁶ Since then, a series of shocks (FAW and other disease and pest outbreaks) hit production. But 2018 saw a bumper harvest for maize, according to MAAIF.
112. There is also the question of attribution. The observed figures are taken from a sample of beneficiary and non-beneficiary farmers, but the available analysis does not assess whether it was ATAAS or a range of other factors that influenced impact and to what extent. No analysis was undertaken, for example, to compare yields from the better-educated farmers (those with larger farms or possessing more capital or assets) with farmers who were less favoured in these ways. The before-and-after comparisons of production and income are based on farmers making recall estimates in 2018 for the year 2014, four years earlier, which raises questions of reliability.⁸⁷

Human and social capital and empowerment

113. Under the Strengthening Agricultural Support Services objective, farmer groups were strengthened. A total of 16,022 farmer groups established under the first phase of NAADS were inventoried, profiled and capacity gaps established, and 396 of these farmer organizations were registered as high-level farmer organizations (HFLOs). Through the Competitive Grant Scheme under the research component, capacity was also built within private sector seed companies as well as farmer group seed producers to deliver improved seed materials and other technologies on a commissioned basis.⁸⁸ The evidence for empowerment at farmer level is less clear, since there is no active database on farmer fora at the various levels. Under the NAADS approach, group formation and sensitization were key to building group capacity to demand and manage services. At mid-term, 54,000 groups were recorded, of which 40,024 farmer groups had been registered and trained in FID and

⁸⁶ Between 2013-14 and 2015-16, 15.6 per cent of the national rural population moved out of poverty and the share of the "chronically poor" engaged in agriculture declined from 22 to 19 per cent. LSMS/UNPS Wave V Report, 2016.

⁸⁷ The ICR also noted that in the absence of an M&E system systematically tracking characteristics and outcomes for treatment and control groups through the project life cycle, an ex-post evaluation through experimental or quasi-experimental methods cannot be undertaken.

⁸⁸ NARO Completion Report, Competitive Grant Scheme 2014-18.

704 high-level farmers' organizations (HLFOs) had also been registered.⁸⁹ After the project was restructured, farmer groups and HLFOs received little support and, according to the ICRR, FID was dropped and many groups have since collapsed. Towards the project end in 2017, a Uganda Co-operative Alliance study found that these numbers had declined to 16,022 farmer groups and 396 HLFOs.⁹⁰ While training manuals were developed for local extension staff to support these groups, they were not fully used and have been taken up for implementation under ACDP. The SSE system (SSE) is essentially a supply-driven system that places less emphasis on farmer demand for services.⁹¹

Institutions and policies

114. ATAAS delivered positive results as far as strengthening of NARO is concerned. Through project support, MAAIF also developed the National Agricultural Extension Policy and the National Agricultural Extension Strategy, as well as the required instruments, guidelines and manuals needed to operationalize the strategy. The development of ICT-based support systems for MAAIF was partially achieved. The formation of DAES supported the delivery of this new strategy, and the increase in public extension staff numbers boosted the ratio of advisors to farmers, albeit in a modest manner when compared against effective need. Since ATAAS closure, staff numbers have also increased by approximately 400 extension staff through DLG recruitment using the Agricultural Extension Grant (AEG) for process and payroll implications, while in some instances LGs have also recruited extension staff, whose remuneration is met through locally generated revenues.⁹² NARO has also become a more mature research organization.
115. The change from the NAADS model, in which farmers were empowered to manage service provision and the groups were supported to conduct demonstrations and adopt TIMPs, to the SSE approach has reduced the emphasis on FID and replaced it with the host farmer model, in which leading farmers selected by LG run trials and demonstrations without the reinforcement of group structures to assist in dissemination. The MSIPs sought to build on the NAADS farmer groups, but only 32 out of 78 are functional.⁹³ As far as SLM activities, the picture appears to be more positive, as these have now been mainstreamed into LG development plans and budgets, ensuring the maintenance of various community-level structures such as terraces, trenches, contour and grass bunds. Further, LG plans and budgets have been supplemented by the development of SLM bylaws and ordinances, while at national level the development and dissemination of National Land Degradation Neutrality guidelines provide the appropriate framework for implementation.
116. IFAD's role in the redesign was necessarily limited following loan suspension, so it cannot take credit for supporting the new extension strategy. Its decision to re-engage was linked to high-level discussions between the Government and IFAD, and a recognition that funding vehicles and training would reflect a wider strategic message of commitment. The rationale for providing such support at the final stages of the project, where there was no provision made for operational costs that would ensure effective use of the vehicles, can be questioned. At the same, the Government had shown commitment to the SSE model by steadily increasing the extension staffing at LG and providing some operational funding.
117. **Summary – rural poverty impact.** The four impact subdomains presented above give a mixed picture of ATAAS achievements. For household expenditure and production, the available evidence suggests significant national impact on the

⁸⁹ Government ICRR ATAAS.

⁹⁰ Quoted in the ATAAS Process Evaluation 2017. Equally the Impact Survey noted that a limitation to the study was the fact that farmer groups were weak so making sampling of beneficiaries difficult. (Impact Survey.2018, p.26).

⁹¹ For example, M. Barungi, M. Guloba and A. Adong, *Uganda's Agricultural Extension System, How appropriate is the Single Spine Structure?* Economic Policy Research Centre, Report 16, 2016.

⁹² Field mission findings and confirmation by MAAIF DAES in post mission interview.

⁹³ Extract from draft ATAAS NARO Internal ICRR (n.d.).

majority of beneficiaries, even though the lack of further analysis to establish attribution and questions over the rigour of the Impact Survey methodology would suggest caution in using such evidence. Food security has been improved, particularly with SLM and FAW interventions. Institutional and policy impacts can be seen with NARO and MAAIF, but at local level the weaker emergence of viable platforms and farmer organizations has not met the project target. The PPE gives poverty impact an overall rating of *moderately satisfactory* (4).

Sustainability of benefits

118. Sustainability refers to the likely continuation of net benefits from the development intervention after project completion. It also includes an assessment of the likelihood that actual and anticipated results will be resilient to risks beyond the project's life. This criterion is viewed along perspectives of institutional, financial and technical elements.
119. **Institutional sustainability.** Institutional sustainability elements in ATAAS are reflected in the in-house capacity developed at NARO with assured contractual continuity through five-year bonding requirements for beneficiaries of ATAAS training. It is also reflected in the absorption of former PCU ICT staff into the NARO Secretariat and selected ZARDIs. On the other hand, the exit of the nine Zonal SLM Specialists recruited by MAAIF after project completion, following expiry of their contracts and the decision to assign responsibility for the function to focal points in the ZARDIs, reflects fair institutional sustainability. The training of the 517 SLM community-based facilitators and the existence of 31 active SLM landscape committees also reflects good institutional sustainability. It is also manifest in the Government's commitment to the SSE system with the recruitment of approximately 3,100 extension staff to date, with all confirmed during the mission as routinely accessing the payroll and allowances for planned activities.⁹⁴ However, prospects for further incremental recruitment,⁹⁵ especially for personnel at parish level, are largely dependent on increased levels of AEG funding to DLGs. In this regard, MAAIF has given them discretion to recruit as long as they are within the grant funding levels.⁹⁶
120. While involvement of beneficiaries and implementers is key to generation of strong ownership, the sustainability of the many farmer groups created under NAADS appears to be limited, driven partly by the withdrawal of grants for technology uptake or matching grants for marketing/agribusiness. Hence, following restructuring and the introduction of a new model of farmer engagement using "host" farmers, many farmer groups collapsed. On the other hand, the incorporation of a savings component⁹⁷ in the approach of the SLM Integrated Landscape Management contributed to SLM group cohesion and institutional sustainability because entities and, by implication, landscape committees meet on a weekly basis for savings and use that as an opportunity to discuss SLM and other community issues. Institutional sustainability is reflected across four institutions: the SLM groups, the savings cooperatives, the community facilitators as well as the landscape committees.
121. **Financial sustainability.** A review of Public Expenditure in the Agriculture Sector conducted in 2019 by the World Bank for the fiscal years (FYs) 2013/14 to 2017/18 noted NARO absorption of a larger proportion of expenditures in that period and especially in 2016/17. The review attributed the "jump" in research spending to a

⁹⁴ DAES and MoLG confirmed that DLG extension staff establishment increased from 994 in 2015 to over 4,063 by January 2020. The long-term target based on a 2014 study is 12,000 public and 13,000 private sector.

⁹⁵ According to MAAIF DAES, the target was to establish a public extension service to a level of 12,000 staff.

⁹⁶ Analysis and trajectory of production trends suggests increased demand for extension services in the short to medium term, especially at the parish and village levels, and yet presence is at the subcounty level. The high national population growth rate and, by extrapolation, incremental household numbers also puts this scenario into perspective.

⁹⁷ SLM Terminal report 2018: Enterprise Platform meetings held in all ZARDIs to support transformation of SLM groups into cooperative entities for value chain enhancement and profitable marketing and confirmed in the field mission.

large inflow of World Bank funds in the context of ATAAS.⁹⁸ It noted that project completion in June 2018 placed financial sustainability of research funding at risk, given that the project represented about 40 per cent of the agriculture research budget over the period.⁹⁹ However, NARO appears to have mitigated this sustainability risk by operationalizing financial capacity enhancement strategies that include: institution of effective strategies for generating non-tax revenue at the Public Agricultural Research Institute, raising UGX 2.9 billion (US\$790,190) annually; and establishment of NARO Holdings Limited to generate internal funds for research and enhanced capacity for proposal development as well as in project and financial management, resulting in attraction of research grants that provided 30 per cent of annual budget until 2018.¹⁰⁰ On the other hand, interaction with staff in the three ZARDIs visited during the mission revealed reductions in the latest development budget for FY 2020/21 of up to 60 per cent with no explanation.¹⁰¹

122. In addition to continued funding for recurrent and development budget for NARO at UGX 79 billion (US\$ 21.5 million) for FY 2019/20 and budget estimates at UGX 90 billion for FY 2020/21,¹⁰² the Government has also provided a dedicated vote of approximately UGX 4 billion for MAAIF DAES to cater for its supervisory and technical support role as well as an Agriculture Extension Grant for LGs to cater for extension planning, budgeting, implementation and monitoring of activities.¹⁰³ The Ministry of Finance, Planning and Economic Development of Uganda (MoFPED) budget information website indicates that current annual provision for LGs in FY 2019/20 is UGX 127 billion, which compares favourably with estimates in the Economic Policy Research Centre study. However, the approved budget for LG extension services for FYs 2019/20 and 2020/21 is in the region of UGX 80 billion, so lower by UGX 40 billion.¹⁰⁴ The same source indicated that while there may be a slight increase for NARO going forward, LG funding is expected to remain at those levels, reflecting low sustainability. Considering the low provision for the LG vote, questions of Government commitment to the sector remain (see also paragraph 150) and putting sustainability of extension at risk in the medium term.
123. This sustainability element is also manifest in DLG mainstreaming of SLM interventions into annual plans and budgets, which addressed concerns raised in the ICRR.¹⁰⁵ Interviews with PCU staff indicated that a number of SLM structures and practices were still being maintained and utilized. During the mission, site visits to beneficiary FGs combined with interactions with ZARDI staff as well as with DPMOs provided evidence in that regard as well.
124. The future of the NAADS/OWC free input distribution activities is a key issue limiting financial sustainability. This policy will impact NARO's plans for the commercialization of technology outputs as well as weaken the ability of private sector actors to engage in the supply of inputs. To this end, interviews with DPMOs during the field mission revealed that the NAADS/OWC approach has significantly changed focus in FY

⁹⁸ A significant proportion of that budget was channeled towards infrastructure investments, including fully furnished administration blocks and two equipped laboratories each in all the nine ZARDIs. The mission visited three and confirmed that all were commissioned and in excellent condition. Nonetheless, these one-off medium- to long-term investments present implications on annual budgets for maintenance.

⁹⁹ World Bank Agricultural Sector Public Expenditure Review Uganda, 2019.

¹⁰⁰ NARO Strategic Plan 2018/19 to 2027/28 on achievements of previous strategic plan.

¹⁰¹ ZARDI staff assumed that the cuts are part of related reductions in the sector generally and the agriculture extension grant for development and are a result of resource constraints arising from the response of the Government of Uganda to the COVID-19 pandemic.

¹⁰² MoFPED Budget information website <https://www.budget.go.ug/VotePage/142-National-Agricultural-Research-Organisation>.

¹⁰³ A study conducted by Economic Policy Research Centre estimated budgetary requirement of UGX 90 billion rising to UGX 203 billion for recurrent and development provisioning for the first three years of operationalization of the SSE model. The allocation for the DAES for FYs 2018/19 and 2019/20 was UGX 4 billion and UGX 3.9 billion, while that for DLG for FYs 2018/19 and 2019/20 averaged UGX 123 billion. MoFPED 2020 <http://www.budget.go.ug>.

¹⁰⁴ Interview with Commissioner Policy and Planning, MAAIF. This arrangement should prevail for the next four to five years.

¹⁰⁵ IEG ICRR UG-ATAAS (P109224) referred to the (misplaced) assumption that SLM beneficiaries would have the organizational and financial capacity to provide maintenance on infrastructure beyond the lifetime of the project.

2019/20 to interventions that included provision of support to mechanization through delivery of free tractors to organized HLFOs identified by DLGs using criteria provided by NAADS, establishment of PPPs for value addition (fruit processing factories),¹⁰⁶ among others, and with no recorded supply of seed and livestock inputs in FY 2019/20.¹⁰⁷ Critically, the future role of NAADS/OWC is subject to clarification under the forthcoming ASSP III.

125. **Technical sustainability.** Technical sustainability is manifested in the annual budgetary provision under the AEG of UGX 80 billion (US\$20 million)¹⁰⁸ for operation and maintenance of the vehicles and motorcycles procured under ATAAS for agriculture extension. During the mission, DLG staff and sources in the Ministry of Local Government (MoLG)¹⁰⁹ confirmed predictability and consistency in disbursement since FY 2017/18, while MAAIF officials in the DAES and Policy and Planning Department confirmed institutionalized provision for the next five-year planning period to FY 2024/25. DPMOs reported regular and institutionalized vehicle maintenance buttressed by GPS tracking and immobilization systems for some of the vehicles to reduce risks of misuse.¹¹⁰ Furthermore, the project support to the Government to address the FAW outbreak during project implementation led to the establishment of a new early warning system to help contain future and any other pest outbreaks.¹¹¹ This system was put to the test four years later during the locust invasion in February 2020.
126. The project training delivered in the last year of the project was expected to continue under Government financing so as to ensure continuous knowledge and skills enhancement of all extension staff, particularly since a significant proportion are new and therefore require further training to effectively execute their roles. However, the Director DAES in MAAIF indicated that the five-year ASSP III medium-term expenditure framework indicative planning figures do not provide for this, presenting a high risk for technical sustainability. On the other hand, according to MAAIF DAES, there are ongoing discussions with MoFPED on the establishment of a National Agriculture Innovation and Skills Enhancement Centre to address the issue of institutionalized training using the ZARDIs.¹¹² This situation combined with cessation of the Technology Link Officer¹¹³ coordinator function that was not mainstreamed into MAAIF or NARO structures and the absence of resources to continue DARST activities jeopardizes the gains realized under ATAAS for market-oriented technology uptake. There is some mitigation against this for NARO's SLM technical sustainability given its mandatory integration in all relevant research with responsibility under focal points in ZARDIs.
127. **In summary,** while the project built the capacity of government staff, some private sector actors and farmer groups, and budget allocations were provided for local extension services to be maintained, the overall commitment is below what would be needed to sustain a public research and extension service delivery model, including the fact that budgets for several activities seem to be on the wane, and the sustainability of some farmer groups appears limited. The PPE rates sustainability as *moderately unsatisfactory (3)*.

