

**Performance Evaluation of the New Alliance
Information and Communication Technologies
Agriculture Extension Challenge Fund**

Final Report

February 2019



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List of acronyms

AGRA	Alliance for a Green Revolution in Africa
AOR	Agreement Officer Representative
B2BC	Business to business to consumer model
BMGF	The Bill and Melinda Gates Foundation
CAADP	Comprehensive African Agriculture Development Programme
CABI	Centre for Agriculture and Biosciences International
CADECOM	Catholic Development Commission in Malawi
CF	Challenge Fund
COR	Contracting Officer Representative
CRS	Catholic Relief Services
DFID	Department for International Development
DG	Digital Green
DQA	Data Quality Audit
EM	Evaluation Matrix
EMM	Extensão Multimédia
EQ	Evaluation Question
ET	Evaluation Team
FAO	Food and Agriculture Organisation
FRI	Farm Radio International
GDD	Gender Disaggregated Data
GSMA	Global System for Mobile Communications
HNI	Human Networks International
IBTCI	International Business & Technical Consultants, Inc.
ICT	Information and Communication Technology
ICT4D	ICT for Development
IDRC	International Development Research Council
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IP	Impact Pathway
IVR	Interactive Voice Response

M&E	Monitoring and Evaluation
MEL	Monitoring, Evaluation and Learning
MIVARF	Marketing Infrastructure, Value Addition and Rural Finance Support Programme
MODES	Modernisation of Demand-driven Extension Services
NA	New Alliance for Food Security and Nutrition
NA-ICT CF	New Alliance ICT Challenge Fund
NGOs	Non-governmental Organisations
OECD	Organisation for Economic Co-operation and Development's
PASS	Program for Africa's Seed System
PIRS	Performance Indicators Reference Sheets
PPP	Public-private partnership
PS	Private Sector
RAS	Rural Advisory Service
SHA	Self Help Africa
SMS	Short Message Service
SSA	Sub-Saharan Africa
SSTP	Scaling Seeds and other Technologies Partnership
TICmbay	TIC is the French acronym for information and communication technologies (ICT in English) and "mbay" is the word for agriculture in Wolof
ToC	Theory of Change
ToRs	Terms of Reference
UPTAKE	Upscaling Technologies in Agriculture through Knowledge Extension
UCSC	University of California, Santa Cruz
USAID	United States Agency for International Development
USD	United States Dollars
USSD	Unstructured supplementary service data
VfM	Value for Money

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Through the grantees, the ET would like to thank all the other stakeholders in-country who took time out for interviews and focus group discussions. In addition to donors, grantees and other stakeholders in-country, the ET would like to thank others connected with the NA-ICT CF who also allowed time for being interviewed, including the Chief of Party for the Scaling Seeds and Technologies Programme (SSTP), former DFID and USAID staff that were involved in the Challenge Fund during its design/early days, and those involved with implementing and evaluating DFID's mNutrition programme. Last but not least the ET would like to thank the Monitoring, Evaluation and Learning (MEL) contractor not only for taking time to be interviewed several times, but also for compiling and sharing with the ET many relevant documents for the evaluation.

Executive summary

This report is an output of the *Performance Evaluation of the New Alliance Information and Communication Technologies Agriculture Extension Challenge Fund (NA-ICT CF)*. Landell Mills is carrying out this evaluation, commissioned by the United Kingdom's Department for International Development (DFID), under contract PO 8151.

The NA-ICT CF aimed, at impact level, to improve agricultural productivity in selected food crops by smallholder farmers in six countries: Ethiopia, Ghana, Malawi, Mozambique, Senegal and Tanzania. The programme's envisaged outcome was that new knowledge and practices be applied by one million smallholder men and women farmers with access to financially sustainable ICT-enabled extension in the six countries. It coordinated within the wider context of the Scaling Seeds and Technologies Programme (SSTP) – a five-year, USD 47 million partnership between USAID and Alliance for a Green Revolution in Africa (AGRA) which aimed, in part, to increase the availability of new varieties of key food crops and technologies in the same six targeted countries. The NA-ICT CF design involved the development of a results framework (by the United States Agency for International Development, USAID) and a Theory of Change (ToC) (by DFID). Implementation grants were awarded on a country-by-country basis through a competitive process to consortia that were mostly made up of non-governmental organisations (NGOs). An independent monitoring and learning (MEL) provider was appointed to provide MEL services to the programme. The NA-ICT CF involved promotion of the use of ICT-enabled channels that complement non-ICT-based agricultural extension delivered by public and private sectors.

The purpose of the evaluation was twofold. For accountability purposes, the evaluation assessed the progress of the NA-ICT CF (or "programme") with respect to its two outcomes: (a) increased use of quality inputs and improved technologies by smallholder farmers, and (b) increased financially sustainable ICT-enabled services to complement other extension services. For learning purposes, the evaluation sought to gain insights, within the context of the NA-ICT CF, on what does and does not work in scaling up ICT-enabled extension approaches through working with the public and private sectors.

Target audiences for the evaluation include the four donors of the NA-ICT CF (USAID, DFID, International Fund for Agricultural Development or IFAD, and the Bill and Melinda Gates Foundation or BMGF) and a wider audience, including governments, private sector bodies, ICT industry stakeholders, and NGOs that were either involved in the NA-ICT CF itself, or that might have an interest in supporting and/or providing ICT-enabled extension services in the future.

The evaluation ran from September 2017 until February 2019, with a further dissemination phase to be completed by early May 2019. The evaluation team (ET) had five core members who had no previous connection with the Challenge Fund (CF) and, overall, the Terms of Reference (ToRs) were followed.

The evaluation approach, methodology and limitations are covered in Section 2. Eighteen evaluation questions (EQs) and an evaluation matrix (EM) guided the evaluation, using a theory-based approach. To this end a ToC workshop was held in the inception phase with donors and the MEL contractor to develop a ToC as a basis for the evaluation. This ToC had three impact pathways (IPs): IP1 concerns application of new technologies by farmers; IP2 financial sustainability; and IP3 evidence. A mixed methods approach was used for data collection, which drew largely on secondary data. Eight qualitative methods were used, including document review, data quality audit (DQA), key informant interviews, focus group discussions, ToC approaches including assessment of causal pathways using contribution analysis, country case studies, and comparative analysis. Quantitative methods included analysis of all data reported against indicators, and available data

for the Value for Money (VfM) analysis. Visits were made to three of the six countries. The main cross-cutting issue addressed was gender.

The evaluation faced some limitations, but most did not affect the quality of the evaluation. Those that did were the variable quality and consistency of the data gathered by the grantees and the lack of monitoring data on costs related to outputs and outcomes, which limited the viable scope of the VfM analysis. The evaluation team mitigated these challenges by conducting a DQA, triangulating data from multiple sources, and maximising the use and analysis of available data.

The evaluation provides findings related to each of the following criteria: relevance, outputs, VfM, progress towards outcomes and impact, and sustainability,¹ as summarised below and detailed in Section 3.

Relevance. As noted in section 3.1, the ET assesses the NA-ICT CF as being relevant on several grounds. The programme was well aligned with both donor and country-level agricultural development policies. The programme was in keeping with the type of agricultural extension provision in each of the six countries and was in line with the ICT context at national levels. Demand for radio was high across all countries compared with demand for mobile-based services, although the latter has potential to grow as mobile phone ownership and use increase. Five key findings on the design of the CF were identified:

1. The selected varieties and technologies that were being promoted by the SSTP were based on national priorities and were all key crops for each country.
2. There were management challenges due to the set-up of the consortium, which involved an alliance of four donors (responding to calls at a 2012 G8 summit, leading to the establishment of the New Alliance for Food Security and Nutrition (NA)).
3. Governance arrangements for the CF were satisfactory, though weakened when the initial contracting officer representative (COR) left USAID and management responsibilities were dispersed across eight USAID staff.
4. Design did allow for good collaboration with key stakeholders at country level, although the collaboration between SSTP and the MEL contractor in terms of monitoring was weak, and linkages with other similar programmes occurred only when the NA-ICT grantees were also working on these other programmes.
5. In terms of design, findings are that gender was not seen as a priority. Grantees did not perceive it as a priority for the donors, SSTP was not focused on gender, and most of the crops being promoted by SSTP were “men’s” crops.

The multi-donor nature of the programme also led to some challenges in relation to the different reporting requirements and cycles of each donor. Other negative factors were the late appointment of the MEL contractor, and the overall challenge of running the CF as a separate “add-on” project to SSTP, all of which had implications for the efficient running of the CF.

Outputs (discussed in section 3.2). Three of the four outputs in the ToC are covered here: **Output 1:** Agronomic extension provided to smallholder farmers via ICT-enabled services; **Output 2** (which in practice precedes Output 1): Improved content adapted to specific needs, context and available ICT channels; and **Output 4:** Development of high-quality evidence on cost-effectiveness and impact of ICT-enabled services.² There were Performance Indicator Reference Sheet (PIRS)³

¹ These are derived from the Organisation for Economic Co-operation and Development's (OECD) Development Assistance Committee (DAC) criteria.

² Output 3: Financially sustainable ICT enabled extension services operating and integrated with non-ICT extension services, is covered under the Sustainability evaluation criterion.

³ The PIRS constitute the programme's main monitoring tool.

indicators for Output 1 only. All grantees were able to achieve Output 1: Agronomic extension provided to smallholder farmers via ICT-enabled services. The NA-ICT CF exceeded its targets in relation to this Output, both in terms of access to ICT-enabled extension (measured by PIRS indicator 1.1) and use of ICT-enabled extension (measured by PIRS indicator 1.2) across the programme as a whole. The actual achievement of indicator 1.1 (*access to ICT-enabled extension*) was 173% of the target of 5.2 million farmers and, for *use of ICT-enabled extension* (indicator 1.2), it was 134% of the target of 2.6 million farmers. The evaluation anticipates an increase in these figures as the programme draws to a close in December 2018 (Tanzania), February 2019 (Mozambique) and March 2019 (Senegal). However, this high attainment could have been caused in part by low target setting. Men had more access to ICT-enabled extension than women: 67% of the farmers with access were men and 33% were women. This was similar for the use of ICT-enabled extension. Two of the grantees, EMM and TICmbay, were able to reach more women compared to others.

The evaluation also found that the content development process (Output 2) was well developed in all countries. Content was aligned with SSTP and government policies, adapted to local needs and channels, and followed a participatory process. The findings at output level are confirmed for impact pathway 1 (IP1) by the re-evaluation of the ToC as detailed in Annex 6, and by the contribution stories from three of the six countries (Annex 7).

The CF did less well in terms of development of high-quality evidence (Output 4). The MEL contractor was contracted late, while monitoring and evaluation (M&E) processes were already (partly) developed by grantees. The focus was on developing PIRS to report on results to USAID, and less time was invested in establishing a conducive learning environment to share experiences beyond basic learning. Evidence regarding cost-effectiveness and impact was minimal, despite IP3's output (4) being high-quality evidence on (cost) effectiveness and impact of ICT-enabled services. It should also be noted that, even if efforts had been made to collect evidence on impact, this may not have been strong given the short time period (2–3 years) that the CF ran in each country.

Value for Money. The ET has mixed findings for VfM concerning the CF's economy, efficiency, effectiveness and equity, and as per the DFID business case VfM proposition. The M&E systems and the financial accounting systems of the grantees were not aligned with each other. The financial data provided was incomplete, with insufficient detail to link cost data to outputs and outcomes. VfM as an approach was not embedded within the design of the programme and was thus difficult to measure retrospectively. This limitation was discussed with DFID mid-2018 and it was agreed that the ET would endeavour to carry out a limited and partial VfM at country level for those countries where sufficient information exists. VfM is covered in section 3.3 and, in Annex 9, a more detailed analysis is presented, based on data gathered by the ET from grantees. The NA-ICT CF programme developed a results framework with PIRS indicators. These indicators were developed as comparative measurements of programme achievements between grantees internally. The ET assessed that the countries used their funding well in terms of **efficiency** in achieving outputs and **effectiveness** in achieving outcomes because, at programme level, all targets of the PIRS indicators were met with the funds received. There were no cost-effectiveness nor impact indicators measured by the grantees. Findings on **economy**, however, revealed weaknesses. Grantees were selected using a competitive process, but accountability and VfM were not prominent considerations in finalising agreements. Therefore, data on competitive procurement, cost savings and actual expenditure were not available to assess how the grantees considered and managed costs. Where economy measures may have been taken by grantees, this was not captured in reporting. The ET assessed **equity** findings to be weaker as well, with women having more limited access to ICT-enabled services than men, as a result of socio-economic factors and choice of crops and technologies under SSTP.

Progress towards outcomes and impact criterion (covered in section 3.4). The NA-ICT CF has achieved Outcome 1: “Increased use of quality inputs and improved technologies by men and women smallholder farmers”. It has exceeded its targets at the outcome level, as per the findings for *application of new technologies and best practices* (indicators 1.3) and *number of hectares under improved technologies* (indicator 1.4) across the programme as a whole. While, there was in fact a great deal of variation between grantees in relation to actuals versus targets for hectares (1.4), with four out of the six grantees underachieving to date, the ET considers indicator *application of technologies and best practices* (1.3) to be stronger. Actual achievement of indicator 1.3 was 183%⁴ and will increase as the programme nears its completion. Application of technologies and best practices by women as compared to men was good in four of the six countries, given existing gender constraints and the focus of the SSTP-supported crops. The evaluation found that key factors contributing to application are trust, availability of inputs, the market context including the market for outputs, and the promise of either or both better yields or better climate resilience. Annex 9 contains more detailed country-level discussion of outcome indicators 1.3 and 1.4. With regard to the NA-ICT CF impact “Improved agricultural productivity in targeted food crops by smallholder farmers in 6 NA-ICT countries in Africa”, neither the NA-ICT CF nor SSTP measured this. While case-based examples and indirect evidence of higher yields exist, there is no robust evidence on this. The findings at outcome and impact level are confirmed by the evaluation of the ToC for impact pathway 1 (IP1) as detailed in Annex 6 section 1.3, and by the contribution stories from three of the six countries (Annex 7). The articulation of the ToC for IP1 is assessed as being accurate. Although the contribution stories for all three countries are strong at the output level (as discussed in the section 3.2), they are medium at outcome level and weak at impact level. This is due not only to the lack of evidence at impact level, but because many other factors influence productivity aside from the ICT-enabled extension channels. Last, findings on which ICT-enabled extension channels, and combinations of ICT-enabled extension channels, were the most effective in achieving results across the grantees, were that, while radio is the most cost-effective ICT-enabled extension channel, video (in particular) followed by mobile-based extension led to greater application rates by those using these channels. The key findings are that ICT-enabled channels can work together and reinforce each other, and that these work best in combination with traditional extension.

Sustainability (see section 3.5) The NA-ICT CF looked at sustainability from the viewpoint of financial sustainability and operational sustainability. Financial sustainability⁵ is likely to remain a challenge once the CF stops, at least in some of the countries. The ET is confident that operational sustainability⁶ will be achieved by the grantees. In terms of financial sustainability, the grantees did commit to leveraging of NA-ICT funding with non-donor sources, although the ET did not have sufficient data on actual contributions from all grantees to assess if all commitments were achieved. The grantees were all NGOs, they focused on delivering the service and building government/radio station capacities first to replicate, scale up⁷ and achieve operational sustainability. Most grantees did not secure buy-in from government or a company as a scale-up agent from the start of NA-ICT CF, except for Digital Integration in Ethiopia, who secured government buy-in and could scale up with additional BMGF funding. AgroTech in Ghana managed to secure funding from another donor to scale up AgroTech to more extension agents and to fine tune their business model. EMM,

⁴ Even if indicator 1.3 is corrected for MODES and EMM the performance was still at 144% of target (see 2.5 for more details on outlier data).

⁵ Financial sustainability is defined by the ET as the ability to cover all cost of the ICT enabled service without donor-support after the end of the contract.

⁶ Operational sustainability is defined by the ET as the capacity to continue to operate the ICT enabled services to farmers after the end of the contract.

⁷ Scale up is seen by the ET the ability to grow the ICT enabled extension service beyond the population reached during the NA-ICT CF.

TICmbay and UPTAKE are still in implementation. Jokalante, the social enterprise established by the grantees in Senegal, is able to attract contracts for their services, but still needs time to become fully financially sustainable. In the long run, post-CF, the ET sees a challenge regarding ongoing supply of relevant messages where there are no ongoing funds to support the content development process.

From the findings, the evaluation team drew out, in Section 4, key lessons relevant to donors, MEL contractors and practitioners, related to seven topics: 1) programme design; 2) monitoring, evaluation and learning (MEL); 3) content development for ICT-enabled extension; 4) combining ICT channels with traditional extension; 5) gender; 6) sustainability and; 7) the need for capacity building. The findings and lessons derived from these informed the recommendations of this evaluation.

The recommendations (as discussed in Section 5) are as follows:

For donors to strengthen design and implementation of new agriculture programmes, the following are recommended:

- Mainstream ICT-enabled extension into programme design.
- Contract the MEL provider at the same time as the implementation partner/s.
- If donors agree at the design stage that they will be requiring VfM and/or impact evidence, then build that into the design, budget and ToRs of the MEL contractor.
- Tailor invitations for bids to ensure the best combination of partners for future sustainability of the programme.
- When designing agricultural programmes that will be mainly implemented in rain-fed areas, seek to fund these for a minimum of five years, to allow for capacity building, impact and sustainability.
- Be more specific about how implementation partners are expected to address cross-cutting issues, for example gender, within the context of the specific focus of the programme and its cultural context/s.

For MEL contractors to ensure an efficient and effective MEL system to report on performance and support lesson learning, the following recommendations are proposed:

- Where contracted to provide MEL for a multi-country programme, establish common indicators at the beginning of the programme, with shared definitions, and create data collection tools in collaboration with the implementation partners in the countries concerned.
- If the donor requires measurement of VfM, impact or specific cross-cutting issues, this should be built into the MEL plan, results framework and indicators, in collaboration with the implementation partners. Related to VfM, ensure a good alignment between the MEL framework and the programme's financial systems which will need to capture expenditure data related to outputs and outcomes.
- Assess level of M&E capacity of implementation partners at the beginning of the programme and build in space to build capacity if needed, e.g., in monitoring VfM and/or impact.
- Regarding the learning component of MEL, for knowledge sharing and learning to take place, invest in building trust and communication between implementation partners right from the start of implementation, ideally in a face-to-face context.

For implementation partners (practitioners) to strengthen impact and sustainability, the following are recommended:

- When supporting ICT-enabled extension content development and validation processes, ensure that these involve all relevant stakeholders, and ensure space for development of dynamic

content (to respond to sudden information needs in response for example to particular pest and disease infestations).

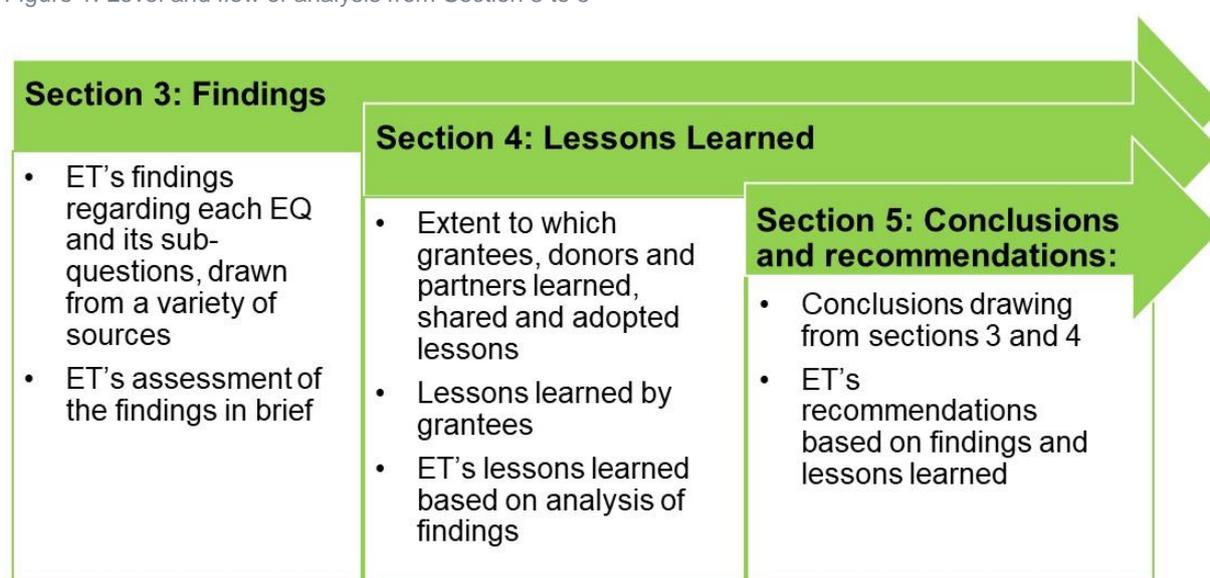
- When using ICT-enabled channels, use local languages and ensure that the content is developed in a timely manner and is tailored to, and tested for, each ICT channel in use. When considering which ICT channels to use, identify the costs of each, the strengths of each, and how they can complement each other and reinforce extension communication.
- During both design and ongoing implementation, consider how best ICT-enabled extension and any existing traditional extension can be synchronised to reinforce messages, build trust and create synergy. Engage with extension agents in the locality, whether they are government, private sector and/or NGO, inform them of the ICT-enabled extension component of the project and build ongoing communication with them.
- Ensure that ICT-enabled extension draws on “trusted” voices (e.g. of cooperative leaders, researchers, extension staff, lead farmers) and takes gender into account by carrying out landscape analysis to find out which ICT channels women have access to, using women’s (farmers, broadcasters) voices; and, where female smallholders have limited access to certain ICT channels, draw on community/radio listening clubs.
- When bidding to engage in an ICT-enabled extension programme, build in a sustainability plan, particularly if the organisation bidding is an NGO, although sustainability may require long-term ownership by the private sector or social enterprise.

The evaluation concludes that the programme did reach its targets in terms of increased use of quality inputs and improved technology use by smallholder farmers but is less likely, in terms of increased financially sustainable ICT-enabled services, to complement other extension services. Performance was rated as fair to good overall, with the greatest achievements relating to reaching access and application targets, and lowest achievement in terms of the availability of high-quality evidence, and no evidence on impact level (i.e. increased productivity) as this was not measured. Learning and best practice arising from this evaluation regarding (a) content development for ICT-enabled channels; and (b) use of ICT-enabled channels either alone, in combination with other ICT-enabled channel, and combined with traditional extension services, can provide useful guidance for donors and practitioners interested in supporting, designing and using ICT-enabled channels.

1 Introduction

This report is an output of the *Performance Evaluation of the New Alliance Information and Communication Technologies Agriculture Extension Challenge Fund (NA-ICT CF)*. Landell Mills is carrying out this evaluation, which was commissioned by the UK's Department for International Development (DFID). The report has five sections. Section 1 introduces the NA-ICT CF and discusses its context. It also discusses the purpose, scope and objectives of the evaluation, and describes the evaluation phases and the team composition. Section 2 addresses the evaluation approach, methodology and limitations. Section 3 presents findings against each of **relevance, outputs, VfM, progress towards outcomes and impact, and sustainability. Findings for lessons and linkages** have been integrated into different sections of the report. Those for linkages are incorporated into the findings on relevance in Section 3. Those for lessons are included in Section 4 which covers lessons learned. The final Section provides conclusions and recommendations. The flow chart below indicates the level of analysis in each of Sections 3 to 5 and how each feeds into the next.

Figure 1: Level and flow of analysis from Section 3 to 5



1.1 Introduction to the NA-ICT CF

At the 2012 Group of Eight (G8) industrialised nations meeting at Camp David, G8 and African leaders launched the New Alliance for Food Security and Nutrition to accelerate agricultural growth and productivity. The New Alliance agreed to support four integrated enabling actions aimed at significantly improving agricultural productivity. One of these was the Information and Communication Technologies (ICT) Extension Challenge Fund (NA-ICT CF) and a second, related, one was the Scaling Seeds and Technologies Programme (SSTP). The NA-ICT CF was launched at the Second Global Conference on Agricultural Research for Development meeting in Punta del Este, Uruguay at the end of October 2012.⁸

The NA-ICT CF aimed, at impact level, to improve agricultural productivity in selected food crops by smallholder farmers in the six countries. The programme's envisaged outcome was that new knowledge and practices be applied by one million smallholder men and women farmers with access to financially sustainable ICT-enabled extension in the six countries. Gender was the main

⁸ CABI working paper 10, Mobile landscape analysis: Tanzania. December 2017, p. 10.

cross-cutting issue given attention to by the NA-ICT CF. The NA-ICT CF design involved the development of a results framework (by USAID with the MEL contractor and grantees) and an outline Theory of Change (ToC) (by DFID).⁹

Implementation grants were awarded on a country-by-country basis through a competitive process to consortia that were mostly made up of NGOs. An independent monitoring and learning provider (International Business & Technical Consultants, Inc or IBTCI),¹⁰ was appointed to provide monitoring and learning services to the programme. Table 1 below provides details of the grantees, main activities, budget and start and end dates. Note that, for ease of understanding, where grantees in specific countries are referred to in this report, they are referred to by their project name rather than by the name of the lead grantee. Project names are listed in Table 1.

Table 1: Summary of grants supported by the NA-ICT CF

Country and project	Grantees/sub-grantees	Main activities	Budget	Start and end date
Ethiopia "Digital integration"	Digital Green, Farm Radio International, Awaaz, De DiMagi	A combination of participatory radio; low-cost video; interactive voice response (IVR) with short message service (SMS option) extension services integrated with government extension services	\$1,700,000	30/09/14 to 31/12/17
Ghana "AgroTech"	Grameen Foundation, Digital Green (DG), Farm Radio International (FRI)	Services are a mix of a digital application (Grameen Foundation) for extension agents connected to farm aggregators in North Ghana, participatory radio (FRI) and low-cost video (DG) on extension agents' devices and a savings option for inputs linked to agents and financial institution (InterPay)	\$1,699,951	30/09/14 to 31/01/17
Malawi "MODES"	Catholic Relief Services (CRS), Self Help Africa (SHA), Human Networks International (HNI), Mzuzu Catholic Development Commission in Malawi CADECOM (Airtel is partner of HNI, but no funding from grantee, nor HNI)	A mix of IVR, SMS (with Airtel) services and participatory radio extension services	\$1,682,838	30/09/14 to 30/09/17
Mozambique "Extensão Multimédia" (EMM)	National Cooperative Business Association: Cooperative League of the USA (CLUSA) with HNI and FRI	Offering a mix of IVR (with Vodafone) (voice and SMS) + FRI's participatory radio programmes	\$1,700,000	12/02/16 to 30/02/19

⁹ The DFID outline ToC can be found in Annex 1 (Performance Evaluation ToRs) page 20. The USAID Results Framework had two objectives: (1) Increased use of quality inputs and improved technologies by smallholder farmers; and (2) Increased financially sustainable ICT-enabled services to complement other extension services. These equate to the two outcomes in the ToC developed for the evaluation and discussed in Chapter 2.

¹⁰ Henceforth referred to as the MEL contractor.

Country and project	Grantees/sub-grantees	Main activities	Budget	Start and end date
Senegal “TICmbay”	Concern Universal (now United Purpose) with SB Conseil, Practical Action, UC Davis, Aide au Développement Gembloux (ADG)	Uses mix of radio programmes and related mobile services (IVR / SMS) (with Orange / Sonatel) managed by a social enterprise (Jokolante) and provided via cooperatives and radio stations as customers	\$1,698,019	25/03/15 to 25/03/19
Tanzania “Upscaling Technologies in Agriculture through Knowledge Extension” (UPTAKE)	FRI and Centre for Agriculture and Biosciences International (CABI)	A mix of participatory radio extension service and an integration of mobile tools to tie farmers to radio stations	\$1,500,000	01/11/15 to 31/12/18
MEL contractor	IBTCI	Monitoring and learning (MEL) services	\$804,347	08/03/15 to 30/09/18

Source: Adapted from Annex 1, ToR

Monitoring indicators developed by the MEL contractor in collaboration with USAID and the grantees, are listed in Annex 1, pages 18–19, and summarised below:¹¹

- Indicator 1.1: Numbers of smallholder farmers with access to the ICT-enabled services.
- Indicator 1.2: Numbers of smallholder farmers using ICT-enabled services.
- Indicator 1.3: Number of smallholder farmers and others who have applied improved technologies or management practices as a result of United States government (in this case NA-ICT CF) assistance.
- Indicator 1.4: Number of hectares under improved technologies or management practices as a result of United States government (in this case NA-ICT CF) assistance.
- Indicator 2.1: Percentage of costs of ICT-enabled services covered by non-donor sources.

How these indicators (commonly referred to as the Performance Indicator Reference Sheets (PIRS) indicators), relate to the ToC developed for the evaluation, is explained in Section 2, section 2.2.1.

The NA-ICT CF involved promotion of the use of different ICT tools and channels that complement non-ICT-based agricultural extension approaches delivered by public and private sectors. It was intended that this support to the improvement and expansion of ICT-enabled extension services to large numbers of farmers would be provided through sustainable business models. Hence, services were meant to be sustainable to the greatest extent possible without ongoing NA-ICT CF funding, and remain operational beyond the three-year grant period. Figure 2 below shows the different channels deployed by grantees in each of the countries.

¹¹ Indicators 1.1–1.4 relate to Objective 1 in the USAID Results Framework. Indicator 2.1 relates to Objective 2 in the USAID Results Framework.

Figure 2: Overview of channel use

Grantee	Radio	SMS	IVR	USSD	Video	App
Digital Integration (Ethiopia)	✓		✓		✓	
AgroTech (Ghana)	✓		✓		✓	✓
MODES (Malawi)	✓	✓	✓		✓	
EMM (Mozambique)	✓	✓	✓	✓		
TICmbay (Senegal)	✓		✓			
UPTAKE (Tanzania)	✓	✓	✓			

1.2 Context

There is an increasing need for smallholder farmers to access information in a context in which traditional extension services are stretched, and climate change is already impacting on farmers' livelihoods. At the same time, there are increasing opportunities and efforts to reach smallholder farmers through ICT-enabled extension.¹² All six countries have made commitments under the Comprehensive African Agriculture Development Programme (CAADP), which the Alliance for a Green Revolution in Africa (AGRA) sought to support through the SSTP. The latter was a five-year, USD 47 million partnership between USAID and AGRA. SSTP aimed, in part, to increase the availability of new varieties of key food crops and technologies in the same six countries targeted by the NA-ICT CF.¹³ The multi-donor, USD 12 million NA-ICT CF was designed to assist in disseminating information on these to the SSTP-targeted smallholder farmers.

Evaluation question (EQ) 1 looked specifically at how well the programme was aligned with DFID and other donor policies, country-level agricultural development policy and extension provision, as well as with the national ICT context. Findings regarding the global (donor), regional and national agriculture policy, extension and ICT context can be found in section 3.1.

As noted in the evaluation ToRs (Annex 1), ICT offers great potential to address some of the problems of inefficient agriculture advisory systems because of the huge improvements worldwide in affordable and accessible telecom services. ICT-enabled solutions have become important in improving services due to the poor infrastructure and services in place. Over the past years, there have been several efforts to design and implement ICT-enabled advisory services by NGOs, businesses, governments and public-private partnerships. Most of these have not yet gone to scale¹⁴ and tend to focus on one particular type of ICT such as mobile phone-based messages or low-cost video. There is an increased interest in combining various ICT-enabled channels to support more effective information delivery and exchange by using a wider range of communication channels best suited to different target audiences and by packaging information in various ways depending on content, purpose and audience.

¹² For example, DFID is funding the £20 million mNutrition programme which seeks to avail mobile-phone based information health, nutrition and agricultural-based information services to poor farmers.

¹³ The term "scaling" in the context of SSTP, means increasing the availability of crops and technologies, not scaling out their use.

¹⁴ The ET defines scale within the context of NA-ICT as the ability to continue ICT enabled services beyond NA-ICT CF to a population beyond the population reached during NA-ICT CF.

1.3 Purpose, scope and objectives of the evaluation

The specific focus of the evaluation was, according to the ToRs (see Annex 1), to provide a rigorous and independent assessment of the quality and relevance of the range of interventions undertaken by the programme and the extent to which it has helped smallholder farmers improve agricultural productivity. The purpose of the evaluation was twofold. For accountability purposes, the evaluation assessed the progress of the New Alliance ICT Agricultural Extension Challenge Fund (NA-ICT CF or “programme”) with respect to its two outcomes: (a) increased use of quality inputs and improved technologies by smallholder farmers;¹⁵ and (b) increased financially sustainable ICT-enabled services to complement other extension services. For learning purposes, the evaluation sought to gain insights, within the context of the NA-ICT countries in sub-Saharan Africa (SSA), on what does and does not work in scaling up ICT-enabled extension approaches, through working with both the public and private sectors. It also sought to learn lessons on how ICT-enabled extension services can be financially sustainable.

Target audiences for the evaluation, as per the ToRs, include the four donors of the NA-ICT CF (USAID, DFID, IFAD and the Bill and Melinda Gates Foundation or BMGF), and a wider audience, including those governments, private sector bodies, ICT industry stakeholders, and NGOs that engaged in the project, or would in future be interested in considering providing support to, and/or designing and implementing, ICT-enabled extension services.

The evaluation was comparative in that it assessed progress across all six NA-ICT CF countries: Ethiopia, Ghana, Malawi, Mozambique, Senegal and Tanzania. The NA-ICT CF, while being assessed as a separate programme, was in fact an “add-on” programme to the NA’s SSTP and was therefore evaluated within this context. The temporal scope of this evaluation was from July 2014, when the NA-ICT CF started, to the end of June 2018.¹⁶ Nonetheless, where information is available about those countries that are still implementing the project beyond June 2018 (Mozambique, Tanzania and Senegal), that information is also taken into account.

1.4 Evaluation phases

The inception phase ran from September to December 2017. The implementation phase started in January 2018 and will run through to early February 2019. An interim presentation of preliminary findings was given to the donor group in June 2018. Data collection ceased in September this same year, after the April to June 2018 reports were made available to the ET. A data quality audit was conducted in September and October 2018, and the draft final report prepared between August and November 2018. Revisions to the report were made in January and February 2019 based on feedback from DFID, DFID’s quality assurance provider, and BMGF. The dissemination phase is due to take place in April to early-May 2019 with an internal seminar in DFID and a virtual presentation to, and discussion with, the donors and grantees.

The team composition is indicated in the box below.

¹⁵ DFID set a target of 1 million for this objective/outcome, as indicated in the TORs and in 2016 and 2017 donor coordination committee PowerPoint presentations. However, the NA-ICT CF did not explicitly define what was intended for scaling up either in relation to this objective or the second objective; increased financially sustainable ICT-enabled services to complement other extension services. In terms of ambitions for scaling up and reach for both objectives, the relatively low level of funding and short time-frame of the CF should be kept in mind.

¹⁶ To coincide with the availability of April to June 2018 quarterly reports from grantees (the next quarter reports being too late for the ET to include).

Box 1 – Evaluation team composition

Landell Mills appointed a core team of five experts: Dr Rachel Percy (Team Leader and agricultural extension expert), Martine Koopman (ICT for Agriculture or ICT4Ag expert), and Dr David Toomey (VfM expert) with support from Landell Mills' in-house staff, Eunica Aure (Senior Evaluation Expert who also served as Project Manager), Diletta Carmi (Junior Evaluation Expert and Project Coordinator) and Ellie McGovern (Research Assistant) who provided support to the DQA. Two national consultants joined the team for two country visits: Dr Bezabih Emana in Ethiopia, and Elisabetta Demartis in Senegal. Additional technical support was provided by Valerie McDonnell-Lenoach, an independent MEL expert. During implementation, the allocation of tasks pertaining to the VfM analysis were changed in that the VfM expert engaged with the initial communications with grantees regarding VfM, data gathering and preliminary assessment of the data available for the VfM analysis, and the drafting of a VfM guidance to donors for future programming, while the VfM analysis itself was performed by the ICT4Agr expert. This was due to time constraints and efficiency reasons, linked to the temporary unavailability of the VfM expert to work on the VfM analysis for personal reasons. The evaluation team were able to work independently and without interference or bias. The report is presented with the unanimous support of the entire team.

2 Evaluation approach, methodology and limitations

2.1 Evaluation questions (EQs) and matrix (EM)

Six evaluation criteria were used, in line with the ToR requirements. The first five are similar to the standard Organisation for Economic Co-operation and Development (OECD) criteria and were: relevance, outputs and results, VfM, progress towards outcomes, and impact and sustainability. The sixth criterion proposed by the ToR, and included in the evaluation matrix (EM), was lessons and linkages.

Eighteen evaluation questions (EQs) were developed, with a number of indicative areas to explore (or sub-questions) under each. A full and comprehensive EM was developed in the inception phase and is included in this report as Annex 5. The EM served as a guide to the team throughout the implementation phase. The first part of Annex 4, which outlines the methodology, discusses how the EQs were refined from those in the ToRs and how the EM was developed.

2.2 Evaluation design

2.2.1 Theory-based evaluation

The following, taken from guidelines on using ToC for impact evaluations, explains in part how the ET used the ToC for this evaluation: “*The evaluation team should review and revise the ToC as part of an inception report for the evaluation, including using it as a source for reviewing the evaluation questions and developing or reviewing the planned research design and methods of data collection and analysis – and then use it a conceptual framework for analysing and reporting the data*” (Rogers, 2014:5).¹⁷ To take a theory-based approach it was necessary for the ET to comprehend the donor, MEL contractor, and grantees’ understanding of the programme’s ToC. A ToC “*takes a wide view of desired change, carefully probing the assumptions behind each step in what may be a long and complex process. Articulating a ToC often entails thinking through all the steps along a path towards a desired change, identifying the preconditions that will enable (and possibly inhibit) each step, listing the activities that will produce these conditions, and explaining why those activities are likely to work*” (Grantcraft, n. d.)¹⁸

A theory-based approach underpinned the methods used (see section 1.2 of Annex 6). This was chosen for the following reasons:

- There were multiple assumptions and contextual underpinnings to test.
- The evidence base on which the relationship between the ICT-enabled service and improved uptake of technology, and between the latter and improved agricultural productivity in SSA was limited. A ToC approach could unpack the complexities surrounding this relationship, ensuring that the contribution of the NA-ICT CF could be assessed.
- The changes that occurred among small-scale farmers’ agricultural practices may or may not have resulted from the NA-ICT CF, and ruling out alternative explanations to establish contribution is important.

¹⁷ Rogers, P. (2014). Theory of Change, Methodological Briefs: Impact Evaluation 2, UNICEF Office of Research, Florence.

¹⁸ Grant Craft. [Mapping change: Using a ToC to guide planning and evaluation](#).

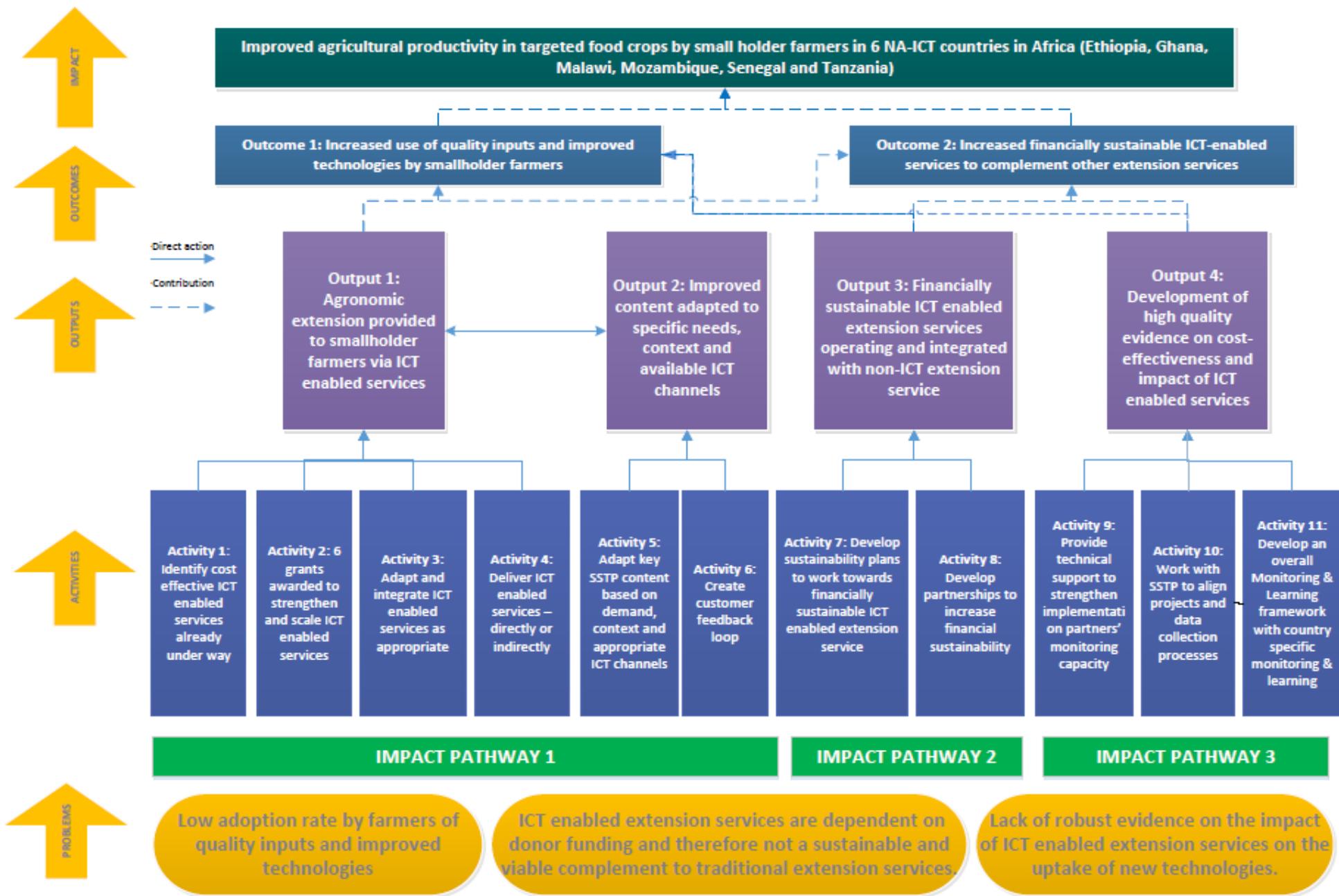
- There may have been unintended consequences, positive and negative, and the explanatory causes for such an unexpected turn in the trajectory of change must be taken account of.
- There were innovative features to the NA-ICT CF, and a theory-based evaluation allowed for the validity of the links supporting the ToC to be tested to see if they hold on the ground and whether other determining or causal factors contribute to or undermine the achievement of the intended objectives.