¹⁰⁶ During the mission, a high-level farmer organization in Iganga reported having received tractors under this scheme.

¹⁰⁷ Precedents suggest that this scenario can change rapidly in light of the national campaigns and pending elections. However the approved National Development Plan 3 suggests this may be a policy shift since the change in NAADS role in input provision appears on page 97.

¹⁰⁸ Commissioner Policy and Planning MAAIF.

¹⁰⁹ DAES MAAIF, DPO Mukono, Masindi and Katakwi DLGs.

¹¹⁰ MAAIF has given DLGs discretion to procure additional transportation using the AEG development budget, and a number of DLGs have procured five more motorcycles over three FYs; maintenance is also provided for in the grant.

¹¹¹ IEG UG-ATAAS (P109224) referred to establishment of the Early Warning System for FAW and collaboration with the Brazilian Government to establish a biological control facility.

¹¹² According to DAES, MoFPED is more interested in funding the UGX 33 billion (US\$ 8.9 million) infrastructure aspect; once concluded, MAAIF intends to present software aspects (training) for proposed cofounding with development partner/s before shouldering the entire intervention eventually.

¹¹³ Following restructuring, MAAIF contracted Technology Liaison Officers to staff the research and extension link units at the ZARDIs.

B. Other performance criteria

Innovation¹¹⁴

128. Innovation under ATAAS was seen in agricultural research. However, in extension, the expected shift to innovative private sector-driven approaches failed to materialize. NARO produced many technologies for both priority and non-priority enterprises. The stock of agricultural technologies generated by the NARO system grew from 600 to 888 between appraisal and closing, a 48 per cent increase, far exceeding the appraisal target of 20 per cent. A total of 81 new technologies were developed for the five selected commodities post-restructuring (maize, rice, beans, cassava and dairy). The Competitive Grant Scheme was effective as a way to broaden stakeholder involvement in agricultural research and tap into private sector skills, supporting 91 collaborative public-private investment partnerships that expanded the scope of research and introduced competition and clearer objective-setting and monitoring.
129. With regard to advisory services, the redesign of ATAAS represents a move away from more innovative approaches that sought to expand pluralistic, decentralized and private sector extension that had evolved under NAADS, and a reversion to a more conventional model of public sector-led services combined with subsidized inputs; while the innovative use of CCF grants to develop PPPs did not take off and was abandoned at midterm.
130. There were delays in implementing the ICT platforms introduced after redesign. These aimed to improve farmer access to better data and market information, with far fewer reached than planned (4,276 versus 440,000). Pilot testing of an e-voucher system was also started under ATAAS, and this system has been adopted as a central feature in the subsequent ACDP.
131. Overall, therefore, the contribution made by agricultural research to new technologies produced outweighs the slowing down of reforms under extension, and the PPE rates innovation as *moderately satisfactory (4)*.

Scaling up

132. As a national project responsible for research and extension services across all districts, ATAAS represented an ambitious scaling up of the earlier innovations introduced by NAADS. Following the redesign and concerns over the phased approach towards service provision, outreach was scaled up and services expanded to 1.8 million farming households, or 25 per cent of the number of farming households in Uganda. There was a steady increase in public extension recruitment, from 994 in 2015 to 3,880 in June 2019 and 4,063 by January 2020, covering 5.8 million farming households. However, this growth was based on a 2014 analysis that Government should provide 12,000 agents, while the private sector would supply a further 13,000, so there is still a considerable distance to go to scale up services to meet the planned level.¹¹⁵
133. Three other specific ATAAS areas represent potential for scaling up:
 - a. NARO technologies were scaled up through 120 adaptive trials in nine ZARDIs as well as 11,585 on-farm demonstrations. The pipeline of technologies is also set to expand under NARO's strengthened research capacity, although at a lower rate given that the level of funding has changed since ATAAS closed.
 - b. SLM measures including terraces, contour bunds, grass bunds, conservation agriculture (low till), rehabilitation/reclamation of degraded watersheds,

¹¹⁴ To be considered innovative, according to IFAD's definition, an intervention, idea, technology or process needs to be: (i) new to its context of application (with reference to the country context, scale, domain, discipline or line of business); (ii) useful and cost-effective in relation to a goal, with positive value for its users (e.g. empower the rural poor to overcome poverty better and more cost-effectively than previous approaches); and (iii) able to "stick" after pilot testing.

¹¹⁵ Interview with the Commissioner Agricultural Extension, MAAIF.

agroforestry woodlots, agronomic/vegetative SLM practices were also scaled up following redesign, resulting in substantially exceeded targets.

- c. The e-voucher system tested under ATAAS is now being fully implemented under ACDP. So far, under the latter project, the number of farmers registered is 268,991, enrolled 97,788, and receiving subsidized farm inputs 41,501 during the season A of 2020. However, this is well below the appraisal target of 450,000.

134. Based on these findings, the PPE rates scaling up as *moderately satisfactory (4)*.

Gender equality and women's empowerment

135. The ATAAS design stated that FID would pay attention to the inclusion of women, youth, people with disabilities, and other poor farmers in mobilizing groups and the formation of farmer fora. This would be reflected in group formation and leadership, and in the weighting given to funding groups with more women.
136. The involvement of women in ATAAS activities was tracked largely in relation to numbers of women involved in project activities or adopting technologies. According to the ICR, 52 per cent of the 1.68 million beneficiaries were women. The Government ICRR indicated that 94.3 per cent of women reported that their voice had been considered for decision-making in farmer groups, substantially exceeding the project target of 65 per cent. This level of positive response would seem excessively high. More than half the households reported joint decision-making on purchase, sale and utilization of assets (land, livestock and farm equipment). According to an IFAD supervision mission in 2018, the project had in some cases surpassed the targets for inclusion of women in terms of numbers reported. As for utilization of SLM practices, the Government ICRR reported that 34.5 per cent of women had applied these technologies compared to men (at 30 per cent).¹¹⁶
137. The project supported the development of a 10-year gender strategy by NARO in 2017, intended to facilitate mainstreaming of gender issues in research and technology generation. The draft strategy's expected outcomes include: a gender-responsive M&E framework; sex-disaggregated data in M&E reports; and improved knowledge, attitudes and skills related to gender evaluation among researchers and support staff. However, strategy implementation appears to be limited so far in terms of funding committed to the activities, and there are no results available to determine the level of achievement by indicators.¹¹⁷
138. NARO research to reduce drudgery resulted in the development of seven prototype designs of gender-responsive and cost-effective farm equipment for selected smallholder commodity value chain actors. However, there are no data on the adoption of these designs.
139. Based on the available evidence, gender equality has been relatively successful at least in terms of women's equitable participation through targets of inclusion, although there is little assessment of any transformative change in the role or empowerment of women. Further, it is possible that the 2.5 times increase in incomes of women could have potentially led to their empowerment; however, there are reservations related to the attribution of this result, as noted in the rural poverty impact section. Finally, there is also the uncertain or weak outcome of NARO's gender strategy. Gender equality and women's empowerment is rated as *moderately satisfactory (4)*.

Environment and natural resources management

140. One of the three key ATAAS project objectives was "to enhance the environmental sustainability and resilience of agricultural production to land degradation and climate risks". Dedicated GEF funding of US\$7.2 million was provided under the

¹¹⁶ Draft gender and diversity strategy 2017–2027, NARO.

¹¹⁷ Interview with the Gender Coordinator, NARO.

project for this objective. According to the ICR, the project covered 20,930 ha of land with SLM practices and structures, significantly exceeding the target of 11,000 ha, with woodlots and small-scale irrigation¹¹⁸ as the only activities whose performance targets were not fully realized. This was in spite of implementation delays that were rectified post project restructuring¹¹⁹ with significant achievement realized towards project completion. Key outputs featured terracing of highlands and rehabilitation of degraded watersheds as a result of adopted practices and structures established by a large share of communities, with a final coverage of 3,391 ha and 3,337 ha (771 per cent and 556 per cent of respective targets).¹²⁰

141. Interviews with MAAIF, NARO and LG officials and farmer group beneficiaries and visits to sites in Mbale DLG revealed that achievements under the SLM were significant with respect to their impact not only on yields but also livelihoods of both beneficiary and non-beneficiary farmer groups as well as communities, and because the integrated landscape management approach included the rural poor or resource-constrained households as well as women and youth. Also, the field mission revealed significant participation of women in SLM farmer group activities, although benefits accrual was across all households, especially in project areas in Eastern Uganda. Related to this was the establishment of DLG SLM teams, SLM groups in hot zones (some of which converted to savings cooperatives), SLM landscape committees and the training-of-trainers of 517 community facilitators (for SLM groups) who, in addition to having responsibility for mobilizing resources for maintenance of structures, also retain resident SLM capacities. Furthermore, the project developed national land degradation neutrality targets and disseminated various publications to facilitate their operationalization, in addition to guidelines customized to address specific zonal SLM issues.
142. A further achievement supported by the project was the establishment of a dedicated environment and social safeguards function in NARO to address mainstreaming of environmental issues in all its research activities. Furthermore, the MAAIF developed a draft environment and social safeguards management policy, guidelines and a plan for operationalizing the system. The guidelines include: a manual thereof; environmental and social risk management procedures, including the Environmental and social grant screening checklist and risk register template; and management plans for biodiversity, waste/hazardous waste, pests, natural resources and stakeholders. In addition, LG structures now provide for a designated functionary to coordinate SLM issues and the District SLM team. In addition to passing of a number of ordinances and bylaws, LGs also mainstreamed SLM practices into their annual work planning and budgeting processes to address ongoing and future needs. Given the overall results achieved, environment and natural resources management is rated as *satisfactory (5)*.

Adaptation to climate change

143. According to the ICRR, ATAAS design was in line with the then World Bank's Country Assistance Strategy (FYs 201–2014) aimed at supporting the Government's efforts to, among others, reduce risks arising from climate change and land degradation. The objective was also in line with the Government's DSIP component 3 activities,

¹¹⁸ According to the SLM Terminal Report, low achievement for woodlots was associated with small and fragmented average land holdings, farmers' preference for food crops, and the reliance of most youth and women on rented land whose owners did not permit sustainable land management practices. For small-scale irrigation, achievement was estimated at 58.2 per cent because funds could only cover 291.2 ha after feasibility studies were completed.

¹¹⁹ According to the ICRR 2019, until the MTR Review, MAAIF faced challenges in implementing the Environmental and Social Management Framework due to the lack of safeguard capacity, a delay in training of project implementers, delay in implementation of the Strategic Environmental and Social Assessment, and absence of reporting on environmental issues in the quarterly and semi-annual progress reports. Based on these shortcomings, environmental safeguards were rated as Moderately Unsatisfactory

¹²⁰ The technologies selected for promotion and scaling up were terraces, contour and grass bunds, conservation agriculture (low-till), rehabilitation/reclamation of degraded watersheds, agroforestry woodlots, agronomic/vegetative SLM practices (e.g. mulching, intercropping, rotations, integrated nutrient management, grassland improvement), small-scale irrigation, and water harvesting.

which focused on developing capacity for climate change planning. Uganda's heavy dependence on rain-fed agriculture coupled with the significant proportion of the population reliant on the sector meant that it was extremely vulnerable to drought and/or extreme climate-related events like flooding.¹²¹ For example, the DSIP 2010/11 to 2014/15 situational analysis had determined that climate change impact on shifting viability of coffee-growing areas had the potential to wipe out 40 per cent of export revenues (approximately US\$266 million). This is significant because coffee is a major foreign exchange earner. Similar fears were expressed in the apiculture industry and other value chains.

144. Measures promoted by the project to reduce climate risks featured significantly in SLM practices and primarily included: establishment of agroforestry woodlots and agronomic/vegetative SLM practices; small - scale or micro irrigation and water (rain and runoff) harvesting schemes. Others included the development of several drought-tolerant maize and other varieties by NARO. After restructuring, the project supported NARO to establish a total of 78 MSIPs for various commodities mapped across the country. Out of these, 24 functional ones plus 8 new ones were directly supported in various areas, including climate change and adaptation.¹²² Furthermore, in collaboration with the International Institute of Tropical Agriculture, DAES is putting in place an e-weather information system and has signed a Memorandum of Understanding with the Uganda National Meteorological Agency to put weather stations in six pilot districts as supported currently by Project for the restoration of livelihoods in the northern region.
145. The impact evaluation observed that the project promoted SLM practices to avert climatic risks to agricultural production, thus rendering global environmental objectives relevant to Uganda. The evaluation also noted that the project conformed to the national and global environment concerns targeting enhancement of environmental sustainability and resilience of agricultural production in situations where agricultural activities occur under enormous climatic variability and increasing population pressure. The evaluation also reported that *"communities across nearly all ZARDI districts that have embraced SLM practices like micro-irrigation are organized in water user committees. Members contributed money for maintenance and repair of these irrigation schemes and hold the view that water is an input into production rather than a 'free resource from God.'"* The IEG ICR Review also reported another key outcome as sequestration of 1.96 million tons of carbon with an estimated value of US\$151 million.¹²³ The combined effect of these land and water conservation and mitigation measures allows a rating of *satisfactory (5)* to be awarded.

C. Performance of partners

Government of Uganda

146. The design and approval of ATAAS reflected competing pressures in the Government. MAAIF was not supportive of the continuation of the NAADS approach to advisory services because it diminished the role of the public extension service, yet the President appeared in favour of NAADS at the time, while the MoFPED was in favour of attracting major loan resources to support the sector.
147. The relevance, efficiency and effectiveness of the project were affected by the Government's actions. These cover use of NAADS as an input delivery mechanism, the introduction of a new extension policy in 2013 and the subsequent transfer of the extension mandate to MAAIF from NAADS, and the deployment of the military through OWC for input delivery. After the policy change and project redesign, MAAIF demonstrated good commitment to implement ATAAS and developed effective links

¹²¹ Agriculture sector DSIP 2010/11–2014/15.

¹²² NARO extract for the ICRR.

¹²³ Estimated value of a ton of carbon emission for 2018 of US\$77 was applied using the ex-ante carbon-balance tool (EX-ACT).

between research, extension and other stakeholders. However, support for farmers' institutional development was not maintained.

148. In terms of project management, coordination and M&E, at the start of the project the planned coordination of ATAAS between NARO and NAADS proved difficult and the planned joint M&E system was delayed. Financial and procurement issues arose at various points, resulting in ineligible expenditures and slow procurement. The restructured project's turnaround was driven by the leadership of NARO and MAAIF. NARO, MAAIF and LGs signed a tripartite Memorandum of Understanding to develop a common framework to guide the development and operation of partnerships with relevant stakeholders like ZARDIs and DARSTs for adaptive research, demonstrations and technology upscaling. An implementation support team was established that proved more effective than under the former NARO-NAADS model.
149. M&E was inadequately implemented due to a range of factors. The lack of an M&E manual and a thin TOC at the start were setbacks. The quality and timing of the baseline was also an issue – launched in 2013 and reported in 2015. Monitoring and information systems reporting was weak and challenged by the national scale and number of entities reporting. Subsequent surveys were also affected by delays – the Process Evaluation was meant to feed into the MTR in 2014 but it was released in 2017. The high turnover in M&E specialists and change in implementing agencies did not allow for consistency in approaches used for tracking, managing and processing data. Consequently, there was a loss of data and institutional memory (such as NAADS survey data on farmer groups, which were not handed over during transfer at restructuring). The IEG ICR review also noted that World Bank supervision missions paid insufficient attention to this issue. Even so, the final supervision missions and ICR note that by the later stages of execution, 95 per cent of required indicators were being captured.
150. More broadly, despite commitments by Parliament, the Government did not increase the share of the budget for agriculture in line with the Maputo Comprehensive Africa Agriculture Development Programme 10 per cent target, with sector funding averaging 4.5 per cent of total public expenditure from FYs 2013/14 to 2017/18.¹²⁴ Furthermore, much of this expenditure was recurrent (salaries and inputs) rather than investment, and focused on central public agencies rather than LG extension services. The switch in recurrent expenditure support from local to central government over the ATAAS period reflects the redesign and the emphasis on input provision through OWC (Table 2

Distribution of public accounts across national ministries and agencies (per cent of total final expenditure)

<i>Agency</i>	<i>2013/14</i>	<i>2014/15</i>	<i>2015/16</i>	<i>2016/17</i>	<i>2017/18</i>	<i>Average</i>
MAAIF HQ	17%	22%	16%	16%	25%	19%
NAADS	18%	38%	39%	33%	21%	30%
NARO	8%	9%	8%	10%	7%	8%
Other semi-autonomous Govt. agency	5%	7%	13%	12%	8%	9%
Rural development related ministries	16%	13%	17%	22%	32%	20%
Local governments	37%	11%	4%	6%	7%	13%
Other	0%	0%	1%	1%	1%	1%
Total	100%	100%	100%	100%	100%	100%

¹²⁴ There was a peak in the election year 2016 but a decline thereafter.

Note: Budgeted amounts (not final expenditure) are used for 2017/18. For other years, final expenditure is used. "Rural development-related ministries" include MoLG and the Ministry of Water and Environment. "Other" includes the National Forestry Authority and the Uganda Export Promotion Board.

Source: Agriculture Sector Public Expenditure Review Uganda, World Bank, 2019.

151. **Figure 2).**¹²⁵ Nevertheless, the recruitment of 4,000 LG extension staff in the period from 2016 to 2019, the establishment of the dedicated AEG for planning, implementation and monitoring of extension activities, as well as provision for maintenance of vehicular assets procured under ATAAS, reflects commitment to the SSE approach. The continued support for research activities throughout the project and the more recent growing support for advisory services has improved performance of the Government.

Table 2

Distribution of public accounts across national ministries and agencies (per cent of total final expenditure)

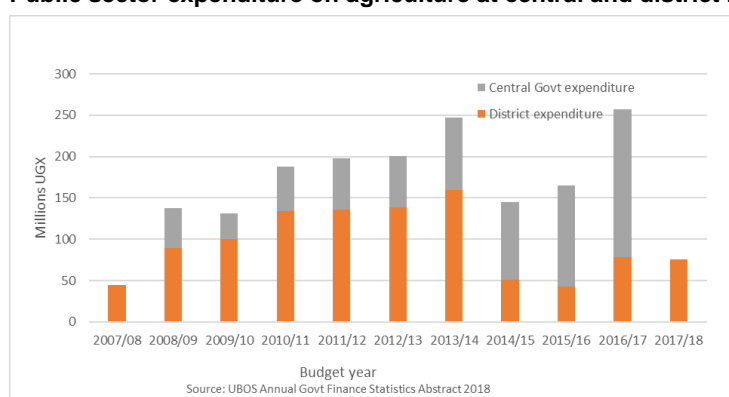
Agency	2013/14	2014/15	2015/16	2016/17	2017/18	Average
MAAIF HQ	17%	22%	16%	16%	25%	19%
NAADS	18%	38%	39%	33%	21%	30%
NARO	8%	9%	8%	10%	7%	8%
Other semi-autonomous Govt. agency	5%	7%	13%	12%	8%	9%
Rural development related ministries	16%	13%	17%	22%	32%	20%
Local governments	37%	11%	4%	6%	7%	13%
Other	0%	0%	1%	1%	1%	1%
Total	100%	100%	100%	100%	100%	100%

Note: Budgeted amounts (not final expenditure) are used for 2017/18. For other years, final expenditure is used. "Rural development-related ministries" include MoLG and the Ministry of Water and Environment. "Other" includes the National Forestry Authority and the Uganda Export Promotion Board.

Source: Agriculture Sector Public Expenditure Review Uganda, World Bank, 2019.

Figure 2

Public sector expenditure on agriculture at central and district levels



Source: Uganda Bureau of Statistics, Annual Government finance Statistics Abstract 2018.

152. Overall, the positive level of support for the public extension system and the constructive approach to project management post-redesign are offset by the relatively lower levels of investment at local level, the policy change around advisory services, and the gaps in project M&E. As a result, the PPE rates the Government performance as *moderately unsatisfactory (3)*.

¹²⁵ Agricultural Extension System, Advocates Coalition for Development and Environment also confirm the dramatic fall in funding to local-level extension provision.

IFAD

153. For IFAD, ATAAS was a relatively small project financially, and in terms of the design process and supervisions up to mid-term, the World Bank led the process with limited IFAD involvement. IFAD engagement was restricted by its capacity and financial resources – with the country programme manager based outside the country until 2014. Stronger engagement during design would potentially have led to greater awareness of the underlying difference in views in the NAADS model of delivery between World Bank and other development partners, and the Government.
154. During implementation, IFAD did not have the influence it had sought through cofunding because of a combination of limited country office resources and a deliberately low-level engagement. IFAD had limited involvement in supervisions until 2017,¹²⁶ despite planning to do so according to the quality assurance responses given in 2010. The decision to suspend IFAD’s loan in 2016 was correct in terms of sending a signal to the Government over the radical change in project design, as well as the declining performance of NAADS, and the ineligible use of advisory service funds for input provision. Since the World Bank continued lending, the impact of IFAD’s decision was minimal on ATAAS, although it did affect funding flows through the basket mechanism. Its wider relationship with the World Bank was not affected, while its links with other government ministries that were implementing other projects in the portfolio continued.
155. Although loan cancellation was seriously considered, IFAD chose instead to re-engage in 2017. This decision was taken largely for strategic reasons, to strengthen the relationship with the Government. The allocation of remaining loan funds to vehicles and training allowed IFAD to demonstrate support to the SSE system and was widely approved by the Government at all levels. It was a high-risk decision, however, given the known difficulties of procurement and the fact that ATAAS was closing with no prospect of continued external funding. On the other hand, the Government had demonstrated commitment to the SSE system with extension staff recruitment as well as funding for operations and maintenance.
156. Governance and fiduciary arrangements were a critical issue under ATAAS. At design, IFAD’s quality assurance review recommended that the “proposed GAC arrangements be accompanied by more intensive measures (...) in supervising procurement and financial management activities.” The World Bank had recognized the high risk surrounding GAC in the PAD and had far greater resources to influence events. Its task manager at the start of ATAAS noted that without in-country management presence, IFAD would have limited influence on GAC issues. But given Uganda’s strong political leadership, donors in general have limited leverage.
157. Subsequently, the strong role of MAAIF in reversing the extension policy and the introduction of OWC were effectively *force majeure* acts that IFAD could not have influence over. As a relatively small player in ATAAS, its loan suspension was a relatively modest signal; loan cancellation, if it had been enacted, would not have had any effect on policy direction.
158. IFAD’s lack of engagement with ATAAS until the very end of the project meant that its priorities around farmer empowerment, targeting and gender were not well addressed. IFAD’s decision to suspend the loan was correct, although the use of the bulk of loan funds for vehicles and training late on in the project took place in an environment where government funding for extension was uncertain and the system of extension reverted to a top-down public sector model that crowded out other actors and diminished the importance of FID. Based on the low attention to IFAD’s priorities and the high risk of the large procurement at closure, the rating for IFAD’s performance is *moderately unsatisfactory (3)*.

¹²⁶ IFAD participated in just one ATAAS supervision mission in February 2013, when a new country programme manager took up post.

D. Overall project achievement

159. At design, ATAAS was intended to introduce greater innovation in the research–extension–farmer nexus and in the empowerment of farmers to manage service delivery contracts. It was an extremely ambitious and complex project delivering at national scale with a range of components from research through to market access. The large portion of funding allocated to one component for agricultural services (48 per cent of cost), 75 per cent of which was to be funded by the Government, was high risk. The project was very exposed to policy and institutional shifts within a politicized environment.
160. The reversion to a publicly funded and delivered extension system was a significant change from this initially ambitious project design. Support for farmer institutions diminished after a positive start, and fewer high-level farmer organizations were created than had been planned. Inputs and technologies were mainly delivered to existing groups and often to elite or well-connected leading farmers. The use of NAADS largely for input delivery instead of advisory services and then the creation of OWC to continue this role meant that extension services were disconnected. At the same time, the success of the research component in producing more technologies than planned, in facilitating private sector research actors, and the dissemination and adaptation through linkages at zonal and district level was successful.
161. Evidence on impact indicates that productivity and incomes were positively improved for beneficiaries, including women, although these generally were not part of the more vulnerable members in farming communities since benefits flowed to members of already established farmer groups. Successes can be clearly identified around handling the FAW outbreak and SLM, as well as the strengthening of research capacity. IFAD’s support for vehicles and training has helped strengthen the new SSE extension system, but its future appears still vulnerable as a result of potential political interference and poorly allocated public expenditure. Overall, given the significant decrease in planned government funding, difficulties caused by the major redesign, the considerable level of inefficiency from ineligible expenditures, procurement delays and subsidized provision of inputs, the PPE rates project performance as *moderately unsatisfactory* (3)

E. Assessment of the quality of the project completion report

Scope

162. ATAAS was predominantly funded by the Government and the World Bank and they both prepared substantial ICRs. The ICR of the World Bank is of high quality and was rated as Substantial by the IEG ICRR. IFAD’s PCR was effectively a summary of the World Bank ICR and at just seven pages offers a light-touch assessment broadly drawing on the World Bank’s ICR, with additional short sections on IFAD-related criteria such as targeting, scaling up and innovation. The brevity of the PCR may be considered acceptable, given the nature of the cofinancing. However, the targeting section does not address the issue of how well the poor were reached, and although written in mid-2019, it does not offer comments on the relevance, efficiency or effectiveness of the major IFAD investment in ATAAS (vehicles and training), even though these consumed the bulk of funding. As such, it is rated as *moderately unsatisfactory* (3).

Quality

163. The IFAD PCR appears to be a desk exercise that drew heavily on the ICR of the Cooperating Institution, the World Bank, and for the standard criteria of relevance, effectiveness, efficiency and sustainability does not deviate from the ICR findings. For the IFAD specific criteria, however, the PCR draws on specific evidence from the ICR to assess gender equality and women’s empowerment, innovation, targeting and scaling up but has limited details specific to IFAD. In this regard, the PCR is rated *moderately unsatisfactory* (3).

Lessons

164. No lessons or recommendations are offered in the PCR; while the World Bank ICR offers lessons, these are not reference or endorsed in the PCR. The ratings is therefore *N/A*.

Candour

165. The PCR offers a reasonably balanced assessment of the project. It highlights the achievements while mentioning gaps in terms of efficiency, sustainability, and IFAD and Government performance. For candour, the PCR is rated as *moderately satisfactory (4)*.

IV. Conclusions and recommendations

A. Conclusions

166. As a high-level programme, ATAAS was affected in terms of major policy shifts, in addition to financial mismanagement and loan suspension. For IFAD, this meant a considerable reputational risk, even though the financial risks were modest. IFAD took a hands-off approach in project design, mid-term redesign and most of the implementation period, as evidenced in the low number of its supervision missions. However, this also meant that themes that are strategic priorities for IFAD, such as farmer empowerment, targeting and gender, were not high on the agenda.
167. Despite some notable achievements from ATAAS investments in research and extension, there remains an unmet demand for technology improvements and extension advice in as much as 75 per cent of Uganda's farming households. The disruption to the extension system halfway through ATAAS had the effect of reducing the delivery and uptake of technology and improved management practices. The continued supply of subsidized farm inputs acted as a disincentive to the growth of private sector channels for input supply and marketing.
168. Environmental conservation measures proved a success story through the project period and had marked demonstration effects on recipient communities. Targets were exceeded for SLM, and continued maintenance and scaling up may be expected if the developed and disseminated guidance and bylaws as well as ordinances are more widely adopted.
169. While the evidence suggests that ATAAS investments led to considerable increases in production and incomes for beneficiaries, the potential to reduce poverty appears to have been diminished by the weak access to production groups for the more vulnerable members of the rural community who could not benefit from the increasingly "clientelist" nature of the host farmer system. The Impact Survey shows that beneficiaries tended to be the better-resourced farmers, and the OWC system, while providing broader access across the country to inputs, has at the same time allowed favourable access to well-positioned people such as community leaders.
170. As a project with national coverage, public expenditure allocations were critical for providing future resources, particularly at local level, for dissemination of research technologies and increasingly proximate advisory services. Yet the analysis indicates that the Government, while making efforts to increase resources (although at below Maputo Comprehensive Africa Agriculture Development Programme levels), is not prioritizing investment needs over recurrent costs. The current context has discouraged development partners from continuing to support the provision of public advisory services and drawn them towards selecting particular value chains where public and private actors can link more effectively through selected commodities.
171. Weak M&E and a split PCU in the early years of implementation have been central to the difficulty of finding reliable evidence on results. Apart from the complexity of the project design and the national scope of the project, the disruptions in M&E staffing and delays in producing surveys, plus the lack of attention in supervision missions to this topic, together prevented the collation and reporting of routine data that would convincingly underpin the survey evidence. This was exacerbated by having two PCUs that inhibited coordination and reporting and that after restructuring led to loss of data when a joint PIST was formed. The positive results reported on productivity and incomes have been based on evidence from periodic studies that, though carefully conducted, did not have the capacity to fully assess the attribution of the project on the claimed impacts.