At the time of starting this evaluation, USAID had already developed a Results Framework and DFID an outline ToC. During the inception phase the ET pulled together a draft ToC from these and other sources and held a three-hour workshop with the donor group and the MEL contractor to discuss and validate the ToC for the programme as a whole. This served as a springboard for the country-level ToC workshops that were held in the three countries visited. Furthermore, it informed the development of checklists for key informant interviews with stakeholders in all six countries (as well as for higher-level interviews), and the application of contribution analysis to assess performance in the visited countries. Annex 6 on the elaborated ToC and its use in the evaluation provides: (a) the elaborated ToC including a detailed description of each of the three impact pathways and the assumptions behind them; (b) a description of how it was used; and (c) a re-examination of output to outcome, and outcome to impact assumptions for each of the three impact pathways (IPs) in the ToC in the light of evaluation findings. Figure 3 below provides the overall ToC that was developed with the donor group and the MEL contractor during the inception phase. The ToC recognises three problems that are related to three IPs, which lead to four outputs, two outcomes and one impact, derived from the USAID Results Framework and the original DFID ToC (See Annex 1). The first pathway concerns increasing smallholder farmer application of new technologies and best practices. The second pathway concerns seeking financially sustainable means of providing ICT-enabled extension services, and the third pathway concerns the building of the evidence base. The CF indicators correspond with the ToC as follows:

- Indicators 1.1 (*number of farmers with access to ICT-enabled services*) and 1.2 (*number of farmers using ICT-enabled services*) are output level indicators and relate to Impact pathway (IP) 1, Output 1.
- Indicators 1.3 (*number of farmers who have applied improved technologies or management practices*) and 1.4 (*number of hectares of land under improved technologies or management practices*), relate to IP1, Outcome 1.
- Indicator 2.1 (*percentage of costs of ICT-enabled services covered by non-donor sources*) relates to IP2, Output 2 and Outcome 2.

Overall, Indicators 1.1–1.4 relate to Outcome 1 in the ToC below, which is equivalent to Objective 1 in the USAID Results Framework. Indicator 2.1 relates to Outcome 2 in the ToC below, which is equivalent to Objective 2 in the USAID Results Framework. At the output level in the ToC diagram, there was no formal PIRS monitoring required of the grantees of Output 2 which concerns content development, or Output 4 which concerns development of high-quality evidence.

Figure 3: Programme Theory of Change



2.2.2 Communications protocol

The ET has sought to cultivate a relationship with all stakeholders based on respect and collaboration. Key stakeholders with which the ET has engaged have been DFID (as contractor of the evaluation), the other three donors (USAID, IFAD and BMGF), the NA-ICT CF grantees, the MEL contractor, SSTP and mNutrition¹⁹. Values that have underpinned the evaluators' engagement with these stakeholders include consultation, respect, transparency, ethics and open communication. Communication channels with DFID have been open and used on the occasions needed. All four donors had the opportunity to engage with the ET and review its work at key stages during the evaluation. These included a ToC workshop held with the donors and the MEL contractor during the inception phase, the opportunity to comment on the inception report, participation in the interim presentation of findings in June 2018, and now the opportunity to review and provide feedback on the draft final report. Grantees had the opportunity to introduce their projects to the ET during introductory calls. They further commented and advised on the country visit schedules, itineraries and interviewees. They had the opportunity to engage not only through key informant interviews but also through workshops at the start and end of each country visit. They also had the opportunity to review and comment on the contribution stories developed by the ET, based on learning in the three countries visited. All interviewees had the right to withhold information or to request that the ET not take notes on particular responses, and no interviewee is quoted directly in the report.

The dissemination plan, developed during the inception phase and fine-tuned in November 2018, is included in Annex 11. Detailed communication steps will be agreed in consultation with DFID once the evaluation report is finalised and they are expected to include presentation and discussion of findings with the donors and, potentially, grantees.

2.2.3 Ethical considerations

Common ethical evaluation principles are: obligations to participants, confidentiality and privacy, honesty and integrity, quality of methods and data, independence, conflict of interest, competence, transparency, impartiality, ensuring participation from women and socially excluded groups, utility and accountability.²⁰ The evaluation sought to fulfil these principles, for example, through ensuring confidentiality and anonymity of results, honesty and transparency in communications and during country visits, being sensitive to gender, being independent and giving careful consideration to quality of methods and data. While the team did not explicitly seek ethical approval during interviews and focus group meetings, they made it clear that, if any interviewee stated that they did not want particular points reported, then the team would not do so. On a wider level, the NA-ICT CF was promoting SSTP-supported technologies and best practices, which in turn were aligned with national policy.

The evaluation has been implemented in accordance with the Paris Declaration principles,²¹ in particular, Harmonisation, Alignment, Results and Ownership. Alignment of the CF with country-

¹⁹ mNutrition is a DFID programme focusing on business models for mobile phone based delivery of nutrition services in Africa and South Asia. The evaluation team were in touch with the lead of the implementation agency: GSMA and with the lead of the consortium carrying out M&E of mNutrition.

²⁰ DFID Review of ethics principles, and guidance in evaluation and research, Williams, L.G, January 2016 Pages 9-10. See: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/524635/Ethics-principles-report-2016.pdf

²¹ The OECD Paris Declaration Principles are as follows: Ownership: Developing countries set their own strategies for poverty reduction, improve their institutions and tackle corruption; Alignment: Donor countries align behind these objectives and use local systems; Harmonisation: Donor countries coordinate, simplify procedures and share information to avoid duplication; Results: Developing countries and donors shift focus to development results and results get measured and; Mutual accountability: Donors and partners are accountable for development results. <http://www.oecd.org/dac/effectiveness/parisdeclarationandaccraagendaforaction.htm>

level policies in the six countries concerned is evident by the support lent to those countries through SSTPs (and therefore NA-ICT CFs), recognition of national and CAADP identified key crops, and of the NA's commitments made in this regard. In relation to the evaluation specifically, it was aligned behind the objectives and monitoring system of the NA-ICT CF and sought to assess and measure results based on the existing data. Harmonisation is addressed within the NA-ICT CF at the donor level through the harmonisation of donor approaches necessitated by this being a multi-donor-funded project. Further, the design of the CF provided space for grantees to manage their NA-ICT-funded projects at country level. The MEL was also harmonised across the six countries. In terms of the evaluation specifically, as the evaluation was of a multi-donor-funded project, procedures for DFID to share information with the donor group at key stages were in place. Further, ownership and alignment were enhanced through the grantees working together with the evaluation team during country visits.

2.3 Mixed methods data collection

A mixed methods approach was taken by the ET, combining qualitative and quantitative approaches and methods which allowed for more comprehensive findings, better triangulation and greater rigour. Qualitative methods included document review; a data quality audit; key informant interviews; focus group discussions; ToC-based approaches, including contribution analysis; country case studies; and comparative analysis. Quantitative methods included analysis of all quantitative data related to both costs (where available) and outputs, including the key indicators that all grantees reported on. It also included a limited and partial VfM analysis. Annex 4 provides more details on methods.

The evaluation drew mainly on the extensive available existing secondary data (see Annex 2 for the full bibliography). This included grantee quarterly and annual reports, baselines, surveys, and evaluations the grantees carried out, and grantee-reporting under the PIRS against the five indicators agreed upon between USAID and its MEL contractor. It also included, where available, higher-level (donor, the MEL contractor, SSTP and SSTP evaluation) reports. The aim of country visits was to fill gaps, triangulate and gain a greater depth of insight into processes and results.

As grantees had not at any time been asked to record costs and expenditure in relation to VfM criteria, new (hence primary) data based on retrospective analyses by the grantees was requested of them, but with very limited results (as further explained in section 2.5 below and in Annex 9: VfM analysis).

2.4 Data analysis

Cross-cutting areas listed in the ToRs were poverty, gender, climate and environment issues, and disability and other dimensions of social inclusion. During the inception phase it became clear that no measures of poverty had been taken into consideration either by the NA-ICT CF grantees or the SSTP project itself. Gender, disability, youth and other dimensions of social inclusion were not key areas of priority for SSTP, but SSTP reporting was gender disaggregated. The NA-ICT CF did focus on gender to some extent and, subsequently, this was the cross-cutting area that the evaluation primarily addressed.²² Climate and environmental issues were indirectly taken into consideration by SSTP, AGRA and the relevant national agriculture research institutions, when selecting which key food crops and varieties of these to support. However, the ET was of the view that assessment of whether the SSTP technologies being promoted by the NA-ICT CF are

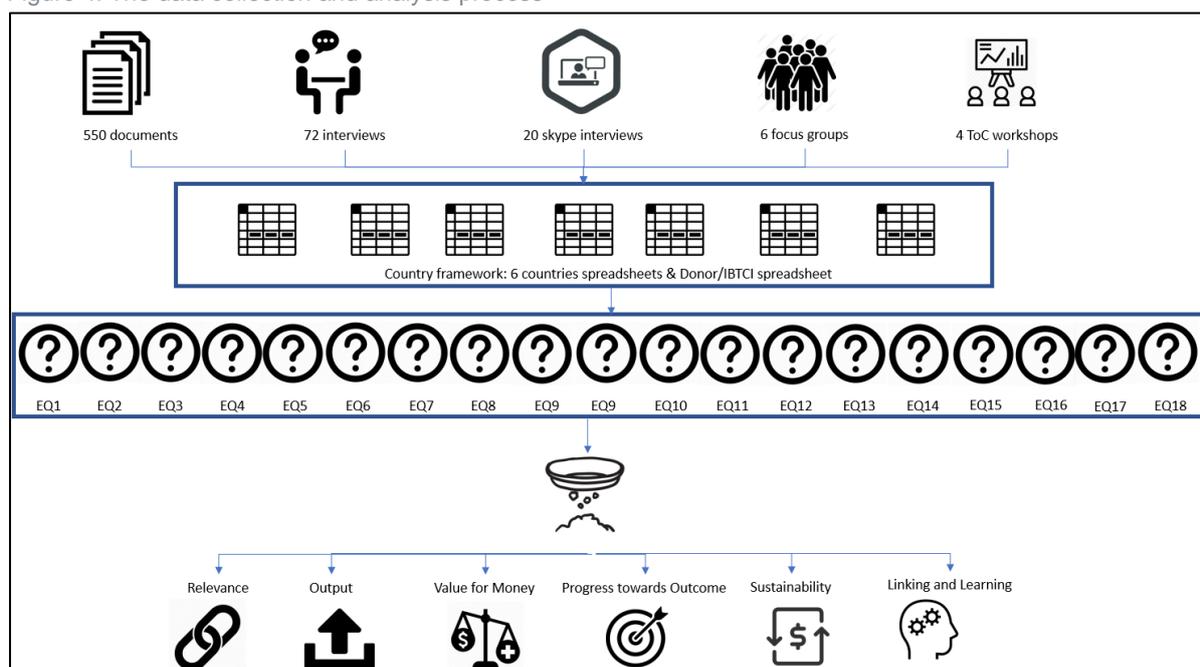
²² However, gender disaggregated data did not distinguish between women who were wives in male-headed households, or were classed as female heads of households.

benefiting the environment goes beyond the scope of this performance evaluation and was (a) not possible with the available data, and (b) more appropriate for SSTP to carry out.

The multiple lines of inquiry and analysis, and the use of mixed methods, allowed for a good degree of triangulation of findings and also served to prevent any unintended biases that a single collection method may have created. Annex 4 provides details of how the EQs were refined and the EM elaborated, how mixed data collection and analysis methods were used and how country case studies were selected. Within the qualitative methods used, contribution stories/analysis was a key method used to analyse results related to IP1, and, within the quantitative methods, a degree of VfM analysis was applied (see Annex 9) based on the four EQs concerning economy, efficiency, effectiveness and equity.

Figure 4 below visually illustrates the data management and analysis process followed by the team. The team drew on the sources in the top row to fill in excel spreadsheets gathering evidence for each of the six countries (referred to as country frameworks in the diagram) and a seventh spreadsheet for higher-level (donor, the MEL contractor, SSTP, mNutrition) findings. The templates each included the 18 EQs and 92 sub-questions under these (second row). The data was then sorted to provide findings for each of the 18 EQs (third row down). These were then filtered and analysed (fourth row down) and fed into the evaluation findings (bottom row) against the evaluation criteria.

Figure 4: The data collection and analysis process



2.5 Limitations

There were six main limitations to the evaluation, two of which had an impact on the extent of evidence that the evaluation could draw on. The first concerned VfM. Despite VfM being given consideration in the DFID business case, VfM was not built into the design of the NA-ICT CF. Despite the team’s effort in guiding grantees through the production of data that could be used for the VfM analysis, data provided by grantees was incomplete for most countries, without actual expenditures. Most data did not provide enough detail to provide insight on how the grant was converted along the result chain to outputs and outcome. These limitations were discussed with DFID in mid-2018 and it was agreed that the ET would endeavour to carry out limited and partial

VfM at country level for those grantees for which there was enough information. Overall, the data available did not allow the ET to conduct a comparative financial analysis across countries, channels or crops. More details about the limitations to carrying out VfM analysis can be found in Annex 10.

The second limitation, which stems from the set-up of the CF itself (rather than directly having arisen from the evaluation) relates to the lack of strong monitoring data. Specifically, while the MEL contractor developed a common definition for indicator 1.3 as being *the number of smallholder farmers and others who have applied improved technologies or management practices*, not all grantees interpreted this in the same way. For example, Senegal only counted farmers who were applying the technique or best practice for the first time. UPTAKE (Tanzania) only counted farmers who applied at least two technologies or practices. And in the case of video-based extension in Ethiopia, only those farmers who applied a set of “non-negotiable” practices²³ were counted. Data in particular from two grantees – MODES in Malawi and EMM in Mozambique – for indicator 1.3 appear high. The ET did check the validity of these data with MEL contractor and were assured that it is accurate. However, given that these data may be seen as “outlier” data, in the relevant section of the report (section 3.4), comparisons are provided including the original and re-calculated data from MODES (Malawi) and EMM (Mozambique) (according to the average of data from grantees in Ethiopia, Ghana, Senegal and Tanzania).

With regard to indicator 1.4 – *Number of hectares of land under improved technologies or management practices* – in most countries this indicator was calculated based on the number of farmers that applied technologies (as reported by indicator 1.3) multiplied by a proxy for average hectares under improvement per farmer. In such cases, therefore, 1.4 data are derived, not actual, and are susceptible to incorrect estimation of the average hectares on which farmers are applying the new techniques or practices.

The remaining four were as follows. First, the national consultant in Tanzania was eventually unavailable, at short notice, to join the team during the first country visit. This meant that the ET conducting the field visit (specifically the Team Leader and the ICT4Ag expert) could not benefit from the experience and contextual understanding of the national consultant. However, this did mean that the ET had more time, in-country, to develop and refine the tools and approaches to be used throughout the three country visits.

Second, there was a national state of emergency in place when the ET visited Ethiopia. While the team could and did travel to Amhara and Tigray regions, the consultants could not travel to Oromia, where the project had significant operations, particularly in earlier years. However, the national consultant for Ethiopia, having worked throughout the visit with the ET, was fully conversant with the interview requirements and process, and was able to visit the area a few weeks later, conduct and record all required complementary interviews, and integrate those into the existing findings.

Third, the evaluation was challenged in determining attribution of the CF to the outcome and impact levels. However, contribution analysis, as well as review of context and other factors at play, were used to address this issue to the extent possible.

Fourth, the evaluation took place while the programme is still running, with grantees in three of the countries not completing their projects until the end of 2018 or first quarter of 2019. This meant that it was not possible to assess final performance, although it was still possible to assess performance to date and give some consideration to prospects for future performance.

²³ These were sets of practices that needed to be applied to achieve a result (e.g. row planting, correct spacing, correct fertiliser application, etc.).

3 Findings

Findings are provided for each evaluation criterion in turn. For each criterion, the related EQs are listed in a box, followed by an overall summary of the findings. Thereafter, findings per EQ are provided and then summarised in a box which is colour coded based on the following categories:

Table 2 Evaluation team's rating of achievement of the NA-ICT CF per EQ

Colour	Description
Excellent	NA-ICT CF achievement against this EQ exceeded targets and/or expectations
Good	NA-ICT CF achievement against this EQ met expectations
Fair	NA-ICT CF achievement against this EQ was fair. There were some shortcomings
Unsatisfactory	NA-ICT CF achievement against this EQ was unsatisfactory, with many short comings
Not applicable / available	Not applicable / available

3.1 Relevance

There were three EQs under “relevance” as indicated in the box below. In the following text, EQ3 is addressed along with EQ1 in section 3.1.1, followed by findings related to “design” (EQ2) in section 3.1.2. Findings for EQ2 incorporate those from EQ18 also concerning linkages.

EQ1: How well was the programme aligned with DFID and other donor policies, as well as country-level agricultural development policy and extension provision, and with the national ICT context? (Alignment). EQ1 addressed along with EQ3.

EQ3: Is the NA-ICT CF filling a market gap? (Demand)

EQ2: How well designed was the NA-ICT CF to achieve its objectives? (Design).

EQ18: What effective linkages did the programme make with other similar initiatives/organisations providing ICT-enabled extension services, and what lessons did they learn? EQ18 has been incorporated into EQ2 findings.

Summary of findings regarding relevance: The extent of the relevance of the NA-ICT CF was assessed by the ET as high. It is well aligned with both donor and country-level agricultural development policies (EQ1); and is in keeping with the type of agricultural extension provision in each of the six countries, as well as the ICT context in all countries. Demand (EQ3) for radio was high across all countries compared with demand for mobile-based services, but the latter has potential to grow as mobile phone ownership and use increase.

There were five findings on the design of the CF (EQ2).

1. Despite the varieties and technologies promoted being specified by SSTP, their choice was based on national priorities and were all key crops for each country.
2. The set-up of the consortium, which involved an alliance of four donors (responding to calls at a 2012 G8 summit that led to the establishment of the New Alliance for Food Security and Nutrition (NA)) created its own management challenges.
3. Governance arrangements for the CF were satisfactory, but management underwent a significant shift when the Contracting Officer Representative (COR) involved from the start left USAID and management responsibilities were dispersed across eight USAID staff.

4. Design allowed for good collaboration with key stakeholders at country level, although the collaboration between SSTP and the MEL contractor in terms of monitoring was weak, and linkages with other similar programmes primarily occurred when the NA-ICT grantees were also working on these other programmes.
5. In terms of design, findings are that gender was not seen as a priority – grantees did not perceive it as a priority to the donors, and SSTP was “gender-neutral” with most of the crops being promoted being “men’s” crops.

There were some challenges faced, mostly related to the CF being a multi-donor programme, with each donor having their own reporting requirements and cycles. Other challenges were the late appointment of the MEL contractor, and an overall challenge of running the CF as a separate “add-on” project to SSTP, all of which had implications for the efficient running of the CF.

3.1.1 Alignment (EQ1) and demand (EQ3)

The programme is consistent with donor-level policies on support to agricultural production. This is exemplified by the donor commitments made at the 2012 G8 summit at Camp David to the NA. This was a “*shared commitment and partnership between African leaders, donors and private sector partners to achieve sustained and inclusive agricultural growth and raise 50 million people out of poverty over the next ten years*”.²⁴ The New Alliance built on the CAADP country investment plans. Four integrated actions were determined under the NA and two of these were SSTP and the NA-ICT CF.²⁵ The USA was charged with starting the New Alliance for Food Security to accelerate new proven agriculture techniques to improve productivity.

At the level of the individual donors supporting the NA-ICT CF, the programme is consistent with their policies on support to agricultural production as illustrated in Table 3 below.

Table 3: Donor policies/strategies related to agricultural productivity

Donor	Policies/strategies related to agricultural productivity
USAID	2017 Global Food Security Strategy ²⁶ Feed-the-Future Strategy and the USAID 2011-2014 Policy Framework ²⁷
BMGF	Vision, which aims to transform agri-food systems from subsistence-oriented and farm-centred, to commercialised, productive farming ultimately lifting farmers and their families out of poverty and BMGF Digital Rural Advisory Services (RAS) strategy. ²⁸
DFID	Fit with DFID’s Economic Development Strategy, ²⁹ DFID’s Conceptual Framework on Agriculture (2015) ³⁰ and the 2017 DFID research review. ³¹
IFAD	Strategic Objectives (SOs) 2 and 3 of the 2016–2021 Country Strategic Opportunities Programme (COSOP) for Tanzania. ³² SO2: More inclusive and resilient value chains of priority commodities. SO3:

²⁴ 2016-2017 SSTP Annual Report, p. 1.