B. Recommendations

172. **Recommendation 1. Even where IFAD is a minor contributor in large projects, it should ensure that its comparative advantage is adequately**

leveraged and its target group is sufficiently and effectively reached. Even where IFAD has a smaller funding role to play in a project, it should ensure that certain conditions are present. It should have a clear comparative advantage in the activities it funds, including building the capacity of farmer groups and institutions, productivity and market participation of rural people. Further, it should ensure that there is sufficient vulnerability mapping and needs assessment at design to allow its target group of smallholder farmers, women and youth to be reached effectively. Some other dimensions to pay attention to in such cases include the availability of sufficient supervisory resources to ensure that its interests are followed through in implementation, the possibility of scaling up of results so that it can leverage its resources and partnerships to deliver larger results, and “ring-fencing” funding through grants in specific areas of support, particularly for the provision of services that form a public rather than a private good.

173. **Recommendation 2. Pay greater attention to political drivers in project design, especially when projects are largely funded from government resources.** This implies conducting a thorough political economy analysis for projects being prepared in sensitive sectors and/or in states where governance issues could be a known risk. Depending on the level and significance of the political obstacles/risks to achievement of a project’s objectives identified through such an analysis, solid and relevant risk mitigation measures should be proposed, or the project should even be redesigned.
174. **Recommendation 3. Ensure that in complex projects with a multiplicity of implementation actors, there is a single project management unit for sound coordination, M&E and administrative efficiency.** Under ATAAS, NARO and NAADS at the start were jointly responsible for component 2 and research and extension interfaces. However, an explicit coordination unit was not created within MAAIF and this made implementation and M&E difficult. While it may be useful to create decentralized units to manage implementation and monitoring, particularly in complex projects with a wide geographic spread, IFAD should advocate that the overall coordination and oversight of the project in such cases be vested in an apex PCU. This can free up considerable time and monetary resources and, in principle, lead to more efficiency gains.

Basic project data

			Approval (US m)		Actual (US m)	
Region	East and Southern Africa Division	Total project costs	660.2m		434.4m	
Country	Uganda	IFAD loan and percentage of total	14m	2%	13m	3%
Loan number	DSF-8020-RW	Borrower	519m	79%	299m	69%
Type of project (subsector)	Agricultural development	Co-financier (WFP, GEF)	120m 7.2m	18% 1%	115m 7.2m	26% 1.6%
Financing type	DSF	Beneficiaries	0	%	0	%
Lending terms*	loan (HC)	Other sources:	0	%	0	%
Date of approval	16/09/2010	--	--	--	--	--
Date of loan signature		--	--	--	--	--
Date of effectiveness	09/11/2011	--	--	--	--	--
Loan amendments	n.a	Number of beneficiaries: (if appropriate, specify if direct or indirect)	1.68 million households (direct)			
Loan closure extensions	n.a.	Loan closing date	31 December 2018		30 June 2019	
Country programme managers	Lakshmi Moola Alessandro Marini Marion Bradley	--	--		--	
Regional director(s)	Sana Jatta	Mid-term review			December 10-21, 2012	
Lead evaluator for project performance evaluation	--	IFAD loan disbursement at project completion (%)			92%	
Project performance evaluation quality control panel	--	Date of project completion report			June 2019	

Source: GRIPS, IFAD Flexcube system, PCR.

Definition and rating of the evaluation criteria used by IOE

Criteria	Definition *	Mandatory	To be rated
Rural poverty impact	Impact is defined as the changes that have occurred or are expected to occur in the lives of the rural poor (whether positive or negative, direct or indirect, intended or unintended) as a result of development interventions. <i>Four impact domains</i>	X	Yes
	<ul style="list-style-type: none"> Household income and net assets: Household income provides a means of assessing the flow of economic benefits accruing to an individual or group, whereas assets relate to a stock of accumulated items of economic value. The analysis must include an assessment of trends in equality over time. Human and social capital and empowerment: Human and social capital and empowerment include an assessment of the changes that have occurred in the empowerment of individuals, the quality of grass-roots organizations and institutions, the poor's individual and collective capacity, and in particular, the extent to which specific groups such as youth are included or excluded from the development process. Food security and agricultural productivity: Changes in food security relate to availability, stability, affordability and access to food and stability of access, whereas changes in agricultural productivity are measured in terms of yields; nutrition relates to the nutritional value of food and child malnutrition. Institutions and policies: The criterion relating to institutions and policies is designed to assess changes in the quality and performance of institutions, policies and the regulatory framework that influence the lives of the poor. 		No
Project performance	Project performance is an average of the ratings for relevance, effectiveness, efficiency and sustainability of benefits.	X	Yes
Relevance	The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, institutional priorities and partner and donor policies. It also entails an assessment of project design and coherence in achieving its objectives. An assessment should also be made of whether objectives and design address inequality, for example, by assessing the relevance of targeting strategies adopted.	X	Yes
Effectiveness	The extent to which the development intervention's objectives were achieved, or are expected to be achieved, taking into account their relative importance.	X	Yes
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted into results.	X	Yes
Sustainability of benefits	The likely continuation of net benefits from a development intervention beyond the phase of external funding support. It also includes an assessment of the likelihood that actual and anticipated results will be resilient to risks beyond the project's life.	X	Yes
Other performance criteria			
Gender equality and women's empowerment	The extent to which IFAD interventions have contributed to better gender equality and women's empowerment, for example, in terms of women's access to and ownership of assets, resources and services; participation in decision making; work load balance and impact on women's incomes, nutrition and livelihoods.	X	Yes
Innovation and scaling up	The extent to which IFAD development interventions: <ul style="list-style-type: none"> (i) have introduced innovative approaches to rural poverty reduction; and (ii) have been (or are likely to be) scaled up by government authorities, donor organizations, the private sector and others agencies. 	X	Yes
Environment and natural resources management	The extent to which IFAD development interventions contribute to resilient livelihoods and ecosystems. The focus is on the use and management of the natural environment, including natural resources defined as raw materials used for socio-economic and cultural purposes, and ecosystems and biodiversity - with the goods and services they provide.	X	Yes
Adaptation to climate change	The contribution of the project to reducing the negative impacts of climate change through dedicated adaptation or risk reduction measures	X	Yes

<i>Criteria</i>	<i>Definition</i> *	<i>Mandatory</i>	<i>To be rated</i>
Overall project achievement	This provides an overarching assessment of the intervention, drawing upon the analysis and ratings for rural poverty impact, relevance, effectiveness, efficiency, sustainability of benefits, gender equality and women's empowerment, innovation and scaling up, as well as environment and natural resources management, and adaptation to climate change.	X	Yes
Performance of partners			
• IFAD	This criterion assesses the contribution of partners to project design, execution, monitoring and reporting, supervision and implementation support, and evaluation. The performance of each partner will be assessed on an individual basis with a view to the partner's expected role and responsibility in the project life cycle.	X	Yes
• Government		X	Yes

* These definitions build on the Organisation for Economic Co-operation and Development/Development Assistance Committee (OECD/DAC) Glossary of Key Terms in Evaluation and Results-Based Management; the Methodological Framework for Project Evaluation agreed with the Evaluation Committee in September 2003; the first edition of the Evaluation Manual discussed with the Evaluation Committee in December 2008; and further discussions with the Evaluation Committee in November 2010 on IOE's evaluation criteria and key questions.

Rating comparison^a

<i>Criteria</i>	<i>Programme Management Department (PMD) rating</i>	<i>Project Performance Evaluation rating</i>	<i>Rating disconnect</i>
Rural poverty impact	4	4	0
Project performance			
Relevance	4	3	-1
Effectiveness	4	4	0
Efficiency	3	2	-1
Sustainability of benefits	3	3	0
Project performance^b	3.5	3	-0.5
Other performance criteria			
Gender equality and women's empowerment	5	4	-1
Innovation	5	4	-1
Scaling up	4	4	0
Environment and natural resources management	5	5	0
Adaptation to climate change	5	5	0
Overall project achievement^c	4	3	-1
Performance of partners^d			
IFAD	3	3	0
Government	3	3	0
Average net disconnect			-0.33 (-4/12)

^a Rating scale: 1 = highly unsatisfactory; 2 = unsatisfactory; 3 = moderately unsatisfactory; 4 = moderately satisfactory; 5 = satisfactory; 6 = highly satisfactory; n.p. = not provided; n.a. = not applicable.

^b Arithmetic average of ratings for relevance, effectiveness, efficiency and sustainability of benefits.

^c This is not an average of ratings of individual evaluation criteria but an overarching assessment of the project, drawing upon the rating for relevance, effectiveness, efficiency, sustainability of benefits, rural poverty impact, gender, innovation and scaling up, environment and natural resources management, and adaptation to climate change.

^d The rating for partners' performance is not a component of the overall project achievement rating.

Ratings of the Project Completion Report quality

	<i>PMD rating</i>	<i>IOE rating</i>	<i>Net disconnect</i>
Scope		3	
Quality (methods, data, participatory process)		3	
Lessons		n/a	
Candour		4	
Overall rating of the Project Completion Report		3	

Rating scale: 1 = highly unsatisfactory; 2 = unsatisfactory; 3 = moderately unsatisfactory; 4 = moderately satisfactory; 5 = satisfactory; 6 = highly satisfactory; n.a. = not applicable.

Approach paper

I. Introduction

1. The Independent Office of Evaluation of IFAD (IOE) will undertake a project performance evaluation (PPE) of the IFAD-financed Agricultural Technology and Agribusiness Advisory Services (ATAAS) Project in Uganda. The IOE undertakes PPEs with the main objectives to: (i) provide an independent assessment of the results achieved by the project, (ii) generate findings and recommendations for the design and implementation of ongoing and future operations in the country.
2. This Approach Paper is the point of departure in the preparation of the PPE. It presents the overall scope and design of the PPE. It also outlines the evaluation objectives, methodology, process and timeframe of the PPE. It identifies certain key areas and issues that will be assessed more deeply in the PPE. Additionally, the Paper presents the project's theory of change, as constructed by the evaluation team.
3. ATAAS was a World Bank initiated project and a successor to the Second Agricultural Research and Training Project as well as the National Agricultural Advisory Services Programme (NAADS), co-financed by IFAD via a *pari passu* financing arrangement.¹ IFAD's contribution to the project costs was only 2 per cent. The World Bank considered NAADS and the follow up ATAAS as flagships interventions in Uganda and the East Africa region. The project was administered and supervised by the World Bank, including IFAD's loan. It was designed to continue the strengthening and privatisation of research and advisory services throughout Uganda. It built on the direction of Uganda's ambitious Plan for the Modernisation of Agriculture that aimed to transform the agricultural sector by building a more competitive and productive environment.² Under ATAAS, it was sought to reform extension services to be more demand-driven and private sector-led. At design, the government agreed to provide three quarters of the financing for ATAAS.
4. Following the Government's policy change in 2014³ however the World Bank suspended *de facto* the disbursements for both the World Bank and IFAD loans (July 2014). In 2015, the project was restructured in terms of reassigning the role of implementing agency and modifying the components. In February 2016, IFAD then officially suspended disbursements to the project. Subsequently, the financing agreement was amended in February 2017 with IFAD focusing its support on one component i.e. the provision of equipment, including vehicles and training for extension services at district and subcounty levels.⁴ IFAD also administered and supervised its own loan thereafter.

II. Country context and project overview

A. National context

5. **Economic development.** Uganda is a low-income country with a GDP per capita of US\$643.⁵ Following the end of the armed conflict in 2005, the ruling National Resistance Movement (NRM) led by President Yoweri Museveni, introduced a number of structural and pro-market reforms and investments.⁶ This resulted in macroeconomic stability generating a sustained period of growth from 1987 to 2010 of 6.7 per cent average annual real GDP. This declined over the period from 2011 to

¹ The project was cofinanced with the World Bank through a *pari passu* arrangement: 90 per cent for World Bank and 10 per cent for IFAD. Accordingly, IFAD and World Bank resources were pooled together. See annex III for details of funding by financier.

² PMA Evaluation, by OPM 2007.

³ Implementation of ATAAS was deeply affected by the policy shift in the extension delivery system from pluralistic "publicly funded, privately provided" to the earlier model of "publicly funded and publicly provided" system.

⁴ IFAD 2017 Amendment to the financing agreement, ATAAS.

⁵ In 2018. World Bank data, accessed 10 January 2020.

⁶ WB 2016.

2016 to 5.7 per cent⁷ and has been changeable since but projections for 2019 and 2020 show a resurgence to 6.2 per cent.⁸ However over this same period, real GDP per capita growth declined from an average of 3.6 per cent (1987 – 2010) to 2.2 per cent and 1.6 per cent in 2015 and 2016, respectively, mainly driven by a high population growth rate.⁹

6. The main sources of growth have come from the services sector (information and communications technology, transport and financial services) and less so from agriculture or manufacturing.¹⁰ Newly discovered oil reserves have given the country important future growth prospects but the pace of development has been slow and significant benefits may not emerge in the near term.¹¹
7. **Governance.** The National Resistance Movement (NRM) is still in power led by President Museveni creating a politically stable environment. However, the 2016 general elections were deemed controversial and contested in court by the opposition.¹² Moreover, there are widespread reports of governance issues in public institutions adversely affecting how public policy is carried out, the provision of public services and more generally, the economic development of the country.¹³ Over the course of ATAAS, the Corruption Perceptions Index score for Uganda shows no sign of improvement, remaining at 26 out of 100 in 2018 – the same as in 2013.¹⁴ Indeed, Uganda’s progress towards MDGs important for human development was mixed, principally due to unsatisfactory and ineffective public service delivery. Good progress was made on access to HIV treatment, reduction in incidence of malaria and other major diseases, while progress was slow and in some cases reversed regarding universal primary education, gender equality, and maternal health, the spread of HIV/AIDS. World Bank 2016.
8. **Private sector.** The domestic business community is young, with most businesses (90 per cent) being micro, small and medium-sized enterprises (MSMEs). They operate in the informal sector and mainly in the light manufacturing and retail sectors.¹⁵ Only 14 per cent of these businesses operate in the agriculture sector. Enterprises are fragmented and weakly integrated into the national, regional, and global industrial value-chains and markets. They are further characterised by low and declining productivity, low levels of product, process, and organization innovation, low competitiveness (due to high operating costs and unstable product quality), informality, weak governance standards, and limited access to finance.¹⁶
9. Although leveraging private investment in agriculture is critical for Uganda to fully realize the transition to middle-income status expressed in the country’s Vision 2040, private sector investment in agricultural value chains has not always flourished. Besides coffee, which is Uganda’s major agricultural export and has been overwhelmingly produced by small-scale farmers, it is challenging for private firms to invest in value chains where extension services are weak and where production is dominated by small-scale producers with limited access to markets and aggravated by government subsidies (implicit and explicit). The challenges that private firms encounter in providing agricultural services to small-scale producers vary depending on the value chain and the area of engagement along the value chain— for example,

⁷ AfDB 2017.

⁸ 2.3 per cent in 2016, 5 per cent in 2017 and 6.1 per cent in 2018. IMF (2019) World Economic Outlook

⁹ AfDB 2017.

¹⁰ In 2018, Services accounted for 47.6 per cent of GDP and saw 7.8 per cent annual growth, Agriculture, forestry and fisheries accounted for 24.2 per cent of GDP and saw 3.8 per cent of annual growth and Industry accounted for 19.9 per cent of GDP with 6.1 per cent of annual growth. World Bank data, accessed 23 January 2020

¹¹ EIU 2019.