²⁵ USAID NA-ICT CF project concept note.

²⁶ <https://www.usaid.gov/sites/default/files/documents/1867/USG-Global-Food-Security-Strategy-2016.pdf>

²⁷ USAID ICT extension CF concept note cleared for sharing, 14 March 2014, p. 4.

²⁸ BMGF Transforming rural advisory services in a digital world, 18 August 2017.

²⁹ DFID Economic Development Strategy: Prosperity, poverty and meeting global challenges. (January 2017).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/587374/DFID-Economic-Development-Strategy-2017.pdf

³⁰ DFID’s Conceptual Framework on Agriculture (November 2015)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/472999/Conceptual-Framework-Agriculture2.pdf

³¹ DFID Research Review (October 2017).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/564075/Research-review4.pdf

³² IFAD United Republic of Tanzania. Country Strategic Opportunities Programme, 23 March 2016.

<https://webapps.ifad.org/members/eb/117/docs/EB-2016-117-R-11.pdf>

All four donors are interested in the use of ICTs in extension. In particular, BMFG's Rural Advisory Services (RAS) include the use of radio, TV, call-centres, video, mobile, web portals and other ICT channels to reach farmers. BMGF seeks to address capacity, content and cost issues through focusing their strategy around digital solutions to customise content, drive down costs at scale, and build human and institutional capacity. The DFID business case for the project states that DFID is committed to promoting the use of ICT for development (ICT4D) as set out in its 2012-2015 Digital Strategy and its subsequent 2018-2020 Digital Strategy.³³ It notes that there is strategic fit between the NA-ICT CF and DFID's interests in ICT4D. Interviews confirmed that research into use of ICTs in agriculture is particularly of interest to DFID's Research and Evidence Division, in order to inform future potential support to ICT-enabled extension. Turning to country-level findings, those regarding agricultural development policy are discussed first, followed by findings related to extension provision, and last, findings about national ICT context are provided.

First, regarding **agricultural development policy**, the priority crops and practices for each SSTP country programme were identified along with the national agricultural research institutions and were in line with each of the six country's CAADP commitments. Hence, the NA-ICT CF programme was also aligned with CAADP commitments of each country.

There was a strong alignment with government agricultural policy in all six countries. The way in which there was consistency varied according to the type of agricultural development policy in place. Hence, in Ethiopia, the project was well aligned with the Growth and Transformation Plan³⁴ and, in fact, earlier Digital Green video pilots had influenced government extension strategy. In Malawi, Modernization of Demand-driven Extension Services (MODES) is aligned with the Malawi Growth and Development Strategy (MGDS) II³⁵ and, in Mozambique, policy is to grow and transform the agriculture sector, shifting production away from mainly subsistence activities and promoting access to international markets.³⁶ In Senegal, the Accelerated Programme for Agriculture 2014³⁷ places emphasis on rice and groundnuts, which are key SSTP-supported crops.

In Tanzania, the programme was aligned with agricultural policy, but this itself was not being strongly implemented as noted in IFAD's 2016–2021 Country Strategic Opportunities Programme (Tanzania) (COSOP): *"The new Government elected in October 2015 intends to continue on this pathway towards achieving inclusive agricultural transformation. Despite this commitment, constraints remain, such as limited institutional capacities, performance, coordination and weak governance at central and local levels. These, along with tensions between national and local priorities, result in weak delivery of agricultural support services to IFAD target groups"*.³⁸ UPTAKE did however work closely with District Agriculture Irrigation and Cooperative Officers (DAICOs). In Ghana the government policy is towards pluralistic extension provision. AgroTech mirrored this, in that while content development was done in collaboration with the Ministry of Food and Agriculture, ongoing ICT-enabled extension provision by AgroTech was done in collaboration with private

³³ DFID Digital Strategy 2018-2020: Doing development in a digital world: January 2018

<https://www.gov.uk/government/publications/dfid-digital-strategy-2018-to-2020-doing-development-in-a-digital-world>

³⁴ Federal Democratic Republic of Ethiopia, Growth and Transformation Plan II, 2015–2016 to 2019-2020, National Planning Commission, May 2016, Addis Ababa.

³⁵ <http://www.mw.one.un.org/wp-content/uploads/2014/04/Malawi-Growth-and-Dedvelopment-Strategy-MGDS-II.pdf>

³⁶ FAO (2016) Country Fact Sheet on Food and Agriculture Policy Trends, Malawi page 2. <http://www.fao.org/3/a-i5931e.pdf>

³⁷ FAO (2015) Country Fact Sheet on Food and Agriculture Policy Trends Senegal, page 2. <http://www.fao.org/3/a-i4841e.pdf>

³⁸ United Republic of Tanzania. Country Strategic Opportunities Programme, 2016-2021, p. 4.

sector extension within an outgrower³⁹ scheme and through collaboration with a large USAID Agricultural Development and Value Chain Enhancement II (ADVANCE II) Project.

Second, regarding **agricultural extension provision**, NA-ICT CF implementation in each of Ethiopia, Malawi, Mozambique and Senegal was consistent with country-level extension provision, although the way extension was provided varies between countries. Of the four countries, public sector extension provision was strongest in Ethiopia and the project worked closely with the government at all levels. The government has mainstreamed both video- and mobile-based extension into the public sector extension provision and is looking to expand the training in video-based extension to more Agricultural Technical and Vocational Education and Training centres. ICT-enabled extension is embedded in the system at woreda (local level), district and regional levels and is included in the performance management system as a core task. The other three countries have pluralistic extension. In Malawi, the government extension workers are still the major sources of information for farmers, and MODES worked very closely with the Ministry of Agriculture, Irrigation and Water Development’s Department of Agricultural Extension Services from the start. In Mozambique, the extension services are decentralised to district level with multiple providers: government, private sector and NGOs. Given that EMM is working closely with the National Directorate for Agrarian Extension, and also working through its own NGO extension staff and agro-dealers, the project is consistent with the country-level extension approach. Last, in Senegal, extension provision is left to cooperatives, NGOs and the private sector on the whole, so TICmbay’s working with these stakeholders is consistent with extension policy. It was difficult to judge whether NA-ICT implementation in Ghana and Tanzania was consistent with country-level extension provision as the latter is very weak in both countries.

Third, findings about **national ICT context** (EQ1) were that, in all countries, radio station reach is high and access generally good. Farmers also listen to the radio on their mobiles. Many radio stations, particularly community ones, but also commercial and government regional and national-level stations, run programmes in local languages. The emphasis on the use of interactive radio in all six countries is in line with levels of literacy, accessibility and language challenges. Further, in all countries, ownership of mobiles and access to internet is increasing year by year. In Table 4 an overview is given of all countries participating in the NA-ICT CF. Countries with a higher urbanisation level have a higher level of access to the internet and to mobile phones. The majority of people who are offline, however, are from underserved population groups (rural, women, low income, youth and other marginalised groups).⁴⁰

Table 4: Access to internet and mobile phone access⁴¹

Country	Internet access	Mobile phone access	Urbanisation
Ethiopia	15%	50%	21%
Ghana	35%	119%	56%
Malawi	10%	41%	17%
Mozambique	18%	65%	33%
Senegal	61%	98%	45%
Tanzania	15%	72%	33%

³⁹ Outgrower schemes are binding arrangements through which agri-businesses ensure their supply of agricultural products by individual or groups of farmers. Outgrower schemes are commonly referred to as contract farming.

⁴⁰ Mobile Economy Sub Sahara Africa 2018.

⁴¹ [Global Digital Report 2018](#), mobile phone access is measured by the number of simcards. In Ghana people often own more than one simcard.

In Ethiopia and Ghana there was existing provision of mobile phone ICT4Ag service provision (in Ethiopia by the Agricultural Transformation Agency with Ethio Telecom, and in Ghana by many different ICT4Ag service providers). Ethiopia, Mozambique, Senegal and Tanzania have government policies concerning use of ICTs to communicate with rural populations. For all six countries, there was sufficient demand by smallholder farmers for ICT-enabled agricultural extension services (EQ3), particularly participatory radio-based services (and, in Ethiopia, video-based extension). ICT-based extension was also in demand among extension workers. These included app-based services (in Mozambique, Ghana and Malawi), as well as the radio and mobile-based services. The demand for (or awareness of, in the case of Mozambique), mobile-based services was relatively low in all countries as compared with demand for radio. Despite the relatively lower demand for mobile-based services, ownership of mobiles is increasing rapidly, and there remains further potential over time for the use of mobiles for ICT-based extension.

Good: The ET considers that the NA-ICT CF aligned well with the agricultural development policy, extension and ICT contexts of the countries concerned, and that it was appropriate for the project to be utilising a variety of ICT-enabled channels, albeit the potential for mobile-based agricultural extension is still emerging.

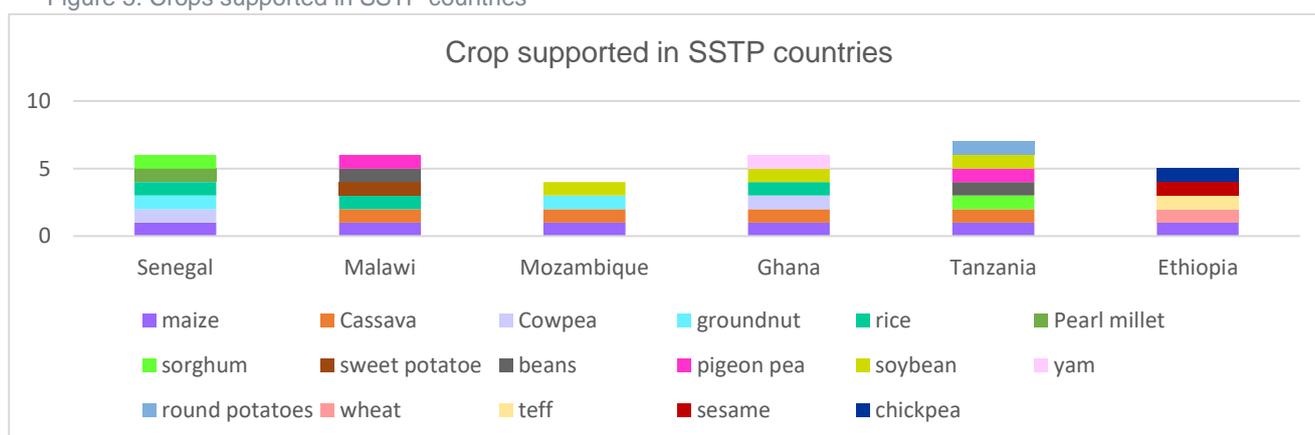
3.1.2 Design of, and linkages made by, the NA-ICT CF (EQ2, including EQ18)

A number of areas were explored under this question, and findings are organised under four sub-headings.

- **The extent to which the programme responds to men and women smallholder farmers' livelihood needs and knowledge demands**

High-level findings (from IFAD, SSTP, SSTP evaluation documents and interviews) indicate that the choice of crops that SSTP supported was made in consultation with national agricultural research institutions and were in line with country CAADP priorities. While 17 crops were supported by the grantees across the six countries, maize was the most widely featured crop in all countries, followed by cassava (in four countries) and rice and soybeans (in three countries). Figure 5 indicates the crops supported in SSTP countries.

Figure 5: Crops supported in SSTP countries⁴²



Major technologies promoted in all countries were the appropriate use of fertiliser and improved seeds/planting materials (falling in the categories of crop genetics and cultural practices). At least one nutritious crop (e.g. soybean, cow pea, chickpeas, beans) was promoted in each country. Both

⁴² SSTP AGRA-SSTP outcome indicators annual assessment 2017 (January 2018, final survey report) Project Alternatives Ltd for AGRA, p. 31.

IFAD and the SSTP evaluation commented on the emphasis on maize and considered that appropriate (as it is a highly important key staple, it has good potential for increased yields, and there were more private sector seed suppliers of maize than of the other crops). The SSTP evaluation noted that more emphasis was given to seeds and varieties, as compared to complementary technologies such as fertiliser, crop protection and mechanisation.

Turning to country-level findings, there were two common findings from across all six countries. First, as learned at the higher level, the SSTP crops are, for every country, key ones that most smallholders produce. Therefore, while SSTP was inherently supply driven, the crops the programme focused on are those which farmers are engaged in and are relevant to their livelihood needs. Second, neither gender nor age were concerns of SSTP and this carried through to NA-ICT. Maize, a crop commonly managed by men, was the predominant crop that SSTP focused on, with the others being other cereals, or legumes. SSTP assumed that women are more involved in the production of legumes. In practice, this meant a higher percentage of SSTP crops were those that men have responsibility for, rather than women.

Some grantees sought to make the ICT-enabled extension respond better to livelihood needs. For example, in Tanzania, the grantees extended the NA-ICT extension provision beyond the early stages of the value chain (which was the focus of SSTP), to the whole value chain. In Ethiopia, Malawi and Mozambique, the grantees complemented the narrow focus of the SSTP messages with other messages related to other crops and also livestock, so that the ICT-enabled extension service was more broadly relevant to farmers' livelihood needs. In Ethiopia, this was possible as there was BMGF funding for all the woredas covered by NA-ICT so that other topics could be covered (e.g. poultry) through video-based extension. In Malawi, other projects complemented farmers' ICT-based extension needs (e.g. Oxfam covered dairy and chicken). In Mozambique, EMM broadened the range of topics covered, and the appeal of the mobile 321 services, by opening out to the private sector (and others) for sharing "dynamic" information on various topics related to agriculture and also providing market information (drawn from the government funded agricultural marketing information system operated by the Ministry of Agriculture).

- **How the NA-ICT CF was set up, governed and managed**

Findings from both document review and interviews with donors, the MEL contractor and SSTP were consistent. Findings related to NA-ICT CF set-up, governance and management of the programme-level consortium are reported below, followed by a discussion of the key challenges faced. A short discussion of the design of country-level consortia follows.

Set-up of the NA-ICT CF consortium. Membership of the NA-ICT CF consortium arose from the commitments by each of USAID, DFID, IFAD and BMGF to the New Alliance for Food Security and Nutrition, following the G8 Nutrition for Growth event on 8 June 2013. Initially a small task force was established, involving DFID, BMGF and USAID, to consider how best to set up the CF. Various fund management options were considered, with a final joint decision being made that USAID would oversee the CF on behalf of the other G8 donors. As the DFID business case⁴³ noted: "*The establishment of a joint fund managed by USAID will support project activities through harmonisation and alignment of donors around outputs, outcomes and mechanisms for delivery and through reduced transaction costs as USAID will take on all project management costs and fiduciary responsibilities*".

Due to the specific nature of each donor, separate letters of agreement or commitment were established between USAID and each of the three donors in 2014. These spelled out the financial, governance and management arrangements. Each of DFID, USAID and BMGF contributed funding towards the CF for all countries aside from Tanzania, which IFAD funded. USAID further

⁴³ DFID Business Case and Intervention Summary, p. 19.

bore the management costs of the CF; and DFID further funded the monitoring and evaluation components.

None of the four donors recognised this project as a challenge fund, but rather saw it as a regular process of assessing and awarding grants. All the donors felt that for this to have been a true CF, there needed to have been more space for innovation and that it should not have been as fixed as it was (with the need to promote only SSTP technologies and the need to use a combination of ICT channels both already defined from the start). Further, CFs are often used to encourage private sector innovation and financially sustainable solutions but, in this case, as one interviewee put it: *"The project had a smorgasbord of public and private solutions"* and a true CF may not have been the appropriate mechanism where public sector providers were important channels. Finally, given that CFs are often used to stimulate private sector (PS) innovation, the time frame was a concern to one interviewee who stated *"If you want to work with the PS and test out different models it will take time for PS to get a return. Similarly, if you are focusing on (rain-fed) crops for which there is only one season a year, then a three-year funding period is limiting and less attractive to PS players"*.

Governance of the NA-ICT CF. At the start, formal governance arrangements were established. A Coordination Committee made up of a named person and alternate from each donor was established. Quarterly and annual remote meetings were held. These arrangements were relaxed following a change of leadership within USAID (see the section on management below). USAID shared grantees' and the MEL contractor's reports with donors, usually with some added commentary to begin with. However, there was no process of consolidated reporting of the programme as a whole across the six countries, other than at two donor coordination meetings through a PowerPoint presentation (July 2016 and January 2017). USAID did prepare formal reports for BMGF annually, however, as that was a requirement of this donor. Also, USAID prepared feedback each year for DFID on the project and on the recommendations made by DFID in prior Annual Reviews.

A technical committee made up of USAID, DFID and BMGF for all but Tanzania, and IFAD and USAID for Tanzania, reviewed the bids from all grantees. The template for bid assessment included five criteria: program strategy; collaboration and synchronisation with SSTP; results planning, feedback process, sustainability and scalability; implementation and management capacity; and staffing and resource leveraging. Each had sub-questions and asked for assessments against strengths and weaknesses. Interviews indicated that the process of selection was transparent and collaborative. While USAID had greater representation on the committee than the other donors, other donors felt that their views, including reservations about particular bids, were heard. Where bids were considered unsatisfactory, as in Mozambique, a second invitation was made.

Management of the NA-ICT CF. The CF was managed by one person within USAID from the start, up until April 2017 when that person left the organisation. No replacement could be found with the same combination of expertise. Then, different Agreement Officer Representatives (AORs) were appointed to each country, and a COR was appointed to manage the MEL contractor, with a "light-touch" Fund Manager also appointed to have general oversight. Many of these posts have seen some turnover since April 2017. At this stage the regularity of Coordination Committee meetings became more ad hoc, with the most recent Fund Manager, appointed in January 2018, no longer convening them.

USAID was the primary body communicating with the SSTP and the MEL contractor. When the project was managed by just one person, communication with SSTP was good and, in 2015, a joint USAID, DFID and SSTP mission was held in Malawi linking SSTP with NA-ICT. USAID also participated in the first face-to-face learning workshop organised by the MEL contractor in Ethiopia

in August 2016. Other than this mission, the only donor that directly visited the grantees was IFAD. Two supervision missions were made to Tanzania, one in 2016 and a second in 2018, reports of which were shared with USAID.

Design and management challenges. Five key challenges were noted from both the document review and interviews related to design. First, ideally, NA-ICT CF should have been an integral part of SSTP, not a separate project. This would have allowed for a joined-up approach to both implementation and M&E. The second challenge was the nature of the consortium and its members' reporting requirements. Timing of NA-ICT and SSTP reporting was not synchronised. DFID's reporting year is on a different cycle to that of USAID. USAID was required to report to donors (DFID and BMGF) at different times and in different formats. In the later years, this was quite a cumbersome process, as the NA-ICT CF manager needed to access and collate inputs from six AORs and one COR, all of whom were working on a number of projects other than the NA-ICT CF. Third, the extent of staff turnover in each of DFID, BMGF, IFAD and USAID meant that institutional memory about the project suffered. Fourth, the MEL contractor was appointed late, by which time most grantees had already started to implement and had set up their own M&E systems. Last, expecting the models to be self-sustaining in just a few years, as per the CF design was considered by both grantees and the MEL contractor to be too ambitious in practice.

Country-level consortia. The NA-ICT consortia in all six countries had several different organisations as members, each bringing specific skills. Only one project, TICmbay in Senegal, had a consortium member specifically dedicated to M&E. In all countries the consortia set up appropriate management arrangements including advisory or steering committees. All grantees arranged for regular meetings of the consortium, either remotely or face to face. Consortium leads were in all cases organisations that already had a presence in the country and previous experience in agricultural extension (and, in the cases of Ethiopia, Ghana and Tanzania, in ICT-enabled extension). Grantees in Ethiopia, Ghana, Malawi and Mozambique engaged national-level Ministry of Agriculture staff in their Steering or Advisory Committees. None of the grantees followed the principles of digital development⁴⁴ as such, but most grantees applied elements of the principles like design with the user (the user-centric approach of Ghana), design for scale (Senegal), use of open source (Senegal, Ghana), design for sustainability (Digital Integration, Ethiopia, EMM, Mozambique; and TICmbay, Senegal), re-use of existing solutions (Senegal, Ghana, FRI's Uliza platform), and Digital Green's Connect Online Connect Offline (COCO)⁴⁵ (Ethiopia). With regard to radio programmes/campaigns, in the four countries where FRI was supporting this (Ethiopia, Ghana, Mozambique and Tanzania) FRI's VOICE standards and formative audience research reflects a user centred design and re-use of an existing platform.

- **How the design allowed for collaboration and linkages with SSTP and other key stakeholders**

The NA-ICT CF falls under one of the three objectives of the SSTP Results Framework, namely Objective 2 which is to increase the use of quality seeds and other technologies by smallholder farmers, with one of the outcomes being: "Increased use of ICT-enabled extension services by smallholder farmers". All three objectives contribute towards the SSTP goal which is to "improve food security and reduce poverty among smallholder farmers in targeted areas within selected SSA countries". To this end the NA-ICT CF was nested in the SSTP programme and the technologies and best practices to be disseminated through ICT-enabled extension were those arising from the SSTP.

⁴⁴ <https://digitalprinciples.org/>

⁴⁵ Connect Online | Connect Offline (COCO) is an Android-based mobile application built on Dimagi's CommCare and integrated with Digital Green's monitoring system.

The collaboration between NA-ICT CF and SSTP at the programme level was good in the early years of the NA-ICT project and included a joint USAID, SSTP and DFID mission to Malawi. However, communication tailed off once the responsibility for NA-ICT CF oversight was dispersed among a number of USAID staff. The Chief of Party of SSTP visited USAID in November 2015 and gave a presentation on SSTP progress and its links to country grantees. SSTP grantees had to report on collaboration with NA-ICT in their reports. DFID and BMGF documentation indicate that USAID acted as the conduit for communication with SSTP regarding the NA-ICT CF.

In terms of M&E collaboration between NA-ICT CF and SSTP, SSTP baselines did not focus on ICT, neither did NA-ICT CF grantees budget for their own baselines. SSTP M&E focused on SSTP-targeted farmers and agro-dealers who provided the service, not on ICT service providers who delivered the message. The MEL contractor tried to align data collection between SSTP and NA-ICT for the NA-ICT CF indicators 1.3 and 1.4 (which SSTP also reported on) but SSTP data collection and reporting deadlines were not in line with those of the NA-ICT CF. To address some of these challenges, the MEL contractor involved SSTP representatives in the workshop they ran in Arusha, Tanzania, in January 2017, so as to create greater collaboration at country level.

There were, however, quite positive findings regarding collaboration between SSTP and NA-ICT CF at the country level for all six grantees. In Ethiopia, Malawi, Mozambique, Senegal and Tanzania, it was clear to the grantees that their main role was to disseminate SSTP technologies. These grantees sought to have SSTP on their steering committees and either the SSTP office or grantees contributing to content development. The grantees had a good working relationship with SSTP, and when the SSTP project ceased prematurely and unexpectedly, it did not mean the end of cooperation – for all three grantees that are still operating (Mozambique, Senegal and Tanzania) the SSTP grantees and NA-ICT continue to collaborate. In Ghana, at the start, content was developed on all the SSTP target crops (cassava, cowpea, maize, rice, soybean and yam) for distribution in SSTP target geographic areas.⁴⁶ Later, AgroTech remained aligned with SSTP's roadmap during project implementation and continued to work in three of SSTP's target regions with a focus on two of SSTP's target crops.⁴⁷

The selection of districts where NA-ICT should operate was done in collaboration with SSTP in Ethiopia, Mozambique, Tanzania and Senegal, but there is less evidence of this in each of Malawi and Ghana. While MODES in Malawi operated in just three of the 22 SSTP districts, in Ethiopia, Tanzania and Senegal the NA-ICT CF was far more scattered, in line with SSTP.

Both programme and country-level document review and interviews revealed a major design issue. This was the need for synchronising and integrating service delivery between the two projects, particularly the need to ensure that SSTP grantees and sub-grantees (e.g. seed multipliers and equipment distributors) synchronised the availability of improved technologies from SSTP with the ICT-enabled extension related to this. On occasion, in all countries, SSTP technologies were not available, or not available in sufficient quantities. This was frustrating for farmers. In Senegal there was a sense that there should have been a phased approach, particularly as some of the SSTP grantees that TICmbay approached were not ready for ICT-enabled extension as they had not yet built up a sufficient supply of seeds.

How the design allowed for collaboration with other key stakeholders. There were strong and consistent findings for all six countries on this question. Key stakeholders were identified and involved appropriately. These included both public and private sector entities. Public sector bodies included extension services in all countries apart from Senegal, and agricultural research institutions, as well as Ministry of Agriculture specialists contributing to content development (in

⁴⁶ Cooperative Agreement Ghana.

⁴⁷ ICTC Final Report Ghana.

the cases of Tanzania, Ethiopia, Mozambique, Malawi and Ghana). Private sector entities included SSTP grantees, agro-dealers and other seed and fertiliser suppliers. In addition, apart from in Ethiopia, the telecoms companies were privately owned and the radio stations (again aside from Ethiopia) were mostly private, NGO or civil society based.

Public and private entities are both contributing to the effective delivery of ICT-enabled extension services, but across a spectrum. Thus, implementation of Digital Integration in Ethiopia was much more public sector oriented (aside from the private sector SSTP grantees themselves). TICmbay in Senegal was at the other end of the spectrum, being the only country without active involvement of government extension staff. However, in line with government policy that extension be contracted out to the private sector, civil society and NGOs, the project did collaborate closely with cooperatives (which have their own extension advisers), NGOs employing extension staff, and agro-dealers that also provide extension advice. EMM in Mozambique, MODES in Malawi, AgroTech in Ghana and UPTAKE in Tanzania were in the middle of the spectrum with a mix of public and private sector players. This spectrum reflects the wider development (including agricultural development policy and extension approach) of the different countries. In the case of Tanzania, IFAD would have preferred to have seen more collaboration between UPTAKE and their USD 169.46 million Marketing Infrastructure, Value Addition and Rural Finance Support Programme (MIVARF).⁴⁸ They had anticipated that such collaboration would create a synergy between the two projects and considered it a missed opportunity when this did not occur.

Linkages the programme made with other similar initiatives/organisations providing ICT-enabled services. Grantees, particularly the Grameen Foundation, Digital Green, FRI, CABI and HNI are major leaders in ICT-enabled extension in their own right, with previous and current donor-funded ICT extension projects under way. They had previous experience in the countries concerned and had completed and/or were currently running other donor-funded ICT extension related projects. Examples include the large BMGF funding to DG in Ethiopia over a period of seven years which includes video-based extension, and CABI's work with the African Soil Health Consortium. In such cases, the NA-ICT grantees were already connected with the other existing programmes through being implementing agencies for other donor-funded projects.

Grantees also built on their existing (non-ICT agriculture extension work) for added value. For example, in Mozambique, NBCA Clusa (the lead grantee in EMM) was already operating in the project areas and had a network of its own extension staff; consortium members for MODES in Malawi – CRS and SHA – were already on the ground running projects to which the ICT component was then added; and in Senegal, TICmbay built on its consortium lead – United Purpose's – work as an SSTP grantee. There was evidence of connections made, and collaboration sought, with USAID in each of Ethiopia, Senegal and Ghana. In particular, in Senegal there were two large agricultural projects with ICT components with which connections were made, although actual collaboration was minimal. In the case of Tanzania, (IFAD-funded) linkages were made with the much larger IFAD MIVARF project although there was little active collaboration. SSTP provided a few grants for ICT-enabled services, in countries where SSTP started long before NA-ICT (e.g. story telling workshop in Malawi, radio programmes with Animata in Tanzania). These either merged with NA-ICT when it started (as was the case for the radio programmes in Tanzania) or complemented other ICT-enabled extension services supported by NA-ICT (as was the case in Malawi). The degree to which smaller NGO-supported ICT-enabled extension services existed varied between countries. In both Senegal and Malawi such initiatives exist, but the evaluation did not learn of examples in the other countries. There was minimal evidence of linkages being made at the programme level of NA-ICT CF with other similar initiatives, aside from IFAD seeking to link

⁴⁸ <https://www.ifad.org/web/operations/project/id/1553/country/tanzania>

the CF with their larger MIVARF project, and an early attempt in Malawi to link the CF with both mNutrition and SSTP.

Linkages/overlaps between NA-ICT CF and mNutrition. mNutrition is a £20 million DFID project running in 14 countries in Africa and Asia from August 2013 to December 2019.⁴⁹ It is operating in three of the six NA-ICT CF countries: Ghana, Malawi and Tanzania. It is being led by Global System for Mobile Communications (GSMA)⁵⁰ and has two components: mHealth and mAgri. Its focus in Tanzania was just on health but in Ghana and Malawi both agriculture and health were covered. There are clear overlaps in terms of the objectives and activities of the two projects, as the mAgri services (in Ghana and Malawi) intended to both increase the nutritional intake and diet diversity for rural families via a more diversified crop production for family consumption, *and* increase production and income through better practices and techniques, and access to the latest information on agronomy, market and climate.⁵¹ Each grantee received between £250,000 and £300,000 from mAgri for up to two years between 2014 and 2016.⁵²

In terms of linkages at the programme level, a joint USAID, DFID and SSTP mission visited Malawi in 2015 to encourage linkages between mNutrition, NA-ICT CF and SSTP. Interviews with SSTP and USAID, however, revealed that there was no high-level follow-up on this. A review of the DFID annual reviews for each of NA-ICT CF and mNutrition found that, while the NA-ICT CF annual reviews do make mention of mNutrition, the mNutrition annual reviews do not make mention of the NA-ICT CF. The 2017 DFID NA-ICT CF Annual Review states that both mNutrition and NA-ICT CF work closely with SSTP, and that coordination with the mNutrition project allowed key nutrition experts to develop the SSTP nutrition messages. However, an interview with the GSMA Malawi team found that they had no awareness of any collaboration between mNutrition and SSTP in Malawi. Finally, at the programme level, the interview with the mNutrition evaluation team indicated that neither in Tanzania nor Ghana were efforts made by mNutrition to link with the NA-ICT CF.

In both Ghana and Malawi, however, NA-ICT CF and mNutrition had common implementation partners. In Ghana, the Grameen Foundation led the NA-ICT CF and also developed content for mNutrition. However, there was no evidence of formal connections or joint learning developing, despite there being a common implementation partner. In Malawi, both SHA and HNI were involved in both mNutrition and NA-ICT CF. Evidence from MODES annual and quarterly reports, as well as interviews with MODES grantees and the GSMA Malawi coordinator, all confirmed that there were benefits from the fact that two implementation partners were involved with both programmes. SHA indicated that MODES learned much from mNutrition in terms of content development. mNutrition had templates for content development which allowed the process to be carried out in an organised manner and MODES benefited from learning how to use them. mNutrition, with HNI, helped develop an Airtel branded 212 service called M'chikumbe which was dedicated to agricultural messages. Meanwhile MODES was using an existing government-supported, HNI branded, 321 service, run also by HNI but broader than 212 and covering infant healthcare, pregnancy advice and agriculture.⁵³ There were mixed findings on whether having these two services, both containing the same agricultural content (developed by MODES through SHA) but on different numbers and with different tariffs where farmers wanted to use more than the free allocation, was beneficial or not.

⁴⁹ <https://devtracker.dfid.gov.uk/projects/GB-1-203638>

⁵⁰ <https://www.gsma.com/mobilefordevelopment/mhealth/mnutrition/>

⁵¹ DFID mNutrition Annual Review 2017.

⁵² GSMA (July 2017). Creating scalable engaging mobile solutions for agriculture. A study of six content services in the mNutrition portfolio.

⁵³ "321" and "212" are the mobile numbers farmers use to dial in for the service

- **How gender equality/equity was considered in programme design⁵⁴**

Findings were consistent across all six grantees. They noted that gender was not a concern of SSTP and indeed that, with the selection of crops being male oriented, it was harder to consider gender equality. They also did not sense that gender was of great interest for the donors, with a perception among grantees that it was more important to meet targets than to try to reach more women and get more female adoption, particularly where many of the SSTP crops were ones that men grow. Despite this, all grantees made efforts to ensure that ICT-enabled extension reached women, as discussed in section 3.3.6.

At the higher level, findings were that gender was important to all the donors and to the MEL contractor. DFID annual reviews often had recommendations on gender, and USAID emphasised the need for gender disaggregated data (GDD) and reaching women. IFAD have a self-evaluation checklist for analysing gender equality and women's empowerment and youth inclusion in project implementation arrangements. The MEL contractor was guided by USAID in the development of a gender plan, and they conducted various activities related to gender and how to improve the gender sensitivity of grantee projects. The face-to-face workshop in Ethiopia had a gender session ("world café"), and also a webinar on the topic. However, the MEL contractor, too, observed that at the donor level, while gender was an important topic as an overarching issue, the ICT "bundle" being tested was the real issue. They noted that all grantees were aware of the challenges of addressing the issue, but that disaggregating data, though important, was not enough to ensure that the programme embedded a gender lens. They further noted that use of GDD, in terms of seeking to adjust/address the differences in access between men and women, did not really occur. Overall, feedback was that the gender component could have been designed better from the start.

Fair: The ET's overall assessment of this question is that the design did allow for farmers' livelihoods needs in relation to key staples to be met. Collaboration with SSTP, and engagement with other key stakeholders, was satisfactory, although collaboration with mNutrition was minimal. The set-up and governance of the NA-ICT CF consortium and of the country-level consortia was good, especially given that at the programme level there were several donors involved. There were some design and management related challenges, and ideally the MEL contract, and country grants would have been synchronised, as would reporting requirements. Given the purpose and objective of the NA-ICT CF, a longer implementation period would have been appropriate and the scope for gender equality, given the nature of SSTP and the crops being supported by it, could have been given more consideration at the design phase.

3.2 Outputs

There were three EQs for this evaluation criterion each of which has several sub-questions. This section of the findings is concerned with Output 1: "Agronomic extension provided to smallholder farmers via ICT-enabled services" (EQ 4); Output 2: "Improved content adapted to specific needs, context and available ICT channels" (EQ 5); and Output 4: "High-quality evidence on (cost) effectiveness and impact of ICT-enabled services" (EQ 6). Output 3: "Financially sustainable ICT-enabled extension services operating and integrated with non-ICT extension services" is addressed under EQ 16 Sustainability. While this section reports mainly on findings at the programme level, there is also some discussion of variations between grantees. Annex 10 contains more detailed country-level discussion of output indicators 1.1 and 1.2.

⁵⁴ In addition to section 3.3.6 (VfM Equity), gender is also discussed in section 3.4.1 in the Progress Towards Outcomes and Impact section, including the factors influencing the participation of women and their application of improved agricultural technologies, and whether men and women smallholder farmers have an equal opportunity to make an active decision to use quality inputs and improved technologies.

EQ4: How was access by male and female farmers to ICT-enabled extension services achieved in the different countries? (Output)

EQ5: How was content adapted to specific needs, context and available ICT channels? (Content)

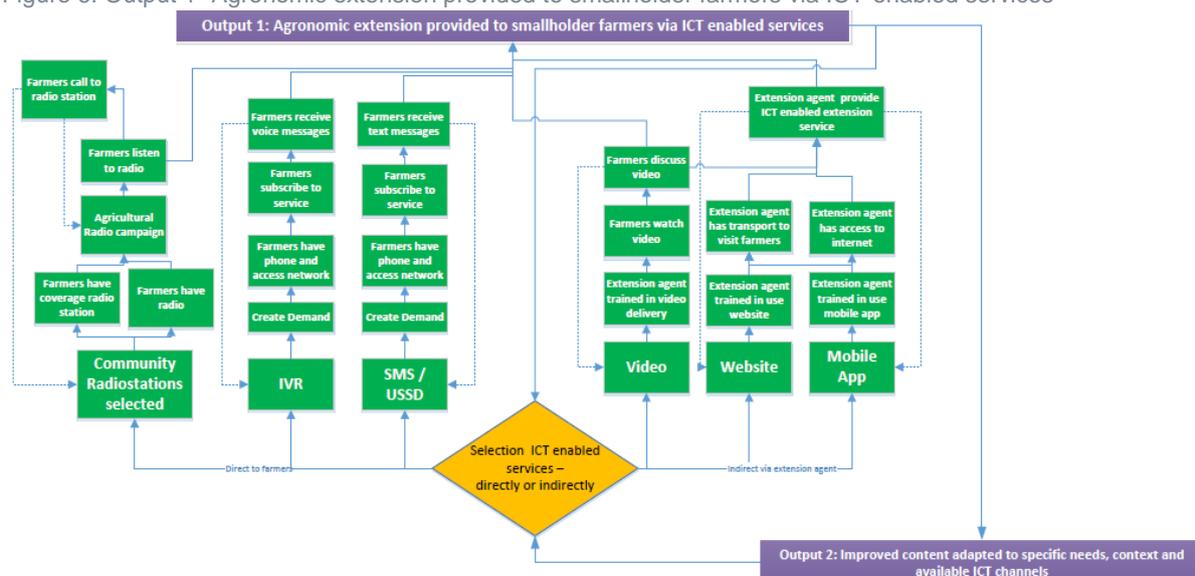
EQ6: Was high-quality evidence on (cost) effectiveness and impact of ICT-enabled services produced and how? (Evidence)

Summary of findings regarding outputs. There were PIRS indicators for Output 1 only. All grantees were able to achieve Output 1: Agronomic extension provided to smallholder farmers via ICT-enabled services. The NA-ICT CF exceeded its targets in relation to this Output, both in terms of access to ICT-enabled extension (measured by PIRS indicator 1.1) and *use of ICT-enabled extension* (measured by PIRS indicator 1.2) across the programme as a whole. The actual achievement of indicator 1.1 (*access to ICT-enabled extension*) was 173% of the target of 5.2 million farmers, and for *use of ICT-enabled extension* (indicator 1.2) it was 134% of the target of 2.6 million farmers. This will increase as the programme draws to a close in December 2018 (Tanzania), February 2019 (Mozambique) and March 2019 (Senegal). The high attainment reflected in these figures, however, could have been caused in part by low target setting. Men had more access to ICT-enabled extension than women: 67% of the farmers with access were men and 33% were women. This was similar for the use of ICT-enabled extension. EMM and TICmbay were able to reach more women compared to the other grantees. The evaluation also has strong findings that the content development process (Output 2) was well developed in all countries. Content was aligned with SSTP and government policies, adapted to local needs and channels, and followed a participatory process. The findings at output level are confirmed for impact pathway 1 (IP1) by the re-evaluation of the ToC as detailed in Annex 6, and by the contribution stories from three of the six countries (Annex 7). The CF did less well in terms of development of high-quality evidence (Output 4). The MEL contractor was contracted late, while M&E processes were already (partly) developed by grantees. The focus was on developing PIRS to report on results to USAID, and less time was invested in establishing a conducive learning environment to share experiences beyond basic learning. Evidence regarding cost-effectiveness and impact was minimal, despite IP3's output (4) being high-quality evidence on (cost) effectiveness and impact of ICT-enabled services. It should be noted that, even if efforts had been made to collect evidence on impact, it may not have been strong given the short time period (2-3 years) that the CF ran in each country.

3.2.1 Outputs: access by male and female farmers to ICT-enabled extension services

This question (EQ4) relates to Output 1 in the ToC "Agronomic extension provided to smallholder farmers via ICT-enabled services". Figure 6 shows the pathway for Output 1 in the ToC. The section presents findings regarding Output 1. Findings from document review and interviews with grantees were consistent. Annexes 6, 7 and 9 provide more detail on the country-level findings.

Figure 6: Output 1 “Agronomic extension provided to smallholder farmers via ICT-enabled services”



The PIRS measured two output indicators, 1.1 and 1.2. 1.1: *The number of farmers with access to ICT-enabled services* was optional but all grantees measured it.⁵⁵ It relates to farmers that either own a mobile phone or radio, have access through a radio or network coverage, or are based in a village that has been selected for video coverage by an extension agent. Farmers need access to a channel first, before they are able to listen, watch or read a message. The second output indicator (1.2) was compulsory to measure and more important as a proxy that measures if output 1 is achieved. Indicator 1.2 *The number of farmers using ICT-enabled services*, measured the actual use of the ICT-enabled services. All grantees provided disaggregated information for male and female farmers, but not all grantees provided target and actual data for all years (some grantees agreed with USAID to lower targets after the inception phase, but their actuals are sometimes closer to the original targets, i.e. in the case of TICmbay). PIRS were validated by the MEL contractor and approved by USAID.

In Table 5 the project level and overall performance of the NA-ICT CF programme is provided.⁵⁶ The programme overachieved on the targets for the two output indicators.⁵⁷ All grantees (far) exceeded indicator 1.1, and most grantees except those in Mozambique and Tanzania (far) exceeded their targets for indicator 1.2. MODES in Malawi overachieved mainly because they were using national radio stations with a higher than planned coverage. TICmbay overachieved more on indicator 1.2 than indicator 1.1, mainly because they did not measure indicator 1.1 for radio stations in 2016. They also had reduced their targets in consultation with USAID. The new targets appear to be set too low. In 2017 they used the FRI radio coverage tool to measure access for radio stations, which was much higher than expected. EMM, TICmbay and UPTAKE are still in implementation and still have to report the PIRS for 2018 and 2019 (Q3 2018 and Q1 2019) in the Feed-The-Future System.

⁵⁵ All grantees reported on indicator 1.1 in their annual PIRS reports, although for Ghana, in 2016, the actual data for 2016 was not in the PIRS, but just in the Annual report 2016.

⁵⁶ Source PIRS 2016 and 2017, annual report 2016 Ghana and Q3 report 2018 of TICmbay and EMM.

⁵⁷ This could also be because grantees had set low targets due to calculations based on incorrect assumptions, for example the radio coverage was not measured by some grantees at start of project.