¹² BBC Uganda country profile, 10 May 2018 <https://www.bbc.com/news/world-africa-14107906> accessed 18 February 2020.

¹³ Transparency International 2013; EIU 2019; Kjaer AM, Joughin J. Send for the cavalry: Political incentives in the provision of agricultural advisory services. Dev Policy Rev. 2018;00:1–17; World Bank 2016; AfDB 2017.

¹⁴ Transparency International CPI 2018, <https://www.transparency.org/cpi2018>, accessed 18 February 2020.

¹⁵ UNDP 2018.

¹⁶ AfDb 2017.

they depend on whether the firms are involved as input and equipment suppliers, nucleus producers and processors, or marketers. In general, private provision of agricultural services in Uganda is characterized by asymmetry of information.¹⁷

10. **Agricultural sector.** In Uganda, there are high levels of biodiversity, rich volcanic soils, multiple freshwater lakes with irrigation potential, and two rainy seasons per year - all beneficial to agricultural production.¹⁸ Agriculture also continues to employ about two-thirds of the country's labour force, whose earnings have been the main driver of poverty reduction over the past couple of decades. The gains have been fragile however, owing to a still largely underdeveloped sector with below par performance¹⁹ and the difficulty to raise land and labour productivities. Agricultural incomes have depended on external factors, such as good weather and commodity prices as well as unsustainable expansion of acres under cultivation.²⁰ The sector has also been beset with droughts and damaging diseases and pests, such as the Fall Army Worm.
11. Over the past three decades, the structure of the Ugandan economy has gradually changed from agriculture to manufacturing and services. In that time, agriculture's contribution to GDP has declined to just under 25 per cent. Since 2012, the sector has grown at a low average annual rate (2.6 per cent) relative to population growth (3.5 per cent) and agricultural growth in other EAC countries (3 to 5 per cent).^{21,22}
12. The predominance of subsistence farming highlights several structural deficiencies: limited research and development and innovation; low quality inputs; low yields and product diversification; high post-harvest wastage losses; weak land and water resources management; and inefficient and uncompetitive farm to agro-processing and market linkages.²³ The sector is also constrained by farmers' limited access to rural and agricultural finance.²⁴ Agricultural productivity is characterized by a persistent gender gap, owing to gender discrimination in the land tenure system, and women's concentration in lower value activities and crops²⁵, and social and cultural constraints.
13. Agriculture is recognised as critical towards achieving the National Development Plan II goal of transforming Uganda into a middle-income country by 2020. The key sectoral strategies over the project period were the agricultural sector policy contained in the Development Strategy and Investment Plan (DSIP) for 2010/11 to 2014/15 and the Agriculture Sector Strategic Plan (ASSP) for 2015/16 to 2019/20.
14. **Extension services.** In 1990, as a result of the parallel approaches to extension implementation seen in the 1981-1991 period, the World Bank supported the Government of Uganda in creating a new policy on the provision of agricultural extension services. Therefore, three ministries (i.e. Ministry of Agriculture; Ministry of Animal Industry; and Ministry of Fisheries) were merged in 1992 to create the present Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). Following the merger, overall responsibility for agricultural extension was consolidated into a Unified Extension System (UES). The objective of this consolidation was to increase public extension programmes' efficiency and effectiveness by eliminating duplicative efforts. The UES followed the "train and visit" approach and recruited extension workers at the district level. These workers were supposed to transverse the entire district and provide farmers with advisory services. With a required extension ratio

¹⁷ Agriculture Sector Public Expenditure Review, World Bank, September 2019.

¹⁸ Concern & Welthungerhilfe 2018.

¹⁹ World Bank 2016; AfDB 2017.

²⁰ World Bank 2016; AfDB 2017.

²¹ World Bank data, accessed 10 January 2020.

²² World Bank 2018.

²³ AfDB 2017.

²⁴ World Bank 2018 <https://www.worldbank.org/en/country/uganda/publication/closing-the-potential-performance-divide-in-ugandan-agriculture-fact-sheet> accessed 18 February 2020.

²⁵ World Bank 2016.

of one extension worker to 33,000 farmers, the system had too few extension workers to meet with all of the farmers.

15. The period from mid-2001 was marked with a shift in approach from a supply- to a demand-driven system, resulting in the creation of the National Agricultural Advisory Services (NAADS).²⁶ Essentially, the NAADS was a decentralised, supposed-to-be largely farmer-owned (through formation of farmer groups) and private sector-led in terms of the provision of advisory services. Nonetheless, like other extension initiatives, during its more than 12-year tenure, NAADS was associated with a myriad of challenges that caused inefficiencies in the delivery of extension services. According to an MAAIF (2010) assessment, these challenges included inadequate funding, an inconsistent flow of funds, poor accountability, limited transparency, corruption (especially in the procurement of inputs), local government-based service providers' inadequate numbers and technical capacities, limited out-reach to farmers, political interference, and deviation from the original core goal of offering advisory services to farmers.
16. **Rural poverty.** Past economic growth contributed to reducing poverty in the country from 56.4 per cent in 1993 to 24.5 per cent and 19.7 per cent in 2009 and 2013, respectively.²⁷ Uganda therefore met the 2015 Millennium Development Goal (MDG) 1 target - of halving poverty - ahead of schedule. However, Ugandans also remain vulnerable to slipping back into poverty – for every three Ugandans that escape poverty, two fall back in.²⁸ More worryingly, national estimates show poverty levels have worsened in recent years, rising to 21.4 per cent in 2016.²⁹ Similarly, the proportion of people living in extreme poverty, based on the international poverty line, increased from 36 per cent in 2012 to 42 per cent in 2016.³⁰ The 2017 Human Development Index value for Uganda was 0.516, ranking it 162 out of 189 countries and above average in the low human development group but below the average for countries in Sub-Saharan Africa.³¹
17. Poverty and vulnerability remain in most part a rural phenomenon, concerning large families and households relying on farming as their main source of income. Poverty reduction and economic growth have not been inclusive and inequality persists. Over the last two decades, the Gini Index – measuring income inequality – has oscillated between 40 and 45 per cent.³² Inequality is most pronounced in terms of area (rural versus urban), regions (northern and eastern regions compared to the rest of the country³³), gender and age. The resultant drivers of inequality include: high women and youth unemployment; low access to basic social services and infrastructure; jobs-skills mismatches; low savings; declining productivity; gender discrimination (such as women's rights to land, assets and inheritance); and lack of and/or insufficient social safety protection services.³⁴

B. Project overview

18. Project goal and objectives. The aim of ATAAS was to enhance the performance of the agricultural sector through a technology-powered productivity boost, coupled with farmers having deeper and stronger linkages to the market. The overall goal

²⁶ The name is the same as that of the National Agricultural Advisory Services Project.

²⁷ AfDB 2017.

²⁸ WB 2016.

²⁹ World Bank data, accessed 10 January 2020.

³⁰ World Bank data, accessed 10 January 2020. Poverty headcount ratio at \$1.90 a day (2011 PPP).

³¹ UNDP 2018.

³² World Bank data, accessed 10 January 2020.

³³ The north suffered from a brutal 20-year insurgency by the Lord's Resistance Army starting in the late 1980s. The conflict held the region back by several years, resulting in a slower rise in incomes and high poverty levels. The northern and eastern regions also suffer from significant land degradation and vulnerability to climate change, exacerbating development efforts. Uganda hosts more refugees than any other country in Africa, including people from South Sudan, the Democratic Republic of Congo and Burundi. Its "no camp" approach sees the Government giving refugees plots of land to cultivate, to encourage their self-sufficiency. However, as the number of refugees grows, these plots become gradually smaller. World Bank, 2016.

³⁴ AfDB 2017.

was to enhance agricultural growth and reduce poverty. The initial development objective was to “increase agricultural productivity and incomes of participating households” by improving the performance of agricultural research and advisory service systems in the Republic of Uganda. The project also had a global environment objective to “enhance the environmental sustainability and resilience of agricultural production to land degradation and climate risks”.³⁵

19. Over its lifetime, the project was restructured twice to respond to government policy reforms and the infestation of fall armyworm (FAW). Although the project objectives remained the same, the results framework to measure performance towards these objectives was altered to match the revised scope.
20. **Project components.** The original design of the project had five components: (1) Developing agricultural technologies and strengthening the National Agricultural Research System (NARS); (2) Enhancing partnerships between agricultural research, advisory services and other stakeholders; (3) Strengthening the National Agricultural Advisory Services (NAADS); (4) Supporting agribusiness services and market linkages; and (5) Project management.
21. In 2014, following the MTR, the project was restructured for the first time. One of the main reasons was the weak fiduciary compliance that saw the use of technology uptake grants for input provision, for which they were neither designed nor approved.³⁶ Restructuring was also in response to reforms adopted by the government in agricultural extension services. The government adopted a “single spine” publicly funded and publicly provided extension system to replace the earlier publicly funded, privately provided model. This also involved transferring the extension services function from NAADS back to a newly created Directorate of Extension Services at Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). NAADS was reassigned the role of input distribution and strategic interventions, separating it from the provision of advisory services to eliminate the recurrence of ineligible expenditures.
22. After this restructuring and the resultant new mandates of the institutions involved, the project components were modified to:
 - 1) Developing agricultural technologies and strengthening the NARS;
 - 2) Enhancing partnerships between agricultural research and other value chain stakeholders;
 - 3) Strengthening agricultural support services (replacing components 3 and 4); and
 - 4) Program management, coordination and monitoring & evaluation (replacing component 5).
23. **Component 1** provided support to the National Agricultural Research System (NARS) through two subcomponents (1.1) Technology Identification and Development; and (1.2) Institutional Strengthening of the NARS. Sub-component 1.1 supported implementation of strategic research programs while sub-component 1.2 strengthened the effectiveness and efficiency of the National Agricultural Research Organization (NARO) by reinforcing its human, financial, physical and organizational capacity. The expected outputs of this component were an increase in the number of technological innovations generated for dissemination, and the number of collaborative research projects implemented.³⁷
24. According to the World Bank completion report, the main activities of the component were: (i) implementation of strategic national and zone-specific research programs; (ii) support to Competitive Research Grants (CRGs); (iii) support to build the

³⁵ World Bank 2019 ATAAS Implementation Completion and Results Report.

³⁶ This issue was resolved with ineligible expenditures of US\$1.36 million being identified and refunded to the World Bank. WB Implementation Completion and Results Report, 2019.

³⁷ IFAD supervision report February 2019.

- competencies of public and private Agricultural Research Service Providers (ARSPs); (iv) equipment, facilities, and transport for research; (v) enhanced governance through stakeholder participation and research partnerships; and (iv) options explored for sustainable financing mechanisms for NARS.
25. After the first restructuring, the component was allocated a larger budget to: (i) develop outreach-strengthening activities at NARO to maintain an uninterrupted flow of new technologies from research to farmers; (ii) finalize research infrastructure rehabilitation and procurement of laboratory equipment; and (iii) increase allocation for competitive grant support, especially for 'targeted' or solution-oriented competitive grants focused on priority value chain issues and partnerships.
 26. **Component 2** supported closer linkages between NARO, NAADS and later MAAIF and other stakeholders. It financed the development of programs and joint activities to facilitate better linkage and collaboration between research and other stakeholders through four sub-components: (2.1) joint planning, priority setting, adaptive research, and demonstrations; (2.2) enabling technology up-scaling; and (2.3) Sustainable Land Management (SLM) (Supervision Mission February 2019).
 27. After the first restructuring, component 2 was modified to be jointly implemented by NARO Secretariat and MAAIF, with extension activities scaled-up to fill the vacuum left by the exit of NAADS advisory provision. The transfer of extension functions from NAADS to MAAIF meant that all NAADS staff positions in the districts and sub-counties, as well as Agricultural Advisory Service Providers contracts, were terminated. This required the project to strengthen the district extension system under MAAIF. The main changes included: (i) greater allocation for enhancement of technology upscaling activities, especially adaptive research through District Adaptive Research Support Teams (DARSTs), demand-driven technology demonstrations through Multi-Stakeholder Innovation Platform (MSIPs), and institutional and human capacity strengthening for other partners; and (ii) the acceleration of SLM interventions after procurement delays.
 28. In 2017, the project was restructured for a second time. The government had requested support to address the outbreak of FAW in Uganda, which threatened to damage the productivity gains made by ATAAS. In response, project resources were re-allocated to support FAW interventions. Under component 2, the project supported work to develop management interventions for the FAW in the short to medium term and its containment strategy in the long term. The work involved: establishing the level of FAW infestation in the country and its impact on maize production; recommending specific evaluated pesticides to be used in an integrated pest management (IPM) strategy for its management; identifying potential novel control options involving use of biological control agents; and making proposals for coordination of FAW management efforts and surveillance (Supervision Mission, February 2019).
 29. **Component 3** replaced the original components 3 and 4, which were the remit of NAADS, with some of their activities retained.³⁸ The new component supported MAAIF and partners to develop sustainable channels for market oriented technology uptake through: (i) farmer empowerment and organization of strengthened linkages to markets; (ii) supporting the design of a new extension strategy and its institutional and implementation arrangements; and (iii) developing and operationalizing ICT tools to improve the effectiveness of public agricultural programs. The component also supported start-up activities for the World Bank funded Agriculture Cluster Development Project (ACDP).

³⁸ As noted in the MTR the restructuring by Government of Uganda of the mandate and functions of the NAADS Secretariat from extension to input supply services and the cancellation of AASP service contracts, renders implausible, the continued implementation of project activities by the NAADS Secretariat. (paragraph 45).

30. **Component 4** replaced component 5, and established a PCU that linked the existing NARO and MAAIF management and coordination functions as well as a consolidated M&E function.
31. **Project area and target group.** At appraisal, beneficiaries were defined as participating farming households that directly benefit from NAADS support through farmers' groups. After the first restructuring, the definition of beneficiaries was changed to "members of farmers' groups receiving support from contracted project group promoters or district extension workers under MAAIF". The IFAD President's report (2010) states that at the time of appraisal about 20 per cent of farmers in the country had benefited from advisory services through NAADS. Under ATAAS, the aim was to reach 1.7 million households. This target was later lowered to 1.578 million households. By completion, the project had reached 1.68 million, exceeding the revised target number of households and representing 25 per cent of all rural households.
32. The project did not track indirect beneficiaries, including members of farmers' groups who learnt from direct beneficiaries. Other indirect beneficiaries were seed dealers, producers and out growers, private sector seed producers, farmer-based community seed producers and seeds inspectors for quality assurance, whose capacities were built by the project for multiplying technologies generated by research.
33. **Project costs and financing.** The original total project cost of US\$ 665.5 million was reduced to US\$ 421 million during the first restructuring. By closing, the World Bank disbursed US\$110.5 million and IFAD contributed US\$13 million. The Government of Uganda financed the largest share, contributing US\$ 299 million but much lower than the US\$ 499 million planned at design stage. Lastly, the GEF provided a grant of US\$7.2 million to finance Sustainable Land Management activities.³⁹
34. At design, the European Union and the Danish International Development Assistance committed to finance US\$26.3 million but this did not materialize owing to policy changes in their aid programs.⁴⁰
35. Following the original financing agreement (2011), the World Bank administered and supervised IFAD financing. Project costs were co-financed following a *pari passu* ratio of 90 per cent for World Bank and 10 per cent for IFAD. The GEF grant from the World Bank-led GEF Strategic Investment Program was blended into the Project.⁴¹
36. Following the Government's policy change in 2014, the World Bank suspended de facto the disbursements to NAADS for both the World Bank and IFAD loans (July 2014). In February 2016, IFAD officially suspended disbursements to ATAAS. In the suspension letter, it requested the Government to provide solid evidence and arguments proving that the Project Development Objective was still achievable after the main policy change introduced in NAADS; in the event that IFAD did not receive this, the procedure for loan cancellation would have been activated. The Government provided evidence, in the last quarter of 2016, that ATAAS could still meet its Project Development Objectives and IFAD agreed to lift the suspension. The financing agreement was amended (in February 2017) focusing support on the provision of equipment, including vehicles and training for extension services at district and subcounty levels.⁴² IFAD also administered and supervised its own loan.
37. **Timeframe.** World Bank and IFAD financing were approved by the respective Boards in June and September 2010. IFAD reports a 12-month lag to effectiveness owing to a lengthy Parliamentary ratification process, a national election campaign and the subsequent period before the constitution of a new Parliament.⁴³ The World Bank

³⁹ To respond to land degradation, erosion, erratic rainfall, and other climate risks in Uganda.