Table 5: Overall performance of NA-ICT CF grantees on output indicators 1.1 (access) and 1.2 (use)

	1.1. Number of farmers with access to (the provided ICT-enabled services) (potential reach)			1.2. Number of farmers using ICT-enabled services		
	Target	Actual	% achieved of target	Target	Actual	% of target
Digital Integration (Ethiopia)	1,750,000	3,470,023	198%	1,026,000	1,147,839	112%
AgroTech (Ghana)	800,000	1,614,675	202%	500,000	637,519	128%
MODES (Malawi) ⁵⁸	172,967	844,980	489%	162,611	869,352	535%
EMM (Mozambique) ⁵⁹	925,000	1,223,624	132%	325,500	166,908	51%
TICmbay (Senegal)	457,731	596,353	130%	91,546	235,536	257%
UPTAKE (Tanzania)	1,102,883	1,273,766	115%	508,000	453,202	89%
NA-ICT CF total	5,208,581	9,023,421	173%	2,613,657	3,510,356	134%

In Figure 7 the results of indicator 1.1 *Number of farmers with access to (the provided ICT-enabled services) (potential reach)* are presented over time, including the differences between males and females. In 2016 this indicator was around the level of intended targets. In 2017 it was overachieved by far. An explanation for this could be the introduction of the radio coverage tool that was better able to determine the audience of a radio station; increased ownership of radio and mobile phones could also be a reason. However, low target setting by grantees was also a factor.⁶⁰

Men had more access to ICT-enabled extension than women: 67% of the farmers with access were men and 33% were women. This was similar for the use of ICT-enabled extension. The access of women in all countries is lower than for men except for Mozambique (52% of women have access and 48% of men).⁶¹ Senegal (42% women), Tanzania (40% women), Ghana (36% women), Malawi (31% women) and Ethiopia (20% women) follow. Note that, for charts related to the PIRS indicators, the PIRS data for 2018 was not available at the time of writing, which is one reason why such low achievement is indicated for 2018 (the other reason being that only some countries are still active).

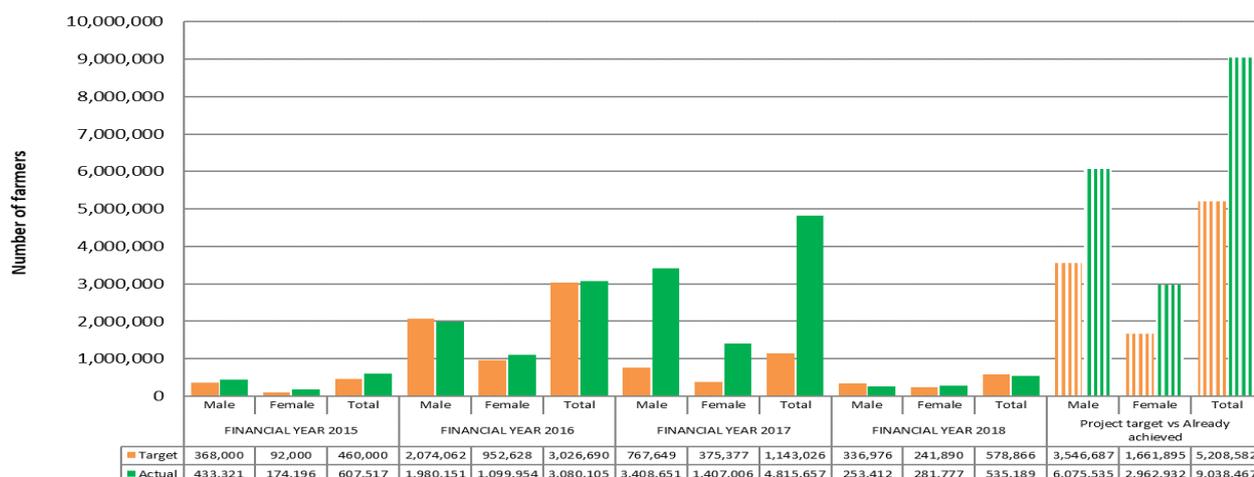
⁵⁸ Indicator 1.1 Access was measured for farmers that owns the radio or mobile phone. Indicator 1.2 counted also users that did not own the radio / mobile phone, but listened in community listening groups.

⁵⁹ EMM did not report their actuals for 2016.

⁶⁰ AgroTech (Ghana) did not set targets for 2017 but reported actuals and MODES (Malawi) and EMM (Mozambique) had set very low targets for 2017. The actuals for MODES (Malawi) included an additional district according to the MEL provider where a SSTP started to work in 2017. This may have contributed to the big increase in achievements for indicators 1.1 and 1.2.

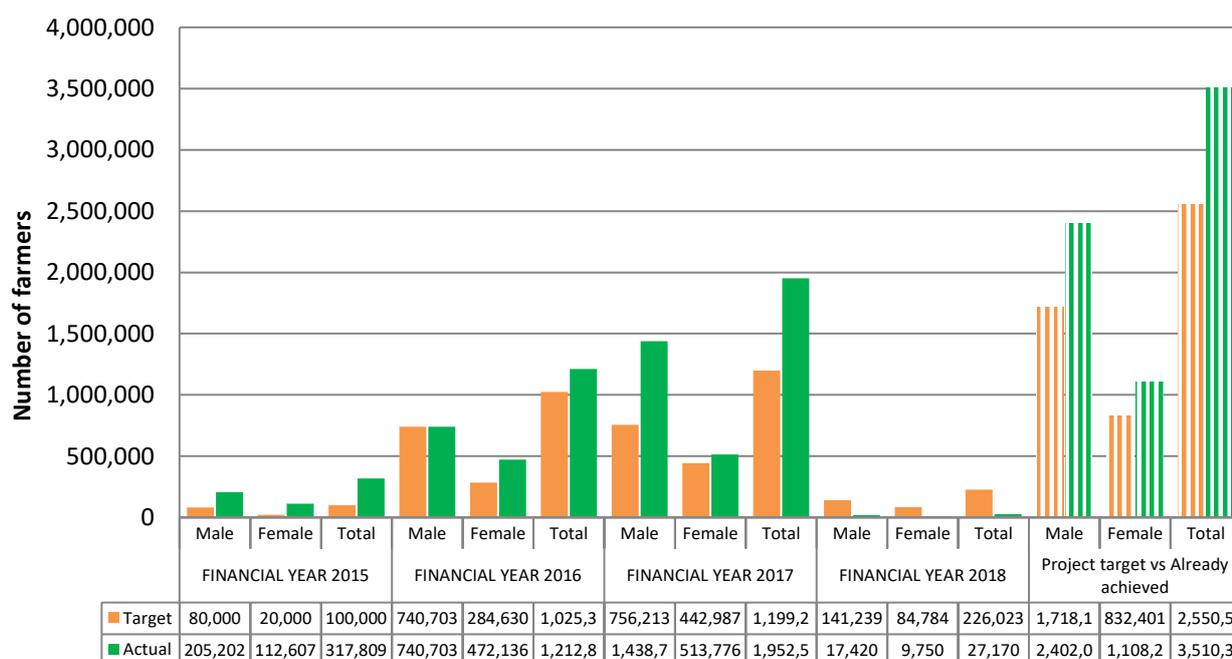
⁶¹ The ET was not able to determine why EMM (Mozambique) was able to reach more women than the other grantees.

Figure 7: The number of farmers with access to ICT-enabled services (indicator 1.1) target vs actual⁶²



For indicator 1.2 *Number of farmers using ICT-enabled services* the overall target is overachieved, but less so than for indicator 1.1. Some grantees had over-estimated the number of women they could reach in their target setting especially in 2017.⁶³

Figure 8: Number of farmers using ICT-enabled services (indicator 1.2)



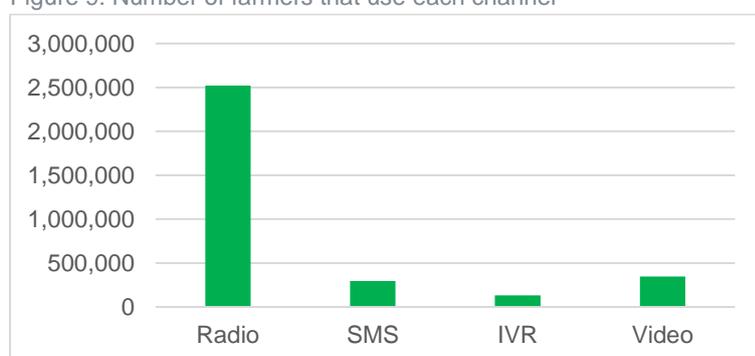
For the results relating to *use of technologies/practices* (indicator 1.2) Digital Integration (Ethiopia) is the largest contributor, although MODES in Malawi far overachieved their target 1.2 and is not far behind. EMM in Mozambique and TICmbay in Senegal reached fewer farmers with their ICT-enabled services than the other grantees. However, they well exceeded their target, and are still running until March 2019. Again, these high achievements could be the result of low target setting by grantees.

⁶² Source PIRS 2016 and 2017, annual report 2016 Ghana and Q3 report 2018 of Senegal and Mozambique.

⁶³ MODES (Malawi) had set a target of 30% female farmers of 88,000 targeted farmers for indicator 1.2 in 2017 and achieved 25% of 573,000 farmers). AgroTech (Ghana) had set a target of 64% female farmers for 2017 and achieved 40% female farmers. Other grantees had achieved their target for female SHFs, but for the whole indicator more males were reached than females.

The number of users, in all countries, is lower for women than for men. For Mozambique, 46% of users are women, Senegal 45%, Tanzania 39%, Ghana 32%, Ethiopia 28% and Malawi 25%. In the DFID business case, one of the outputs was “improved access for 3 million smallholder farmers”. This amount was far overachieved for access (1.1) by 301%, but even for the number of actual users of the ICT-enabled services (1.2) by 117% of this target. Disaggregation was also done for the different channels, although not all target and actual data was disaggregated.⁶⁴ Figure 9 still provides a good insight into the use of the different channels and the dominance of radio to reach out to the majority of the users. The grantees broadcasted interactive radio programmes where the SSTP technologies and practices were explained by local farm leaders with authority. Most grantees had also established or worked with existing radio listening groups. In Senegal, for example, farmers listened to a radio programme about ApronStar⁶⁵ in villages that could not be reached by cars. They discussed the radio programme in their groups, decided to try it and collected money to buy it in a nearby village. They were not in contact with an extension agent and would otherwise not hear about it. In Ethiopia the farmers watched videos in groups. They discussed the content afterwards and committed to each other that they would apply the practice shown in the video.

Figure 9: Number of farmers that use each channel



As noted in Section 2, the ET used ToC and, as part of that, contribution analysis, to explore IP1 in more depth in the three countries visited. The full contribution analysis is available in Annex 7 and the overall assessment of IP1 based on all findings including those from the contribution analysis, is available in Annex 6 pages 90–94. In relation to the part of the IP that concerns Output 1: The provision of agricultural extension to smallholder farmers via ICT-enabled services, the contribution analysis involved in-country examination of the specific steps taken to achieve the output, the assumptions behind these and reflection on whether these were appropriate. Findings were that the strength of evidence on the contribution of the NA-ICT CF to planned outputs at this step of IP1 was strong. The causal pathways at this level of IP1 had greater granularity but were well aligned with the programme-level ToC IP1 and assumptions held. This was the case for all three countries. The re-examination of the ToC for IP1 in Annex 6 also confirmed that the ToC for this pathway was strong.

Excellent: The ET’s overall assessment is that the NA-ICT CF did enable smallholder men and women to both access, and use, ICT-enabled extension. Grantees far overachieved the output indicators. Women have less access than men. Digital Integration in Ethiopia reached the most farmers to use the ICT-enabled services with MODES in Malawi close behind. Radio is the main channel for reaching a high number of farmers. Three grantees (in Mozambique, Senegal and Tanzania) are still implementing. They have to submit the PIRS for FY 2018 and FY 2019 (for Q4

⁶⁴ The numbers in figure 9 don’t add up to the total number of users in figure 8, because grantees did not provide all data disaggregated to channel.

⁶⁵ Apronstar is a seed treatment made up of both (fungicides and-insecticides). It protects both the seed and the young seedling.

2018 and Q1 2019). This will increase the overall result on output indicators. Contribution analysis confirmed that this (activities to output) stage of IP1 of the ToC was strong, i.e. that there was strong evidence of contribution of the CF to the planned output at this step of IP1.

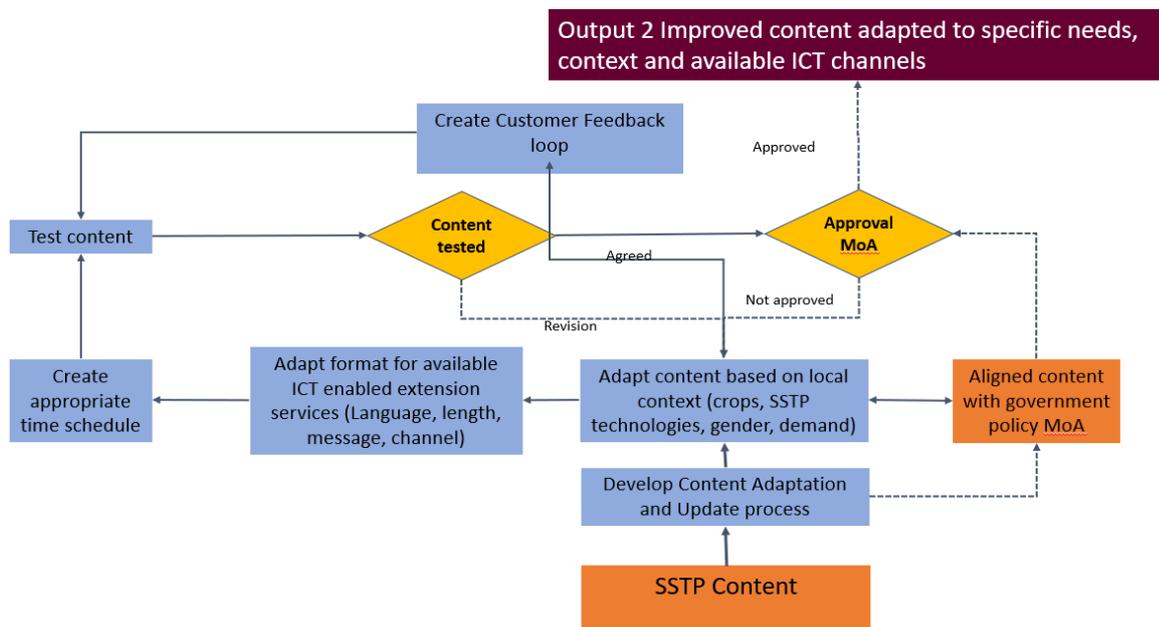
3.2.2 Content development (IP1, and Output 2 in the ToC) (EQ 5)

This question relates to Output 2 in the ToC “Improved content adapted to specific needs, context and available ICT channels”. Sequentially, in the ToC, Output 2 should be completed before Output 1 in order to provide agronomic extension to smallholder farmers using ICT-enabled extension. The overall content development process was described in the ToC (see Annex 6 for more detail). A number of areas were explored under this question, and findings are organised under six sub-headings.

- **Were content committees set up and which stakeholders were actively involved?**

Findings from the document review and in-country interviews were consistent. Content committees were set up in countries where government approval was needed of content, before it could be disseminated to farmers (Ethiopia, Malawi, Mozambique and Tanzania). In all countries, stakeholders were involved in developing content for campaigns in a participatory way. In the three countries the ET visited (Ethiopia, Senegal and Tanzania), the team developed contribution stories (see Annex 7). These are more detailed versions of the IP1 ToC, based on the actual implementation in the country context. Figure 10 is an illustration based on the Tanzanian content development process.

Figure 10: Content development process Tanzania



All grantees involved SSTP grantees and farmer groups in the content development process. All grantees trained those involved in content development to deliver the message consistently, especially radio staff. All grantees have (some) alignment in content between channels. There were also differences between grantees. Not all grantees had content committees (e.g. AgroTech and TICmbay because no government approval was needed) and not all grantees involved research institutes and government extension directly in content development (e.g. in Senegal, where content was specifically developed to promote SSTP technologies in line with SSTP grantee needs).

- **How did grantees use best knowledge available for content development (including through collaboration with SSTP and others)?**

The grantees developed their programmes independently from each other, but the ET found many similarities. Localisation was key for all grantees. All grantees used localised content in local language. Most localisation was done at district level to create locally relevant content (although in Senegal this was only done later in the implementation phase). All grantees followed the crop calendar for content creation and delivery. Content development was a well-planned process in all countries, which made it less flexible in terms of covering emerging, and sometimes urgent issues especially in case of government-approved content (e.g. fall army worm in Tanzania and Malawi). All grantees developed content around SSTP priority crops and technologies. The differences were mainly in how they implemented the content development process. Some grantees (Digital Integration in Ethiopia, MODES in Malawi and UPTAKE in Tanzania) describe a government validation process to create government certified content that could be disseminated. In Senegal, SSTP grantees first worked together to develop content in French. The regions then chose the content that was useful in that location and translated it into local languages. The SSTP grantees then validated the localised content from farmer groups and radio stations before dissemination. In general, grantees used well-sourced and moderated knowledge for the content development process.

- **Were the contents needs-driven, credible, relevant, trusted and actionable?**

The starting point for content development for most grantees was information about the SSTP technology. This is therefore supply driven and/or extension driven. However, participatory design of content with relevant stakeholders, including farmers, tweaked this into demand-driven information. Most grantees used trusted voices (in Senegal, for example, they used the presidents of farmer cooperatives to record messages) or credible research institutes to improve trust in content message (Tanzania) (the importance of trust is further described under section 3.4 in relation to Outcomes). The programme mostly used actionable messages with, for example, contact details of local dealers or calls to visit a demonstration plot or a seed market in the neighbourhood of the farmer. There were also differences between country programmes. Some grantees developed campaigns and content around crops (as in Tanzania, Mozambique, Ghana, Malawi), others more around the SSTP technologies (e.g. the Aybar broad bed maker in Ethiopia and use of ApronStar in Senegal), although in Ethiopia and Senegal some good agronomic practices were also addressed. The crop-centred content seems to be more relevant for farmers, because it addressed all questions around a certain crop and not only the SSTP technology. Some grantees start content development with a government-approved extension package (Tanzania, Ethiopia) to make it more relevant and trusted for the farmers. In-country interviewees perceived the CF as being driven in a more “top-down” manner, e.g. SSTP grantees driven (Senegal) or extension agent-driven (Ethiopia), which is not always demand-driven from the farmers perspective. In the case of potassium fertilisers (Ethiopia), this was not seen as relevant and proven by extension agents and farmers. However, overall, content was assessed as being needs-driven, credible, relevant, trusted and actionable.

- **Are the grantees reporting back farmers’ feedback to SSTP to improve content creation?**

In all cases feedback mechanisms for content development were built in from the design phase, as is the norm, and seen as best practice, among the grantee organisations. There were good feedback mechanisms designed to test relevance for farmers. The grantees were all working with farmer groups to test relevance, which was essential to have locally relevant content. In general, the ET found strong findings regarding feedback mechanisms from farmers in all countries to inform the content development of the next campaign/crop cycle. All grantees used outcome research (including farmer focus groups) after each campaign (at least for radio campaigns) to get

feedback to use in the design of the next campaign. There were also differences: some grantees have real time feedback mechanisms (IVR), phone-based surveys or mid-campaign focus groups; others get feedback through SSTP grantees (Senegal) or research institutes (Tanzania).

- **Is the content of advisory services appropriate and delivered in a timely manner?**

Content was appropriate for farmers (only in one case in Ethiopia on potassium fertiliser there were doubts about relevance of this SSTP technology). Most information was delivered in a timely manner, following the local crop calendar, but delays in some campaigns (Malawi, Senegal, Ethiopia) due to delayed government approval were mentioned by some interviewees. In some countries (Senegal, Ethiopia, Tanzania) content is appropriate, but due to non-availabilities of the seeds being promoted, this was not relevant at that moment or delivered too late. In these (minority of) cases, farmers tended to lose interest in those varieties.

- **Contribution analysis results for Output 2: Content development**

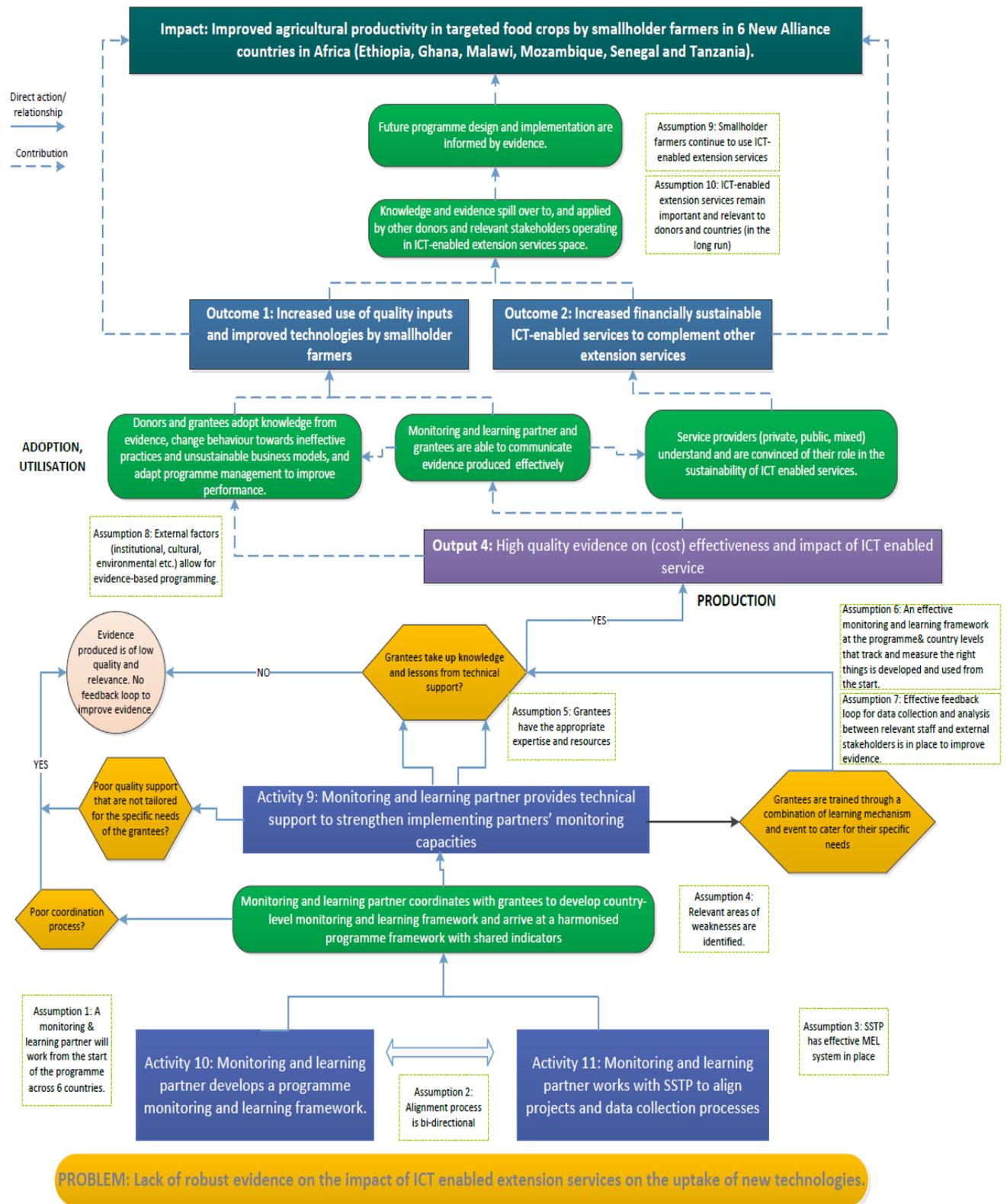
Annex 7 provides the full contribution analysis carried out in the three countries visited. The contribution analysis focused on IP1 and included the content development process as illustrated in Figure 10 above, relating to Output 2 in the ToC. At country level much more detail was gained on the steps taken in content development, including validation and revision of content. Assumptions were also explored. For all three countries the assumptions did, on the whole, hold true and, where they did not, the grantees made adjustments to the process. Given the correlation (albeit with much greater granularity) between the content development steps in the causal pathway in the three countries with the programme-level equivalent, and given that most assumptions held, it is concluded that the strength of evidence on the contribution of the NA-ICT CF to planned outputs at this step of IP1 was high. The re-examination of the ToC for IP1 in Annex 6 also confirmed that the ToC for this pathway was strong.

Good: In sum, the ET has strong findings that countries adapted the content to specific needs, context and available ICT channels. Content committees were set up in countries where government approval of content was needed before it could be disseminated to farmers (Ethiopia, Malawi, Mozambique and Tanzania). A participatory content development process was developed, and stakeholders were involved in all countries. Good feedback mechanisms were in place to adapt content for the next cycle/campaign. Content is seen as appropriate for farmers. Most information was delivered in a timely manner, following the local crop calendar, but several grantees mentioned delays in some campaigns (as in Malawi, Senegal, Ethiopia) due to delayed government approval. In some countries (Senegal, Ethiopia, Tanzania) content was appropriate, but seeds were not available at the right time or in sufficient quantities. Contribution analysis in the three countries visited evidenced the strong contribution of the CF at the activities to output (2: content development) level of IP1 of the ToC.

3.2.3 Whether and how high-quality evidence was produced

This question (EQ6) relates to IP3 and within that Output 4: “High-quality evidence on (cost) effectiveness and impact of ICT-enabled services”. A number of areas were explored under this question, and findings are organised under seven sub-headings. The ToC IP3 relates specifically to EQ6 so is included below in Figure 11. This IP was re-assessed in the light of evaluation findings in Annex 6 and summarised in the last bullet point in this section as a seventh point. The ET carried out a thorough DQA to inform the findings in this section (see Annex 8). These are discussed further under the fourth bullet below: How accurate and valid are the results reported by the grantees, both individually and in total; similarly, how accurate and valid is the disaggregation?

Figure 11: Theory of Change Impact Pathway 3



- **How effective was the MEL contractor in providing technical support to grantees to strengthen monitoring capacities and in coordinating with them in the process of developing country-level framework?**

The ET found mixed findings from the six countries, the MEL contractor and the donors. The grantees that started first (Digital Integration in Ethiopia, AgroTech in Ghana, MODES in Malawi

and TICmbay in Senegal) had already developed their own M&E systems before the contractor was appointed. While MODES and AgroTech appreciated the MEL contractor's guidance and worked well (it appears from the documentation) with the MEL contractor, for Digital Integration, and particularly for TICmbay, significant adjustments had to be made and these grantees were not satisfied with the support they received. Finally, it appears that the grantees that started later – EMM and UPTAKE – were more satisfied with the MEL contractor's support (presumably because they had their guidance from the start, the PIRS indicators were developed and the MEL contractor was already running).

The MEL contractor confirmed in the interviews that the start was difficult. It did not coincide with the start of the grantees and there was MEL contractor staff turnover at that time. However, the contractor effectiveness improved over time. The MEL contractor discussed data collection methodologies in individual calls with all grantees for each of the six indicators for reporting, using the PIRS as reference. This was also discussed face-to-face during the two learning events in Ethiopia and Tanzania. Where the MEL contractor found data inconsistencies, it did follow-ups with grantees before it completed the data submission into USAID's Feed-the-Future System. The MEL contractor was itself not satisfied about the support it had provided. The MEL contractor could not visit individual grantees in the field and was not allowed to do a full data quality audit, due to budget constraints.

The MEL contractor did develop tools, e.g. the PIRS and a template for an M&E plan, and built the capacity of the grantees to provide better quality data in their reports. It also built the capacity of the finance staff to measure and report on indicator 2.1: *Percentage of costs of ICT-enabled services covered by non-donor sources*. Analysis of data did not go beyond compiling aggregated data. There was consensus among the donors that the MEL contractor was not adequately positioned for their assignment. They considered it weak in both M&E (including use of PIRS), and in its knowledge of ICT4Ag. Second, there was consensus among donors and the MEL contractor alike, that the grantees needed a lot more support to grasp the use of the PIRS than expected (particularly those in Malawi, who had to have a great deal of support from the MEL contractor). There was variable capacity among the grantees in terms of monitoring/using the PIRS. The MEL contractor was supported at the start by the USAID M&E specialist working on NA programmes, who worked closely with the contractor to finalise the cross-country results framework and indicators consistent with SSTPs. Within the donor group, however, IFAD did express satisfaction with the support that the MEL contractor gave and the indicators that were set. The MEL contractor's performance improved over time according to both DFID and USAID.

- **How effective was the MEL contractor in facilitating learning and monitoring within the grantee network?**

In general, the MEL contractor was not very effective in facilitating learning between grantees, even according to themselves. It was not able to develop a learning culture where participants shared lessons. Adobe connect, which was used for virtual learning events, did not work well for grantees with low bandwidth, such as in Malawi. The MEL contractor was not able to create a trusted environment where grantees would like to share their lessons and experiences, instead of seeing each other as competitors.⁶⁶ Webinars were conducted, but with not much interaction, and learning tended to be at a basic level. Two face-to-face meetings took place. The ET had mixed findings on these. Some participants were satisfied with them, but others mentioned that the face-to-face meetings could have been more interactive, with more opportunities to share and to

⁶⁶ This was, according to the MEL contractor, partly caused by their being appointed late which meant that there was a lack of face-to-face meetings between themselves and the grantees at the start of the NA-ICT CF to establish personal relationships and trust, and partly due to a lack of commitment of grantees, because learning and lesson sharing was not budgeted for in their contracts.

address common challenges. There were mixed views about the virtual learning events as well, from all of those interviewed. Shortcomings were the difficulties of communication faced by bringing so many people from different countries together on one platform for a number of hours (and across different time zones); insufficient time to present and discuss; and the “lecturing” style taken by the MEL contractor. Participants did appreciate the chat room run by the first USAID COR/AOR for the CF, considering it useful and well run. There was some lack of clarity among the grantees regarding the need for them to budget for PIRS-related M&E and to attend the face-to-face workshop. TICmbay, for example, had not budgeted for travel to workshops or to spend time working on PIRS and joining virtual workshops.

- **To what extent did the grantees provide proper resources (expertise, budget, etc.) to their monitoring and learning function?**

The ET found that grantees provided resources for monitoring, but less for learning. All six grantees had allocated resources to M&E, although for grantees that started later (EMM, UPTAKE) M&E was more focused on the collection of PIRS data. There were also differences. Four of the six grantees – those from Ethiopia, Ghana, Malawi and Senegal – gave careful consideration to M&E, planning their M&E prior to the MEL contractor coming on board and had fairly rigorous measures in place, although MODES needed more support than the other grantees to set this up. Three grantees did some kind of baseline (those in Ghana, Malawi and Senegal). Radio campaigns had baseline, mid-term and end (outcome) surveys. MODES and AgroTech contracted an end evaluation and Digital Integration managed to leverage funding to contract the International Food Policy Research Institute (IFPRI) to carry out a randomised control trial (in progress). TICmbay (Senegal) included a MEL provider in the consortium (UCSC) and developed a strong MEL strategy and budget to support this, listing in-depth surveys, short indicator-focused surveys, phone-based surveys and user experience focus groups as the four main M&E methods. UCSC also conducted a longitudinal field survey, used the user data of the TICmbay platform and built the capacity of Jokalante⁶⁷ in M&E skills.⁶⁸ The two grantees that started later – EMM in Mozambique and UPTAKE in Tanzania – did not develop separate M&E plans (apart from FRI's standard good practices). EMM is monitoring the PIRS, whereas UPTAKE had assumed that the MEL contractor would do most of the M&E. FRI (lead grantee of UPTAKE) developed their own M&E plan for the radio campaigns with baseline, mid-term and end-term participatory radio campaign surveys. CABI (sub-grantee, UPTAKE) had not budgeted for M&E of the SMS service and had to source funding from another donor through the Africa Soil Health Consortium to carry out some deep dive research (to supplement the quantitative PIRS measures with more qualitative evaluation findings). CABI, in Tanzania, acknowledged that the process evaluation undertaken to inform itself was unstructured and poorly managed/filed, and had understood that it did not have the responsibility for M&E, which lay with the lead of UPTAKE: FRI). The extent to which grantees prioritised learning is discussed in Ch. 4.

- **How accurate and valid are the results reported by the grantees, both individually and in total; similarly, how accurate and valid is the disaggregation?**

The MEL contractor could not do a proper DQA due to budget constraints. USAID considered it optional. They developed templates and data reporting protocols and guidance to make it easier for grantees to submit their reports. Indicators were reported to FTMS. The MEL contractor had an after-action review in place after every data collection cycle. The ET carried out a DQA (Annex 8), examining a number of criteria. Grantees performed well overall in the reliability of data. They performed fairly well in the timeliness, validity/relevance and completeness of data. Evidence of

⁶⁷ Jokalante is the social enterprise set up by the TICmbay consortium to operate and develop the TICmbay platform.

⁶⁸ TICmbay is the ICT platform that is developed by the TICmbay consortium to disseminate messages by SMS and IVR to farmers. User data consist for example on number of users, number of calls in and out, number of SMS.

unsatisfactory practice was mostly in the setting of a clear methodology for data analysis, and the highlighting of concerns/limitations of the research process (though grantees were not required to do these). AgroTech, TICmbay and Digital Integration came out as the strongest performers, while MODES and UPTAKE performed fairly well with some shortcomings. EMM's performance appeared fair, although it was unsatisfactory in terms of timeliness and completeness. Grantees' relatively good performance as assessed in the DQA occurred despite the limited support and guidance in the collection and analysis of data at the start of the NA-ICT programme, lack of quality review by the MEL contractor, budgetary constraints, and the start of the MEL contract when the programme was already in its implementation. The results of the DQA are in line with the findings of the ET overall.

- **To what extent are the other public outputs of the programme (e.g. webinars, press releases etc.) suitable and of good quality?**

Public outputs of the programme were minimal. Some of the MEL contractor deliverables (i.e. the landscape analysis) were not approved by USAID to be published due to quality issues. USAID published two blogs on the USAID Learning Lab⁶⁹ about the programme. The MEL contractor was working on a gender infographic and a cross-country case study prior to completion of its contract at the end of September 2018. Both document review and interviews have indicated that producing public outputs has not been a priority in any of the six NA-ICT countries; internal learning lab briefs were presented well (though there are some inaccuracies in the one about EMM, Mozambique) but it is not clear if they have been made public; and case studies⁷⁰ are of good quality, although it is unclear how and to whom they were disseminated outside the NA-ICT community on the USAID Learning Lab. At country level, some documents were published. For example, CABI (Tanzania) has been uploading the technical briefs developed under UPTAKE on to the publicly accessible African Soil Health Consortium database. These technical briefs are clear and comprehensive according to the ET. This is illustrated in a technical brief of cassava, a 35 message SMS campaign from UPTAKE in the African Soil Health Consortium database:

<http://africasoilhealth.cabi.org/materials/cassava-35-message-sms-campaign/>. FRI published several blogs on their Barzawire platform about the projects in Ethiopia, Ghana, Mozambique and Tanzania.

- **What lessons can be learned about the challenges in establishing common indicators and collection of data?**

The idea of having common PIRS indicators across all six countries was rather new, both for the MEL contractor and the grantees, but not for USAID. It took time to make grantees aware of the benefits of common indicators and of shared definitions and to train them to use them accordingly. All grantees agreed that more time should have been allocated for face-to-face capacity building. Clear tools, such as data collection sheets and definition guidelines, are helpful to grantees. Common indicators are hard to create but are necessary to compare countries with each other. SSTP had many more indicators than NA-ICT, and assistance to grantees in reporting was provided by M&E experts in each SSTP country office, which worked well. USAID was not satisfied with the MEL contractor's ability to implement, or support, the use of common indicators across countries. It did not help that the MEL contractor was contracted late. However, the face-to-face workshop run by the MEL contractor in Tanzania had a day dedicated to data collection practices and plans, monitoring techniques and a discussion of the challenges grantees face in collecting and reporting quality data. The FRI contact responsible for three of the countries where FRI was

⁶⁹ [USAID's Learning Lab](#) is an interactive community where members can access and contribute to a growing collection of tools and resources on integrating collaborating, learning, and adapting (CLA). USAID established for NA-ICT CF a closed sub-community to collaborate and learn from each other.

⁷⁰ Four-page briefs about NA-ICT CF implementation in five of the six countries, produced by the MEL contractor.

involved (Ethiopia, Mozambique and Tanzania) thought that the PIRS indicators were sufficient, clear, focused and useful and appreciated the consistency across countries. TICmbay faced particular difficulties adjusting to the PIRS indicators, which were heightened by the fact that they had not budgeted time or resources to work on the PIRS, to cover the costs of travelling to the annual workshops or the time to join in on the virtual learning events. TICmbay would have preferred to adhere to their MEL approach and to develop a logframe (which was not encouraged by the MEL contractor).

- **Theory of Change Impact Pathway 3**

Impact pathway 3 of the Theory of Change focused on achieving high-quality evidence on (cost) effectiveness and impact of ICT-enabled services. The full flow is shown in Figure 11 at the start of this section. A full description of IP 3 is given in Annex 6. One of the three assumptions between activity and output did not hold and one only held partially. This had implications for the achievement of Output 4 “High-quality evidence on (cost) effectiveness and impact of ICT-enabled services”. High-quality evidence was collected at output and outcome level, but not at the impact level. Output 4 could have been better formulated as “High-quality evidence on output and outcome of ICT-enabled services”. All three assumptions at output to outcome and outcome to impact levels held and outcomes were achieved or anticipated. The proposed revised Output 4 contributed to the achievement of Outcome 1 and Outcome 2. To this extent the articulated ToC for IP3 was strong and the assumptions were critical to performance and the articulated causal pathways on how the outputs lead to outcomes. However, in relation to the original Output 4, this was not achieved. If the CF was continuing, then IP3 and its one output (Output 4) would need to be reconsidered, unless the continued project included measures of cost-effectiveness and impact.

Unsatisfactory: The overall findings for this EQ is that the MEL contractor was, for various reasons, unable to provide effective support to the grantees from the start of the programme. This included both technical support to grantees to strengthen monitoring capacities, and learning. This was partly due to late contracting of the MEL contractor, but also staff turnover and a lack of experience in ICT4Ag. The budget constraints that the MEL contractor faced were also a contributing factor. The support provided by the MEL contractor did improve over time and was certainly needed as the monitoring capacity of some grantees was lower than expected. The face-to-face meetings were seen as most valuable, although those meetings could have been more interactive. A learning culture was never established, and therefore learning did not go beyond basic. Deep learning on topics such as effectiveness of channels and monitoring of adoption and sustainability never took place. M&E was mostly concentrated on collecting PIRS data. Analysis of data did not go beyond compiling aggregated data. However, good evidence was created at output ⁷¹ and outcome ⁷² level that ICT-enabled extension services are effective. Output 4 “High-quality evidence on (cost) effectiveness and impact of ICT-enabled services” could have been better formulated as “High-quality evidence on output and outcome of ICT-enabled services”. Overall, if a strong MEL partner had been contracted from the start of the programme, a baseline conducted, and impact indicators measured in the PIRS, much stronger evidence would have been generated.

⁷¹ Farmers watched videos, listened to interactive radio in radio listening groups, received voice or text message and received content that was seen as relevant and timely.

⁷² See section 3.4 Progress towards outcome to impact for more details.

3.3 Value for money

EQ 7 Economy: To what extent has the programme considered and managed costs?

EQ 8 Efficiency: How well are programme resources used by grantees to deliver programme outputs?

EQ 9 Effectiveness: To what extent has the programme enabled grantees to achieve outputs and outcomes?

EQ 10 Equity: Are the services and benefits equally accessible across gender, region, or socio-economic background?

Summary of findings regarding VfM

The ET has mixed findings for Value for Money along the 4Es and the VfM measurements in the DFID's business case proposition. The M&E systems and the financial accounting systems of the grantees were not aligned with each other. The financial data provided to the ET was unfortunately incomplete, with insufficient detail to link cost data to outputs and outcome. VfM as an approach was not embedded from the design of the programme and difficult to measure retrospectively. This limitation was discussed with DFID in mid-2018 and it was agreed that the ET would endeavour to carry out a limited and partial VfM at country level for those countries for which there was enough information. In Annex 9 a detailed analysis is conducted based on the data the ET gathered from grantees. The NA-ICT CF programme developed a results framework with PIRS indicators. These indicators were developed as comparative measurements to compare programme achievements between grantees internally. The ET assessed that the grantees did use their funding well in terms of efficiency in achieving outputs, and effectiveness in achieving outcomes, because at programme level all targets of PIRS indicators were met with the funds received. Neither cost-effectiveness nor impact indicators were measured by the grantees.

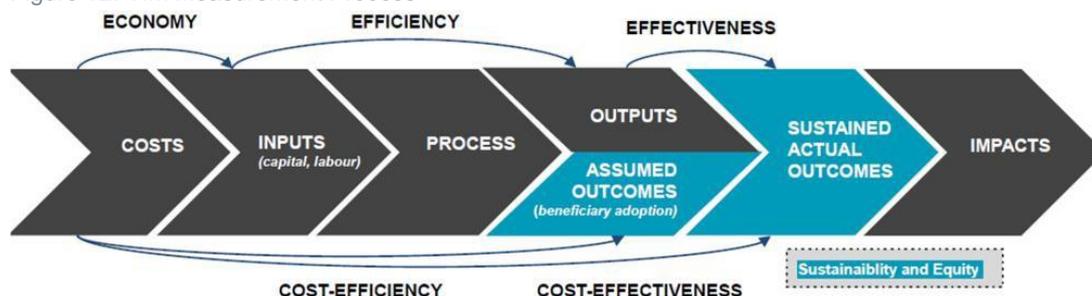
Findings on economy were less strong. Grantees were selected using a competitive process, but accountability and VfM were not at the forefront when finalising agreements. In addition, while grantees may have taken measures to ensure economy, e.g. through competitive procurement, cost savings and actual expenditure, this was not part of the required reporting and, therefore, was impossible to assess by the ET through lack of data. The ET assessed "equity" findings also as less strong. Women have more limited access to ICT-enabled services than men, as a result of socio-economic factors and the choice of crops and technologies under SSTP.