⁴⁰ WB Implementation Completion and Results Report, 2019.

⁴¹ WB Implementation Completion and Results Report, 2019

⁴² IFAD 2017 Amendment to the financing agreement, ATAAS.

⁴³ PCR.

reports an 18-month time lag for the same reasons as well as: negotiations with Government of Uganda on accountability and governance issues that were addressed through enhanced Governance and Anti-Corruption (GAC) measures; revisions in draft NAADS guidelines to align beneficiary selection methods with project design; approval procedures under Government of Uganda; and restructuring of NAADS Secretariat.⁴⁴

38. IFAD financing of ATAAS eventually entered into force in November 2011. As mentioned above, the World Bank suspended de facto IFAD disbursements to NAADS in 2014 and IFAD officially suspended disbursements to ATAAS in 2016. Disbursements of the IFAD loan were then recommenced in 2017.
39. The project timeframe was extended twice. The first restructuring extended the closing date by 1.5 years to implement the new and revised activities. The second restructuring gave the project a six-month no cost extension to the closing date to address both the outbreak of FAW and the effects of the prolonged drought of 2016/17. World Bank financing was completed and then closed on 25 June 2018 (supervision report Feb 2019). The completion and closing dates for IFAD financing were 31 December 2018 and 30 June 2019, respectively. The main project dates for World Bank and IFAD financing are in the table below.

Table 1

Key dates of project financing by IFAD and the World Bank

Key dates of project financing		IFAD 1100001465	World Bank P109224	World Bank P108886 ⁴⁵
Approval		16 Sept 2010	22 June 2010	22 June 2010
Effectiveness		9 Nov 2011	20 Dec 2011	6 June 2013
Completion	Original	31 Dec 2016*		
	Final	31 Dec 2018*		
Closing	Original	30 June 2015	30 June 2015	30 June 2016
	Final	30 June 2019	25 June 2018	25 June 2018

* IFAD ATAAS Supervision mission (October 2018) report, February 2019.

Source: World Bank Implementation Completion and Results Report, 2019.

40. **Implementation arrangements.** The MAAIF had overall responsibility for the ATAAS project, which was to be implemented within the framework of MAAIF's DSIP (2010 – 2015)⁴⁶, with the Agricultural Sector Working Group providing overall policy direction.⁴⁷
41. The initial implementing partners were MAAIF, NARO, NAADS and NARS. The NARO Secretariat, as the oversight and coordination body for the NARS, was the implementing agency for ATAAS-financed research activities. The NAADS Secretariat was responsible for planning, directing, guiding, supporting, and managing the NAADS program and was responsible in ATAAS for the provision of advisory services.⁴⁸
42. Following the transference of the extension services mandate from NAADS to MAAIF, the first restructuring of the project changed implementation arrangements accordingly. The revised component 5 on Programme management, coordination and M&E then supported NARO and MAAIF to manage and coordinate ATAAS. Furthermore, overall coordination between NARO and MAAIF was strengthened through the establishment of a Project Coordination Unit (PCU) in MAAIF, with lead

⁴⁴ World Bank Implementation Completion and Results Report, 2019.

⁴⁵ Uganda Sustainable Land Management Country Program.

⁴⁶ The DSIP (2010 – 2015), developed by the MAAIF as a tool for moving the sector's agenda, produced four program areas: (i) enhancing sustainable production and productivity (ii) improving access to markets and value addition (iii) creating an enabling environment and (iv) institutional strengthening in the agriculture sector.

⁴⁷ WB Implementation Completion and Results Report, 2019.

⁴⁸ IFAD 2010 President's report on ATAAS; WB Implementation Completion and Results Report, 2019.

responsibilities assigned. The PCU was intended to address earlier administrative inefficiencies and coordination challenges stemming from the NAADS and NARO Secretariats working in parallel.⁴⁹

43. Initially, the World Bank acted as the cooperating agency of the project. IFAD also undertook supervision missions but only after the lifting of suspension of disbursements and amendments were made to the Financing Agreement.

III. Evaluation objectives and scope

44. **The objectives of the PPE** are to: (i) assess the results of the project on the basis of the standard evaluation criteria; (ii) generate findings and recommendations for the design and implementation of ongoing and future operations in Uganda; and, (iii) provide inputs to the country strategy and programme evaluation of Uganda being conducted by IOE in parallel with this PPE.
45. **The scope of the PPE** has been identified based on the following criteria: (i) areas identified through a desk review – the PPE will review additional evidence and propose a complete list of consolidated ratings; (ii) selected issues of strategic importance for IFAD in Uganda; and (iii) limitations set by the available time and budget – the PPE will be selective in focusing on key issues where value can be added, given the limited time and budget.
46. Analysis in the PPE will be assisted by a re-examination of the ATAAS theory of change (TOC). The original project design as presented in the IFAD President’s Report included a logical framework that drew on the World Bank results framework from the Project Appraisal Document. This had a simple causal logic with a single project development objective. The five components of ATAAS at design would “increase agricultural productivity and incomes of farm households by improving the performance of agricultural research and advisory services and through enhanced environmental sustainability”.⁵⁰ Given the fully blended nature of World Bank and IFAD financing (IDA 90 per cent, IFAD 10 per cent) the shared results framework was appropriate. A full TOC was presented retrospectively in the World Bank ICR in 2019, while IFAD’s PCR in 2019 included an incomplete logical framework.
47. The ICR TOC shows the causal pathway from project activities to project impacts and the changes that should take place in the intermediary stage i.e. between project outcomes and impact. External factors that influence change along the major impact pathways - assumptions on which the project has no control - are also taken into account. IFAD funds would have supported all components of ATAAS from 2011 to loan suspension. The restructuring led to a revised financing agreement, where funds were no longer channelled through NAADS. However, support to research and advisory services continued with the vast bulk of subsequent IFAD financing since 2017 going on vehicles and training for district extension activities.⁵¹ Thus, IFAD’s support focused on component 3 (agricultural support services) and on the activities in bold in the TOC. It is noted that the delivery of the vehicles (since procurement was delayed till 2018) would have not yet had sufficient time to show any major impact on the ground, although training activities proceeded from 2017. The TOC will be adjusted after consultations with project stakeholders during the country visit.
48. The PPE exercise will be undertaken in accordance with IFAD’s Evaluation Policy⁴ and the IFAD Evaluation Manual (second edition, 2015). The PPE will evaluate the project performance with regard to the standard evaluation criteria. Key issues for further analysis
49. There are some key issues that the PPE will investigate closely. Chief among these are the **financing agreement** and the **partnership** with World Bank; the

⁴⁹ WB Implementation Completion and Results Report, 2019.

⁵⁰ IFAD (2010) President’s Report on ATAAS.

⁵¹ Including 1034 motorcycles and 115 pickups

effectiveness of the **delivery model**; the appropriateness of the **design change** (both in response to government's policy change and after project's suspension); and the issue of **governance** (related to procurement, choice of service providers, etc.). The following paragraphs describe these issues in greater detail.

50. **Suitability of the project design and the delivery model.** At design, the project was to be implemented using the demand-driven and participatory publicly funded, privately-provided extension model of NAADS. Two years after project entry into force, however, the Government of Uganda adopted a new extension policy, the single spine approach. In essence, this replaced the NAADS model with the (former) supply-driven and top-down publicly funded and provided for model. The new policy shifted responsibility for input delivery to Operation Wealth Creation run by the military, with NAADS to provide technical support. Meanwhile the mandate for extension services was transferred to a new Directorate for Extension Services in NAADS parent ministry, MAAIF. Thus, the project underwent significant restructuring in terms of implementing arrangements, institutional strengthening and investments in the extension service to farmers.
51. The PPE will investigate if it was appropriate at project design to continue support to a NAADS-based service delivery model or whether such a major realignment could have been foreseen and/or managed differently. In general, the PPE will explore how the project design and implementation of agricultural investments can manage the trade-off between what designers consider the technical optimum and what politicians consider useful. The relevance of the revised project design, after the first restructuring, will also be examined, in particular with regards to the use of IFAD financing (given the temporary suspension of IFAD disbursements).⁵²
52. **Co-financing partnerships.** ATAAS was prepared with close collaboration between development partners as a co-financed project. However, concerns were raised regarding the rationale for IFAD's participation and control given its minor co-financing role.⁵³ Minutes of IFAD's Quality Assurance (QA) process highlighted the need for close monitoring by IFAD on various issues⁵⁴ yet IFAD was not present in the early supervision missions, undertaken by the World Bank only. After the Financing Agreement was amended in 2017, IFAD reportedly supported the project in key procurements and the extension of the completion date. However, prior to that, IFAD, due to its suspension of disbursement for two years, did not participate in the restructuring of the project, so missing the opportunity to influence the results framework⁵⁵. Given the balance of co-financing between IFAD and the World Bank as well as the different roles they played at different times, the PPE will seek to evaluate the nature of their partnership and to draw lessons on whether the aid effectiveness gains of such donor alignment have compensated for the loss of direct attribution to results and the greater vulnerability to fiduciary risk. For instance, what influence did IFAD, as a partner providing 10 per cent of total resources, have on both the project design and implementation throughout its lifetime? How did IFAD plan to measure its contribution to results through such a pooled funding agreement? Moreover, how well did the partnership perform overall? What effect did the suspension of disbursements by IFAD have on its role, and what other measures could have been considered other than resuming disbursements (for example, loan restructuring, cancellation)?
53. **Governance and fiduciary arrangements.** Previous experience showed the NAADS vulnerable to poor financial accountability and problems of corruption.⁵⁶ Both

⁵² The World Bank ICRR noted that the redesign affected the project theory of change, specifically, the dropping of technology uptake and CCF matching grants for farmer group enterprises meant that improved technologies would not have the financial support to link to value chains. (ICRR, p.7).

⁵³ Providing only US\$ 14 million out of the total project costs of US\$ 678 million.

⁵⁴ Including on project coordination between the NARO and NAADS Secretariats, Governance and Anti-Corruption measures, and Targeting

⁵⁵ IFAD PCR 2019.

⁵⁶ QA minutes.

the QA minutes and World Bank implementation completion and results report refer to significant Governance and Anti-Corruption (GAC) measures in the project design to manage procurement and financial management risks. The QA recommended that the “*proposed GAC arrangements be accompanied by more intensive measures from contributing donors in supervising procurement and financial management activities.*” Indeed, the IFAD PCR and World Bank Completion Report identify significant issues in financial management, procurement and M&E both before and after restructuring by NARO, NAADS and then MAAIF. There were concerns about the high costs of these procurements.⁵⁷ In light of a history of governance issues, the PPE will evaluate the relevance of the GAC measures adopted in ATAAS before and after restructuring. It will also seek to evaluate the extent to which IFAD could and did support the project in implementing the activities that it financed. It will also explore the choice of the service providers for the training activities i.e. how they were selected, the quality of training imparted, etc.

54. **Private sector partnerships.** The shift in the Government of Uganda’s policy on extension delivery away from the private sector and back to the public sector warrants attention in terms of its impact on IFAD-supported operations. In ATAAS, the envisaged integration of smallholders with established value chains through Public Private Partnerships was not achieved, owing to the diversion of NAADS resources to input provision.⁵⁸ The PPE will assess how the Government’s policy on private sector partnerships in the agricultural sector fits with IFAD’s policy on working with the private sector. Moreover, it will also evaluate how sudden policy shifts can affect project implementation and the ability to deliver on objectives established at design.
55. **Evidence of Impact.** The PCR and World Bank ICRR quote the results of the 2018 impact evaluation as the principle basis for judging project impact. The evidence quoted shows extremely positive yield and income changes for the ATAAS beneficiaries. The final direct beneficiary outreach via farmer groups represents 25 per cent of the farming households in Uganda. Yields for the five target crops all exceeded their targets and for three crops (maize, cassava and rice) rose by 80 per cent, 126 per cent and 180 per cent over baseline levels. Net agricultural incomes rose 2.6 times for men and 3 times for women, surpassing the targets set after project restructuring. The project exceeded all its PDO indicators targets in all agro ecological zones across the country.⁵⁹ The coverage of SLM activities exceeded the revised target by 249 per cent. These results occurred despite the significance turbulence and delays caused by the policy changes and project restructuring as well as major pest outbreaks (FAW). The PPE will attempt to reassess the quality of survey evidence underpinning these exceptional levels of performance. Can the PPE fully accept these strong impacts or are there areas of uncertainty? Have other impact areas, such as institutional and environmental, achieved the significant results claimed?

IV. Analytical framework and methodology

56. **Information and data collection.** The first phase of the PPE is the desk review which will cover a variety of project-related documents, including annual project status reports (along with Project Supervision Ratings), mid-term review, supervision reports, and the PCR as well as reviews of NAADS and NARO and wider political economy issues surrounding agricultural services reform in Uganda. The Results and Impact Management System (RIMS) includes a menu of indicators used to measure and report on the performance of IFAD projects – at activity, output and impact level – and these are used for effectiveness and impact criteria. In this regard, M&E data will be important. M&E data are also needed to plan the mission's visits to project

⁵⁷ US\$ 370,000 remained ineligible expenditure or still to be accounted for (IFAD Supervision Mission, 2018, p.12).

⁵⁸ IFAD PCR 2019.

⁵⁹ Interestingly the IFAD supervision mission report Feb 2019 provides different and more modest figures for yield and income changes.

areas, for instance, data on what kind of activities were carried out in different areas, what were the results, etc.

57. The PPE will crosscheck findings from the PCR and triangulate data and information from different sources. The Implementation Completion and Results Report of the World Bank alludes to a baseline (2013), UBoS Baseline Survey (2015), a process evaluation (2017) and an impact evaluation (2018). To obtain further information, interviews will be conducted both at IFAD headquarters and in the country. During the in-country work, additional primary and secondary data will be collected in order to reach an independent assessment of performance and results.
58. Data collection methods by the PPE mission will mostly include qualitative techniques. The methods deployed will consist of individual and group interviews with project stakeholders, beneficiaries and other key informants and resource persons, and direct observations.
59. The theory of change annexed in this paper has highlighted assumptions that would have been crucial to attaining the desired outputs and outcomes. The PPE will investigate whether some of these assumptions held, and if not, then what were the impeding factors. This will help the evaluation answer the "why" questions underpinning the results.
60. **Selection of sites for field visit.** The PPE will aim to select a sample of districts from all those that were covered during the lifetime of the project. In the interest of time, sites will be chosen based on consideration of distance and an attempt will be made to give preference to sites where there have been a multiplicity of interventions. Thus, an informed decision on areas to be visited will be taken based on: the team's logistical exigencies, the number of beneficiaries in each area (preference to areas with more beneficiaries) and the need to cover a diverse range of stakeholders. In Kampala, the mission will meet the development partners, importantly, the World Bank.
61. Field sites should include ZARDIs, DARSTs, district and subcounty advisory service providers (public and private), and involve focus groups discussions with men and women, MISPs.
62. **Rating system.** In line with the practice adopted in many other international financial institutions and UN organizations, IOE uses a six-point rating system to score the project performance on a set of standard criteria⁶⁰, where 6 is the highest score ("highly satisfactory") and 1 is the lowest ("highly unsatisfactory").
63. **Stakeholders' participation.** In compliance with the IOE Evaluation Policy, the main project stakeholders will be involved throughout the PPE. This will ensure that the key concerns of the stakeholders are taken into account, that the evaluators fully understand the context in which the project was implemented, and that opportunities and constraints faced by the implementing institutions are identified. Regular interaction and communication will be established with IFAD and the Government. Formal and informal opportunities will be explored during the process

V. Process and timeline

64. Following a desk review of the PCR and other project key project documents, the PPE will undertake the following steps.
65. **Country work.** The PPE mission is scheduled from 9 to 20 March 2020. It will interact with representatives from the World Bank, government and other institutions, beneficiaries and key informants, in Kampala and in the field. At the end of the mission, a wrap-up meeting will be held in Kampala to summarize the

⁶⁰ These include: relevance, effectiveness, efficiency, rural poverty impact, women's empowerment and gender equality, sustainability, innovation, scaling up, environment and natural resource management, adaptation to climate change, IFAD and government performance and overall project performance.

preliminary findings and discuss key strategic and operational issues. The IFAD country director for Uganda will participate in the wrap-up meeting remotely, if possible.

66. **Report drafting.** The draft report will be prepared based on results from the desk review, field visit and feedback from the stakeholders, including from the wrap-up meeting.
67. **Quality assurance.** The draft report will be submitted for an internal (IOE) peer review for quality assurance before sharing with other relevant parties.
68. **Comments by regional division and the Government.** The draft PPE report will be shared simultaneously with the East and Southern Africa Division (ESA) and the Government of Uganda for factual review and comments. IOE will finalize the report following receipt of comments by ESA and the Government and prepare the audit trail.
69. **IFAD Management response.** A written management response on the final PPE report will be prepared by the Programme Management Department. This will be included in the PPE report, when published.
70. **Communication and dissemination.** The final report will be disseminated among key stakeholders and the evaluation report published by IOE, both online and in print.

Table 2

Tentative timetable for the PPE process

<i>Date</i>	<i>Activities</i>
January-February 2020	Desk review and preparation of approach paper
09 – 20 March 2020	Mission to Uganda
April/May 2020	Preparation of draft PPE report
June 2020	Report sent for IOE peer review
Early July 2020	Draft PPE report sent to ESA and Government for comment
End-July 2020	Comments received from ESA and government
September 2020	Final report and audit trail sent for IFAD management response
November 2020	Publication and dissemination

Source: PPE team.

VI. Evaluation team

71. The team will consist of Hansdeep Khaira, IOE Evaluation Officer and lead evaluator for this PPE, Nick Chapman, IOE senior consultant and Allen Kebba, local consultant. Mr Chapman will prepare the draft evaluation report, with the overall responsibility for the execution and quality of the evaluation resting with Mr Khaira. Jeanette Cooke, IOE Evaluation Analyst, will prepare the first draft of the approach paper. Manuela Gallitto, IOE Evaluation Assistant, will provide administrative support.

VII. Background documents

72. The key background documents for the exercise will include the following:

Project specific documents

IFAD QA minutes (2010)
 IFAD President's Report (2010)
 World Bank Project appraisal document (2010)
 IFAD Financing Agreement (2011)
 IFAD Amendment to Financing Agreement (2017)

World Bank Medium Term Review report (2014)
World Bank / IFAD Supervision Mission and Aide Memoire Reports (2012-2018)
IFAD Project Completion Report (2019)
World Bank Implementation Completion and Results Report (2019)
World Bank Independent Evaluation Group Implementation Completion Report Review (2019)
ATAAS Impact Evaluation (2018)
ATAAS Process Evaluation (2017)

General and others

IFAD COSOPs (2004 and 2013)
IFAD (2011). IFAD Evaluation Policy
IFAD (2011). IFAD's Private Sector Development and Partnership Strategy. Corporate level evaluation
IOE (2012). Guidelines for the Project Completion Report Validation (PCR) and Project Performance Assessment
IFAD (2015). Evaluation Manual – Second Edition
Various IFAD Policies and Strategies, in particular, Strategic Frameworks (2007 – 2010, 2011 -2015), Private Sector Development and Partnership Strategy (2005), Rural Enterprise, Targeting, Gender Equity and Women's Empowerment, Private sector engagement strategy (2019 – 2024)

List of key persons interviewed

Government of the Republic of Uganda

Ministry of Agriculture, Animal Industry and Fisheries

Beatrice Byarugaba, Director, Agriculture Extension Services
Robert C. Khauka, Assistant Commissioner M&E, Task Manager ATAAS
Okaasai Opolot, former Director of Crops Resources
Fred Mayanja, Commissioner Agriculture Planning Department
Patience Rwamigisa, Commissioner, Agricultural Extension

Ministry of Finance, Planning & Economic Development

Maris Wanyera, Acting Director, Directorate of Debt and Cash Management Policy (former Aid Liaison)

Ministry of Local Government

Benjamin Kumumanya, Permanent Secretary

International and donor institutions

US Agency for International Development

Martin Fowler, Senior Agriculture Adviser

World Bank Uganda

Rasit Pertev, Former Task Manager /Agricultural Economist World Bank/ former Secretary of IFAD
Ashesh Prasann, Agro Economist (ATAAS) and ICR Main Contributor
Jee Jye Kim, ATAAS, now ACDP Task manager
Joseph Oryokot, Task Team Leader for ATAAS, IFAD-supported projects
Chris Nielsen, IEG reviewer of the ATAAS ICR
David Nielson, Lead Agricultural Specialist

International Fund for Agricultural Development

Asia and the Pacific Division
Alessandro Marini, former Country Director of Uganda

East and Southern Africa Division

Lakshmi Moola, Country Director of Uganda
Pontian Muhwezi, Country Programme Officer of Uganda
Stella Okot, Finance, IFAD Financial Analyst, 2018 supervision mission
Marian Bradley, former Country Programme Manager of Uganda

Financial Management Services Division

Robert Creswell, Chief Financial Management Officer

Project staff

Agricultural Technology and Agribusiness Advisory Services (ATAAS)
Emmanuel Mukama, former M&E Specialist, ATAAS (now in NOPP)
Stephen Ojangole, former Project Coordinator, ATAAS (now with ACDP)

National Agriculture Advisory Services

Christopher Bukenya, Technical Services Manager, Secretariat
Samwiri Mugasi, NAADS Executive Director, DLSP Coordinator, Secretariat
District Production and Marketing Officer Mukono / Sub-county Coordinator
John Ken Ssemanda, HR Manager Kamenyamigo ZARDi Lwengo District / Sub-county Coordinator
Mayega Lawrence, DPMO Masaka DLG District / Sub-county Coordinator
Benson Otim, Agriculture CAO Kayunga DLG District / Sub-county Coordinator
Mike Yooga, Deputy CAO Iganga DLG District / Sub-county Coordinator

Leonard Kitavuja, Deputy CAO Mayuge DLG District / Sub-county Coordinator
Gwahaba Richard, S/C Extension Worker Iganga DLG District / Sub-county Coordinator
Kawuuzi Emmanue, Extension worker Mayuge DLG District / Sub-county Coordinator
Nankya Eseri, Soil Scientist/ SLM Focal Point in Bugi ZARDI during ATAAS District / Sub-county Coordinator
Nicholas Sekabunga, Farm Manager Ka ZARDI District / Sub-county Coordinator
Gimogo Richard, Estates Manager Bugi ZARDI District / Sub-county Coordinator
Masa Erisa, Extension worker VODP2 Formerly NAADS Coordinator ATAAS Sironko DLG District / Sub-county Coordinator
Okello Thomas, DPMO Lira DLG District / Sub-county Coordinator
Alum Dorcus, District Agricultural Officers Lira DLG District / Sub-county Coordinator
Paul Kilama, Senior Agricultural Officer Gulu DLG District / Sub-county Coordinator
Okwi James, DPMO Nwoya DLG District / Sub-county Coordinator
Baligeya Moses, DPO Iganga DLG District / Sub-county Coordinator
Godfrey Otim, Crop Agronomist Ngetta ZARDI District / Sub-county Coordinator

National Agricultural Research Organisation

Yona Baguma, Senior Research Officer - Monitoring & Evaluation Directorate of Research Coordination
Losira Sanya, Senior Research Officer
Thelma Flavia Akongo, Gender Coordinator, NARO
Abbey Seguya, Planner NARO

Private sector and non-governmental organizations and associations

Farmers groups

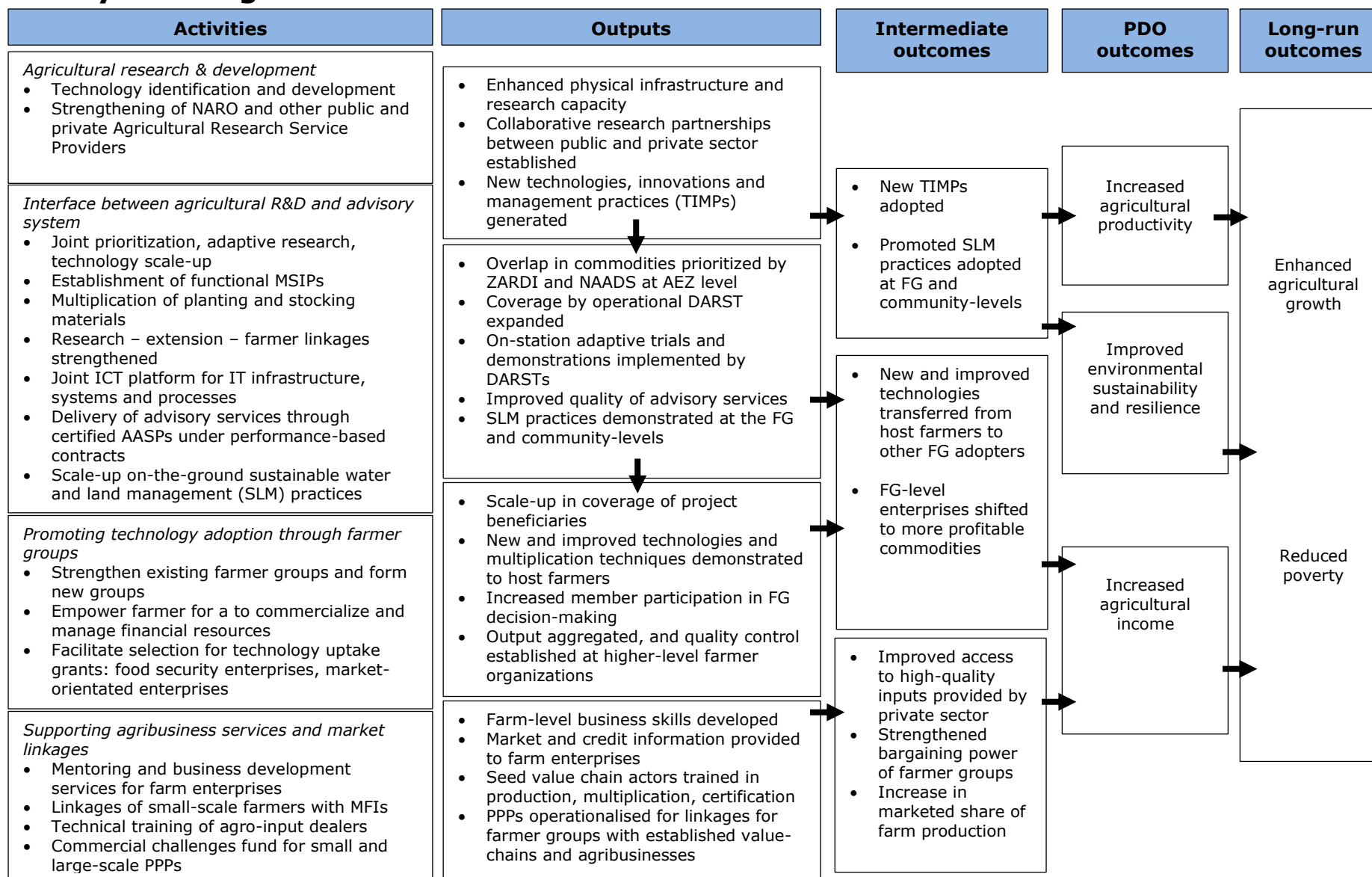
Jane Baitanunga, Chairperson Nambale Agribusiness Cooperative

Nambozo Mary Wetaka, Chairperson Bungwanyi farmers Investment group
Musoke Wambega, Health Assistant/Extension worker Iganga
Nawandala Charles, Nanwala Farmer Groups Iganga
Balikowa Moses, Naluga Farmer Groups Iganga
Wilson Wodugnya, Dubana farmers Association Mbale
Julius Odega, Chairperson Dubana farmers Association Mbale
Joseph Nagimisi, Dubana farmers Association Mbale
Katungisa Kenneth, CEO UNFEE National Farmers Federation

Consultants

James Joughin, former advisor in MAIFF
Agnes Kirabo, Executive Director, Food Rights Alliance
Peter Ssentongo Mukisa, Government consultant for MTR ATAAS
Larry Adupa, Government consultant for MTR 2014 and ICR 2018 ATAAS
Consultant author of ATAAS 2018 Impact Study and Process Study 2017

Theory of change^a



Critical assumptions

- a) The off-the-shelf and new technologies generated by the research system are sufficiently adapted to all nine agro-ecological zones (AEZs) served by Zonal Agricultural Research and Development Institutes (ZARDIs);
- b) The frequency, duration, and quality of demonstration, training and advisory services can induce behavioral change and adoption of improved TIMPs and SLM practices by farmers;
- c) Farmers in their groups will demand high-quality and improved technologies, even in the presence of imperfectly substitutable inputs varying on the price and quality dimensions;
- d) The capacity of the advisory services system does not decline through and beyond the Project lifetime;
- e) SLM beneficiaries will have the organizational and financial capacity to provide maintenance on the infrastructure beyond the lifetime of the Project;
- f) Market linkages are strong and stable enough for surplus of tracked commodities to reach agribusinesses and high value markets; and
- g) Aggregate increases in output of tracked commodities are not large enough to depress market prices (no general equilibrium effects).

^a The bold text *shows* the TOC for IFAD support after the amendment to the financing agreement in 2017.
Source: Adapted from World Bank 2019 Implementation Completion and Results Report.

Project financing by component and by source

<i>Financier</i>	<i>At appraisal (US\$ millions)*</i>		<i>Actual disbursed (US\$ millions)**</i>	
Government	497.3	75%	299	69%
World Bank	120	18%	115	26%
European Union	20	3%	-	
IFAD	14	2%	13	3%
GEF	7.2	1%	7.2	2%
DANIDA	7	1%	-	
Total	665.5	100%	434.4	100%

Source: IFAD (2010) President's report (*) and World Bank 2019 ICRR (**).

Allocation of motorcycles to local government

The criteria for allocating the motorcycles considered:

1. The number of sub counties
2. The number of extension staff at the subcounty
3. Districts which already benefitted from other programmes/projects such as ACDP, Resilience and DANIDA

<i>District vote number</i>	<i>Local government</i>	<i>No. of sub-counties</i>	<i>Total motorcycles</i>
501	Adjumani District	10	8
502	Apac District	8	8
503	Arua District	26	8
504	Bugiri District	16	12
505	Bundibugyo District	24	16
506	Bushenyi District	14	10
507	Busia District	14	10
508	Gulu District	12	8
509	Hoima District	7	5
510	Iganga District	14	5
511	Jinja District	9	7
512	Kabale District	10	8
513	Kabarole District	18	13
514	Kaberamaido District	12	9
515	Kalangala District	7	5
516	Kampala District	10	8
517	Kamuli District	14	12
518	Kamwenge District	17	13
519	Kanungu District	17	13
520	Kapchorwa District	11	8
521	Kasese District	37	14
522	Katakwi District	17	5
523	Kayunga District	14	8
524	Kibaale District	11	8
526	Kisoro District	14	10
527	Kitgum District	9	4

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<i>District vote number</i>	<i>Local government</i>	<i>No. of sub-counties</i>	<i>Total motorcycles</i>
528	Kotido District	5	2
529	Kumi District	6	5
530	Kyenjojo District	27	16
531	Lira District	9	7
532	Luwero District	13	8
533	Masaka District	9	7
534	Masindi District	5	5
535	Mayuge District	14	8
536	Mbale District	24	14
537	Mbarara District	11	9
538	Moroto District	4	5
539	Moyo District	9	7
540	Mpigi District	7	5
541	Mubende District	14	8
542	Mukono District	13	8
543	Nakapiripirit	8	5
544	Nakasongola District	11	9
545	Nebbi District	9	-
546	Ntungamo District	26	11
547	Pader District	13	10
548	Pallisa District	14	8
549	Rakai District	9	6
550	Rukungiri District	13	9
551	Ssembabule Dist	8	6
552	Sironko District	27	14
553	Soroti District	7	5
554	Tororo District	19	12
555	Wakiso District	15	11
556	Yumbe District	13	8
557	Butaleja District	12	8
558	Ibanda District	12	8
559	Kaabong District	19	8

Annex VIII

<i>District vote number</i>	<i>Local government</i>	<i>No. of sub-counties</i>	<i>Total motorcycles</i>
560	Isingiro District	23	16
561	Kaliro District	12	8
562	Kiruhura District	18	13
563	Koboko District	8	5
564	Amolator District	12	8
565	Amuria District	33	10
566	Manafwa District	9	7
567	Bukwo District	12	8
568	Mityana District	14	8
569	Nakaseke Distr	15	8
570	Amuru District	12	8
571	Budaka District	13	8
572	Oyam District	14	8
573	Abim District	8	5
574	Namutumba Dis	10	8
575	Dokolo District	14	8
576	Buliisa District	7	5
577	Maracha District	8	5
578	Bukedea District	16	8
579	Bududa District	19	10
580	Lyantonde District	7	5
581	Amudat District	4	2
582	Buikwe District	6	7
583	Buyende District	6	5
584	Kyegegwa Dist	9	7
585	Lamwo District	11	5
586	Otuke District	8	5
587	Zombo District	13	5
588	Alebtong District	9	6
589	Bulambuli Dist	20	10
590	Buvuma District	9	6

Annex VIII

<i>District vote number</i>	<i>Local government</i>	<i>No. of sub-counties</i>	<i>Total motorcycles</i>
591	Gomba District	5	5
592	Kiryandongo District	7	7
593	Luuka District	8	6
594	Namayingo District	11	8
595	Ntoroko District	10	8
596	Serere District	12	8
597	Kyankwanzi District	16	10
598	Kalungu District	7	5
599	Lwengo District	6	5
600	Bukomansimbi	5	5
601	Mitooma District	12	8
602	Rubirizi District	11	9
603	Ngora District	5	5
604	Napak District	14	5
605	Kibuku District	17	9
606	Nwoya District	8	6
607	Kole District	7	7
608	Butambala District	9	7
609	Sheema District	11	8
610	Buhweju District	9	8
611	Agago District	16	-
612	Kween District	18	5
613	Kagadi District	19	10
614	Kakumiro Dist	19	10
615	Omoro District	15	8
616	Rubanda Dist	9	7
617	Namisindwa	17	9
618	Packwach	6	5
619	Butebo District	8	5
620	Rukiga District	6	5
621	Kyotera District	14	9

Annex VIII

<i>District vote number</i>	<i>Local government</i>	<i>No. of sub-counties</i>	<i>Total motorcycles</i>
622	Bunyangabu	12	8
	Kassanda District	16	9
	Bugweri District	5	5
	Kapelebyong Dis	6	5
	Kwania District	11	8
	Kikuube District	7	5
	Nabilatuk	5	5
751	Arua Municipal Council	2	1
752	Entebbe Municipal Council	2	1
753	Fort-Portal Municipal Council	3	1
754	Gulu Municipal Council	4	2
755	Jinja Municipal Council	3	1
757	Kabale Municipal Council	3	1
758	Lira Municipal Council	4	2
759	Masaka Municipal Council	3	1
760	Mbale Municipal Council	3	1
761	Mbarara Municipal Council	6	3
762	Moroto Municipal Council	2	1
763	Soroti Municipal Council	3	1
764	Tororo Municipal Council	2	1
770	Kasese Municipal Council	3	3
771	Hoima Municipal Council	4	2
772	Mukono Municipal Council	2	1
773	Iganga Municipal Council	2	1
774	Masindi Municipal Council	4	2
775	Ntungamo Municipal Council	3	1
776	Busia Municipal Council	2	1
777	Bushenyi-Ishaka Municipal Council	3	1
778	Rukungiri Municipal Council	3	1

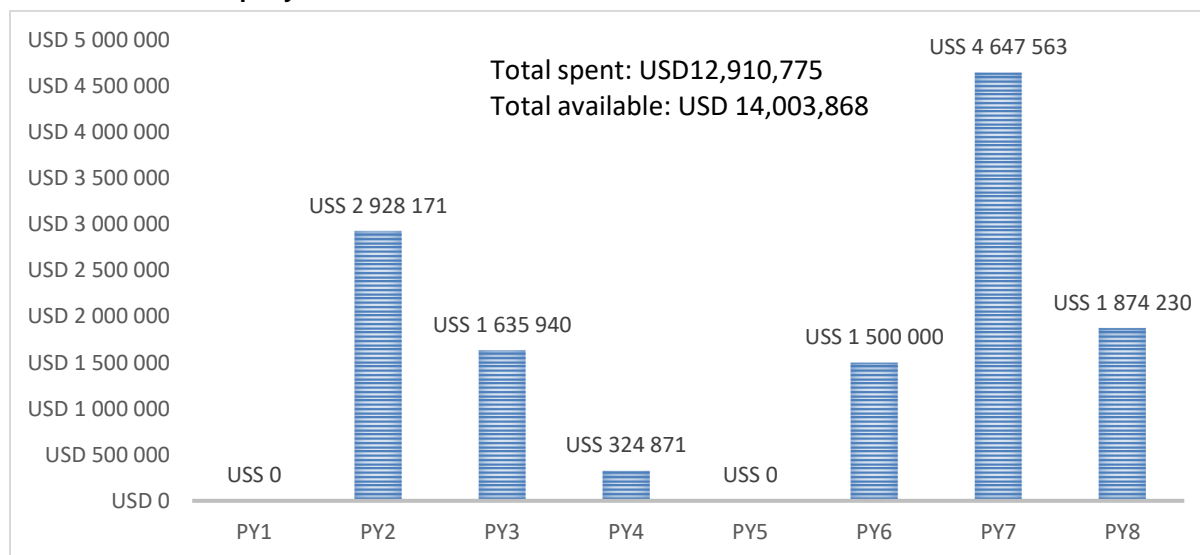
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<i>District vote number</i>	<i>Local government</i>	<i>No. of sub-counties</i>	<i>Total motorcycles</i>
779	Nansana Municipal Council	4	2
780	Makindye –Ssabagabo Municipal council	3	1
781	Kira Municipal Council	3	1
782	Kisoro Municipal Council	3	1
783	Mityana Municipal Council	3	1
784	Kitgum Municipal Council	3	1
785	Koboko Municipal Council	3	1
786	Mubende Municipal	3	1
787	Kumi Municipal Council	2	1
788	Lugazi Municipal Council	3	1
789	Kamuli Municipal Council	2	1
790	Kapchorwa Municipal Council	3	1
791	Ibanda Municipal Council	3	1
792	Njeru Municipal Council	3	1
793	Apac Municipal Council	4	2
794	Nebbi Municipal Council	3	1
795	Bugiri Municipal Council	2	1
796	Sheema Municipal Council	5	2
797	Kotido Municipal Council	4	2
	Total		1032

Source: Project M&E.

Additional tables

Figure 1
IFAD Disbursement per year for ATAAS



Source: IFAD financial records.

Distribution of IFAD Vehicles FY 2018-19

While local governments in Entebbe District received 7 IFAD/ATAAS vehicles in total, the remaining local governments in the districts listed below received one each, for an overall total of 113 vehicles distributed

Abim	Bundibugyo	Kaliro	Koboko	Mbale	Omoro
Adjumani	Bunyangabu	Kampala	Kole	Mbarara	Otuke
Alebtong	Busia	Kamuli	Kotido	Mitooma	Oyam
Amolator	Butaleja Butambala	Kamwenge	Kumi	Mityana	Packwach
Amudat	Butebo	Kanungu	Kwania	Moroto	Pader
Amuria	Buvuma	Kapchorwa	Kween	Moyo	Pallisa
Apac	Buyende	Kapelebyong	Kyankwanzi	Mubende	Rubanda
Budaka	Dokolo	Kasese	Kyegegwa	Mukono	Rubirizi
Bududa	Gomba Hoima	Kassanda	Kyenjojo	Nabilatuk	Rukiga
Bugweri	Ibanda	Katakwi	Kyotera	Nakapiripirit	Rukungiri
Buhweju	Jinja	Kayunga	Lira Luuka	Nakaseke	Serere
Buikwe	Kaabong	Kibaale	Luwero	Nakasongola	Sheema
Bukedea	Kabarole	Kiboga	Lwengo	Namayingo	Sironko
Bukomansimbi	Kaberamaido	Kibuku	Lyantonde	Namisindwa	Soroti
Bukwo	Kagadi	Kikuube	Manafwa	Napak	Ssembabule
Bulambuli	Kakumiro	Kiruhura	Masindi	Ngora	Tororo
Buliisa	Kalangala	Kiryandongo	Mayuge	Ntoroko	Wakiso
		Kisoro			

Source: Project M&E.

Table 1
Training courses funded by IFAD

Courses	Number of trainees			Performance above target (%)
	Target	Actual	Deficit/surplus	
Ticks and Tick-borne Disease Control	100	100	0	0
Enhancing livestock food security (dry season feeding) in ruminants	340	388	48	14
Food Value Chain and Production Techniques	387	380	(7)	(2)
Agribusiness development	120	113	(7)	(6)
Agricultural statistics	116	115	(1)	(1)
Handling of agro-chemicals and fertilizer optimization	50	48	(2)	(4)
Agricultural extension management	300	292	(8)	(3)
Mind-set change in agricultural production	850	798	(52)	(6)
Nutrition and family life education	124	125	1	1
Sustainable land management	300	292	(8)	(3)
Post-harvest handling technologies for grains	70	69	(1)	(1)
Appropriate post-harvest handling techniques	300	283	(17)	(6)
Soil conservation and micro irrigation for agricultural extension officers	300	284	(16)	(5)
Agricultural risk management	300	300	0	0
Agribusiness and commodity value chain development for dairy & beef	300	274	(26)	(9)
Agribusiness and commodity value chain development for crops (maize, beans, coffee and horticulture)	200	222	22	11
Infectious/ zoonotic diseases/ avian influenza	30	29	(1)	(3)
Fruit and vegetable productions for extension link farmers	30	28	(2)	(7)
	4 217	4 140	(77)	(2)

Source: the ATAAS end of project report, June 2018.

Table 2
Adaptive trials and demonstrations

<i>Indicator</i>	<i>Item</i>	<i>Performance (2016 – process evaluation)</i>	<i>Target at end of project</i>	<i>2018 impact evaluation</i>	<i>% Impact vs target</i>
Number of adaptive trials and demos implemented by ZARDIs and local governments	Adaptive trials	216	275	216	(21%)
	Demos	9 867	4 558	11 611	155%
	Crops	7 849	3 659	6 437	76%
	Livestock	1 732	854	3 988	367%
	SLM	186	45	1 186	2 535%

Source: NARO/ ZARDI reports, 2017.

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IFAD

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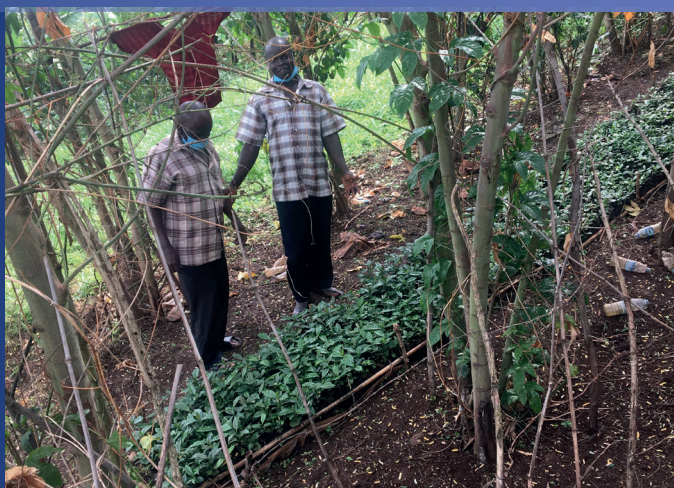
Development agencies

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Independent Office of Evaluation
International Fund for Agricultural Development
Via Paolo di Dono, 44 - 00142 Rome, Italy
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