3.3.1 Introduction

The ToR requires VfM measures that assess four key factors at country and programme levels:

In this section the ET will present the key findings.⁷³ Measurements relate directly to the four VfM factors, the questions above, and the VfM measurement process as depicted in Figure 12.

Figure 12: VfM Measurement Process



3.3.2 DFID business case

The ET also assessed the VfM proposition described in the DFID business case.⁷⁴ The ET has the following findings on the six sub-headings mentioned in the business case.

- **Most of DFID’s funds will be pooled with other donors and managed directly by USAID. USAID will not charge any project management staff time or overhead costs to the fund.**

The programme is delivered by USAID. The UK is providing GBP 2,800,000 over four years. Grants are fully operational in all six countries,⁷⁵ and 89% is pooled with the other donors. DFID have contracted the service providers for the evaluation function on behalf of the NA-ICT Agriculture Extension Fund Steering Committee. Some 11% of DFID’s funds are spent directly on the evaluation contract. The total fund is around USD 12 million over four years. The other donors are USAID (USD 3 million plus USD 1.6 million in-kind for managing the fund and grantees); the Bill and Melinda Gates Foundation (BMFG) (USD 3 million) and the International Fund for Agricultural Development (IFAD; USD 1.5 million). This criterion is met.

- **Grantees will be selected through a competitive process with VfM and amount of co-funding as important selection criteria.**

A technical committee (made up of USAID, DFID and BMGF for all but Tanzania, and IFAD and USAID for Tanzania) reviewed the bids from all applicants. The template for bid assessment included five criteria: programme strategy; collaboration and synchronisation with SSTEP; results planning, feedback process, sustainability and scalability; implementation and management capacity; and, staffing and resource leveraging. Each had sub-questions and asked for assessments against strengths and weaknesses. VfM was not explicitly mentioned in the bid assessment template. Only under Program Strategy is a referral made to a cost-effective approach. This criterion is partly met.

- **Accountability and VfM will be at the forefront when finalising the funding agreement with the individual grantees.**

In the Cooperative Agreement between USAID and the grantees VfM is not part of the agreement. This criterion is not met.

- **DFID’s investment will complement funding provided by USAID, BMGF and IFAD which may attract additional resources from other sources. In addition, grantees are expected**

⁷³ In Annex 9, VfM detailed findings are presented at programme and country level.

⁷⁴ Business Case and Intervention Summary. Title: The NA-ICT agricultural extension CF.

⁷⁵ Source: 8.3 NA ICT CF Annual Review 2017.

to bring in their own investments, which would gradually increase during the project implementation.

No additional resources from other donors were attracted outside the initial four donors. Grantees have an amount of USD 5,048,732 as commitment for cost share/leverage in their contracts. The actual amounts of leverage funds are unclear at programme level, because the ET did not receive all expenditure information.⁷⁶ This criterion could not be assessed due to limited expenditure data.

- **The project includes incentives for stimulating innovations and good performance by providing additional ‘good’ performance awards.**

An adaptation fund was awarded mid-term in the project. In the original budget the adaptation fund was USD 800,000. A competition between the six countries resulted in an award of USD 67,500 each for Tanzania, Ethiopia and Mozambique.⁷⁷ The initial adaptation fund had to be reduced due to the lower than expected exchange rate of the GBP for the full DFID contribution. This criterion was met, although the amount was lower than initially anticipated.

- **Opportunities for ensuring quality, robust evidence generated of relevance for the wider sector.**

No public documents are published so far, but the evaluation will publish lessons learned that are relevant for the wider sector. This criterion was not yet fully met.

Fair: In the DFID business case, criteria were stated regarding the VfM proposition of the programme. Not all these expectations were met. Funds were pooled and efficiently managed by USAID. Grantees were selected using a competitive process. They have committed funds for over USD 5 million (although actual expenditure is not yet at that level) and a good performance award was provided to TICmbay in Tanzania, Digital Integration in Ethiopia and EMM Mozambique, although with lower funds than initially foreseen. VfM was not part of the Cooperative Agreement which made it difficult to do a fully-fledged VfM assessment during the performance evaluation and evidence on VfM is not yet published to share with the wider sector, although this evaluation will provide these wider lessons. Overall, the expectations in the business case were not fully achieved with regard to VfM. However, it does not mean that money was not well spent.⁷⁸

3.3.3 Economy

A number of areas were explored under this question, and findings are organised under three sub-questions. For a fourth question, “What are the grantee and sub-grantee staffing plans and actual costs, compared across six target countries?”, insufficient data are available to provide a meaningful comparison between the six countries. Some expenditure information was available from only four grantees. Budget lines for sub-grantee staffing plans were described under “personnel” by some grantees, and under “contracts” by others.

- **What is the evidence of due diligence in selection of grantees and sub-grantees?**

All country grantees were selected using an open competition with Fund donors.⁷⁹ The normal USAID procedures were followed to select grantees. In Mozambique a second round was needed and undertaken to identify a suitable grantee. All donors participated in the selection process. The

⁷⁶ In Annex 9 a more detailed description at country level is provided.

⁷⁷ USAID reduced, the amount to be awarded for the adaptation grants significantly to USD 67,500 each, rather than more than USD 200,000 each after consultation with the other donors. The reason for this was the drop in the exchange rate between USD and GBP between the planning of the fund in 2014 and the actual disbursement. The contribution of DFID was estimated at USD 4.2 million. The actual average exchange rate dropped with 14%. This resulted in an estimated contribution of DFID of USD 3.6 million (- USD 600,000).

⁷⁸ But it does explain why the ET could not conduct a full VfM analysis.

⁷⁹ Interview USAID.

donors used a bid assessment sheet to evaluate each proposal.⁸⁰ Five main criteria were used for scoring: program strategy; collaboration and synchronisation with SSTP roadmap for the country; results planning, feedback process, sustainability and scalability; implementation and management capacity; and staffing and resource leveraging.

Each grantee is leading a consortium to ensure they meet the grant requirement of offering a mix of ICT-enabled extension services. Sub-grantees were brought together organically, meaning that the selected sub-grantees had prior experience in ICT services, were already working with other consortium partners or were selected because they were the best of a limited pool of service providers.

- **Is there evidence of competitive procurement among grantees and sub-grantees; is the supplier market constrained, thus limiting competition?**

In terms of competitive procurement or selection of sub-grantees by lead grantees, no cross-country analysis is possible due to a lack of required data. There is no evidence of competitive procurement processes among grantees, as it is not described in the cooperative agreements nor the annual reports. Only UPTAKE described that they used FRI procurement procedures. Other grantees might have used good procurement processes, but they are not reported. There is also no information available on competition to recruit highly qualified staff in the subject or sub-contractors.

- **Is there evidence of cost-sharing or in-kind support from national extension services or other stakeholders yet?**

There is clear evidence of cost-sharing or in-kind support from national extension services and other stakeholders, but there is insufficient information on actual expenditure to determine the extent of the contribution.⁸¹ This is a key part of the NA-ICT programme, as indicated by the outcome level indicator 2.1 *Percentage of costs of ICT-enabled services covered by non-donor sources*.

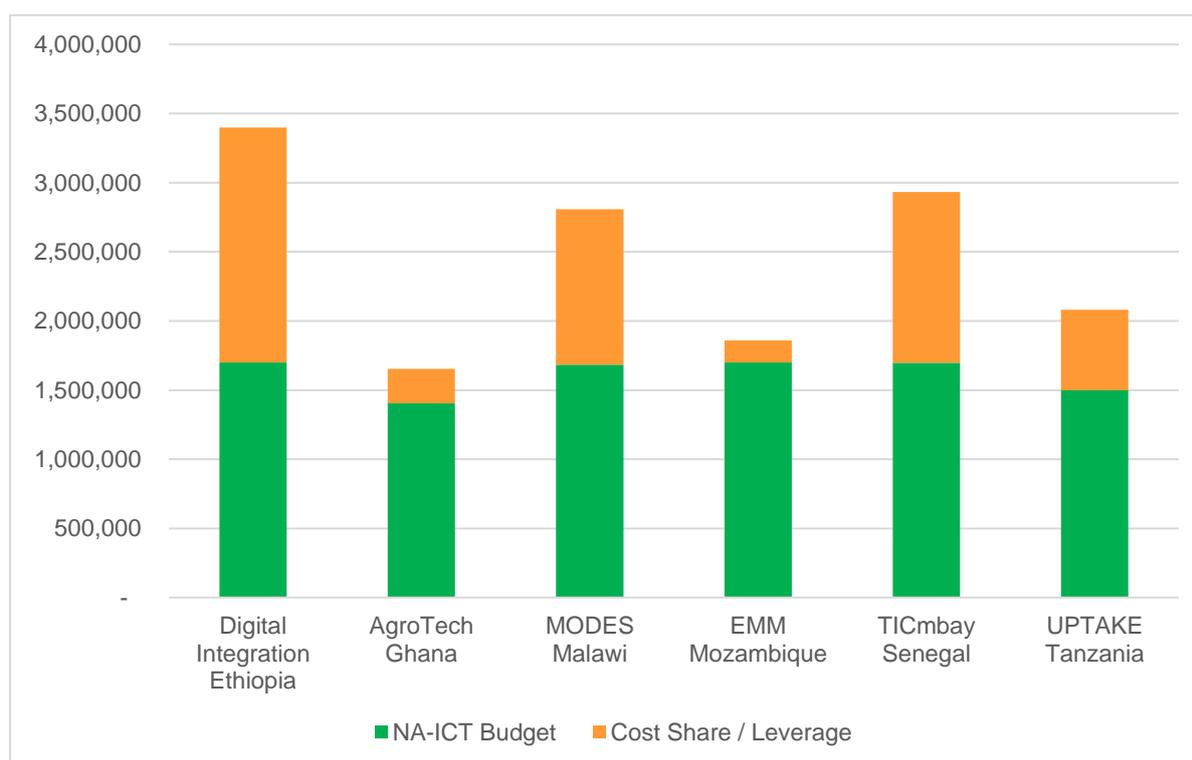
The budget for the country grantees was USD 9,981,048 (from the donors) and USD 5,048,732 (cost share/leverage from (sub) grantees), for a total of USD 15,029,780.⁸² This shows that 33.6% was required by grantees to contribute to the overall programme budget. There was a difference between grantees for which amounts they committed in the Cooperative Agreement. See Figure 13 for an overview:

⁸⁰ Shared by DFID.

⁸¹ Contributions were measured against the on-going cost of disseminating messages, but content development cost and other cost like overhead cost were not included in the indicator.

⁸² This is the sum of all budgets in the six cooperative agreements.

Figure 13: Grant budget vs committed cost share / leverage for all grantees



A good example of contributions of national extension service is Ethiopia, which had a cash contribution of USD 598,599 for equipment and in year three alone a contribution of USD 491,310 of in-kind based on staff time and meeting rooms. A good example of private sector contribution is Mozambique, where Vodacom contributed USD 189,246 in promotion cost and free calls.⁸³

Fair: All country grantees were selected using an open competition based on USAID procedures with donors participating in the selection process. The ET had insufficient data on expenditure to provide a detailed VfM analysis between grantees. The focus of the programme has been on establishing the ICT-enabled services for SSTP technology and achieving targets and less on setting up VfM measures from the start. NA-ICT is a challenge fund and more attention could have been given to competitive procedures to ensure cost are managed well and to report on the actual contributions in cash and in-kind of grantees.

3.3.4 Efficiency

A number of areas were explored under this question, and findings are organised under five sub-headings:

- **What are the trends, over time, of programmable budgets vs. actual expenditures?**

There is insufficient detailed expenditure information to provide a meaningful overview at programme level. There was some level of inefficiency at donor level, however, because the different donors required different reporting formats with different reporting deadlines. The budgets

⁸³ More detail is provided under effectiveness (paragraph 3.35 and Annex 9VfM analysis).

are also not broken down into cost drivers for ICT-based extension.⁸⁴ A harmonised reporting structure with one reporting deadline would have been more efficient.⁸⁵

- **How do financial data correlate with planned results and actual achieved results when compared to logframe results indicators, at programme level?**

The DFID logframe aimed to reach 3,000,000 farmers to use ICT-enabled extension services. The planned total target was 2,613,657, but, according to the ET, target setting might have been too low. The actual achieved results were 3,510,356 farmers that used the ICT-enabled extension services (while the programme is still in its implementation). This is 117% of the intended 3,000,000 farmers. Most of the budget has been disbursed, but grantees in Mozambique, Senegal and Tanzania are still in implementation and will still receive last disbursement.

- **What are the cost-efficiency ratios for key results at the programme level?**

Actual output indicators compared to total direct cost could be used as comparative measurement between grantees to measure cost-efficiency. The PIRS output indicators are overachieved by far, within the given budget. The ET concludes that the programme was cost-efficient in using the disbursed funds and converting them into outputs, although it was not possible to tie cost data to each output indicator. Grantees used the funds well to create relevant content and disseminated this to the farmers through different ICT channels. EMM is confident that they are still able to achieve their target for output indicator 1.2.

- **What are the unit costs across key indicators at programme level?**

While the lack of detailed, disaggregated financial data meant that a VfM comparison was not possible across the programme, unit costs for four grantees' (AgroTech, MODES, TICmbay and UPTAKE) allowed actual cost of users, and farmers that applied SSTEP technologies and number of hectares under improvement, to be calculated. For example, MODES had a cost per user reached of USD 1.78, AgroTech of USD 2.02, UPTAKE of USD 2.42 and TICmbay of USD 3.38. The differences in cost per farmer that applied SSTEP technologies were larger: MODES had a cost per farmer of USD 3.37, AgroTech of USD 4.34, UPTAKE of USD 8.81 and TICmbay of USD 26.9.⁸⁶

- **Disaggregation into ICT channels**

For channels, a cross-country analysis is more complicated because the disaggregation into channels was not done consistently over time by some grantees. Radio is the only channel used by all six grantees. The average application rate⁸⁷ for radio is 21%.⁸⁸ SMS⁸⁹ is well used in Tanzania by UPTAKE with an application rate of 22%. IVR is often used by grantees as a

⁸⁴ like cost of content development, the cost of content curation, the cost of disseminating messages, the cost of personnel providing ICT-based extension services, the cost of promotion ICT-based extension services, the profiling cost, the investment cost to develop a digital extension platform or a mobile app).

⁸⁵ In Annex 9 VfM analysis, more details are provided in some of the country sections regarding country level findings.

⁸⁶ This is described in more detail in annex 9 VfM Analysis for the different grantees. UPTAKE and TICmbay are still in implementation and could reduce their cost per user / farmer applied in the remaining period of their contract.

⁸⁷ The percentage of farmers that used the ICT-enabled extension service that actually applied the SSTEP technologies and practices on their farms

⁸⁸ Big differences between countries were reported for the radio channel: EMM (Mozambique) reported a 92% application rate for radio listeners without providing an outcome survey to proof this high number, MODES (Malawi) reported an application rate of 50% for radio listeners. Ethiopia (22%) and Ghana (25%) presented reasonable application rates. TICmbay (Senegal) reported only an application rate for radio of 6%. This could be caused by the fact that in TICmbay (Senegal) the focus of message was to promote SSTEP technologies only, while certified seeds as such were not new for Senegal.

⁸⁹ SMS is only used by UPTAKE (Tanzania) as a real dissemination channel in Swahili with an application rate of 22%, the other countries sometimes used SMS for extension agents or as an option for reminders, but it was not popular due to illiteracy of some farmers.

supporting channel for radio (to call in) and not separately measured. Video was very well used in Digital Integration (Ethiopia) with an application ratio of 43%.⁹⁰

Good: The programme resources were well used at grantee level. While targets may have been set rather low, outputs were overachieved, particularly for indicator 1.1, which far exceeded its target at programme level. The programme is still in implementation in three of six countries and actuals will increase further when data are collected for the PIRS 2018 and PIRS 2019. At donor level, due to different reporting formats and different reporting deadlines, time and resources could have been used more efficiently with a harmonised reporting structure with one reporting deadline.

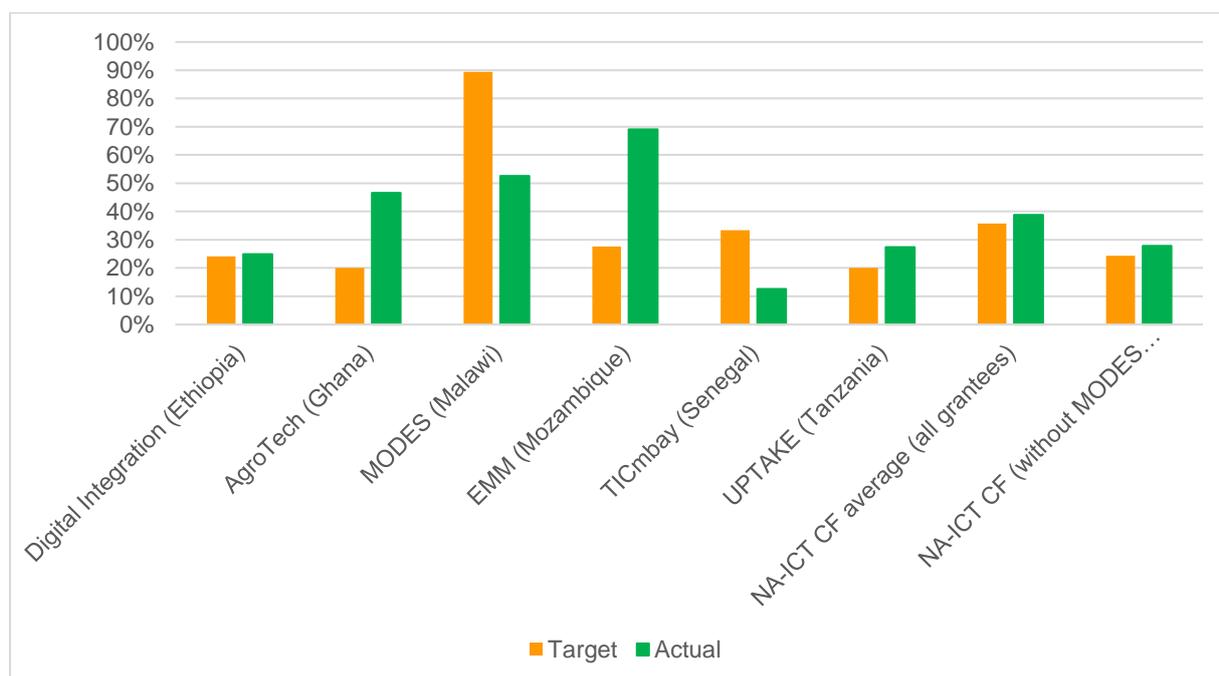
3.3.5 Effectiveness

A number of areas were explored under this question, and findings are organised under three sub-headings:⁹¹

- The percentage of ICT channel users that applied SSTP technologies

A good measure for effectiveness is the percentage of farmers that used the ICT-enabled extension service that actually applied the SSTP technologies and practices on their farms (the application rate).. Actual application rates are slightly above the targeted application rates in most countries.

Figure 14: Percentage of farmers that use ICT-enabled extension (1.2) that applied SSTP technologies or practices (1.3)



The highest application rate is reported by EMM (Mozambique), with 69%. The lowest is reported by TICmbay (Senegal), with 13%. MODES (Malawi) and EMM (Mozambique) have reported the highest application rates, but the ET has doubts about the accuracy of the numbers reported. The

⁹⁰ MODES (Malawi) and AgroTech (Ghana) also used video-based extension, but only at small scale.

⁹¹ A more detailed analysis could be found in Annex 9 VfM analysis.

average conversion rate of the other four grantees is 28%.⁹² Senegal is the only country with an actual conversion rate that is lower than planned especially for radio (see next paragraph). With a new technology like ApronStar, which addressed an urgent problem for farmers, the application rate appears higher, but not all data are yet available.

- **Is there evidence of increased investment in ICT by stakeholders other than donors?**

The grantees have, in their proposals, committed cost-sharing and leverage. They have reported on investments done by the government and private sector. The target for the programme was to reach 54% non-donor funding. This was achieved, with a 55% rate. However, a detailed breakdown of actual income/cost-sharing other than reporting for the PIRS was not available from all grantees.

- **Business model financial sustainability**

The grantees have chosen different business models. None of them is yet fully financial sustainable,⁹³ although some grantees are able to contribute substantially to the running cost of the programme, and in some others the programme is still under way.

Fair: The programme was well enabled to achieve all targets. All outcomes were (over) achieved at programme level. The percentage of farmers that used the ICT-enabled extension service that actually applied the SSTP technologies and practices on their farms was good. Grantees are not yet fully financially sustainable. There was insufficient financial data to make a cost-effectiveness analysis. There is evidence of overall programme cost-sharing commitment, but no clear evidence that actual cost-sharing was at level of commitments. That is the main reason this criterion scores fair.

3.3.6 Equity

The focus of the programme was on smallholder farmers in general, whether male or female (note that gender issues are also discussed in section 3.1: Relevance, in terms of how gender was taken into consideration in programme design; and 3.4: Progress towards outcomes and impact, in terms of women and men applying the technologies).

- **Are services accessible to women and men?**

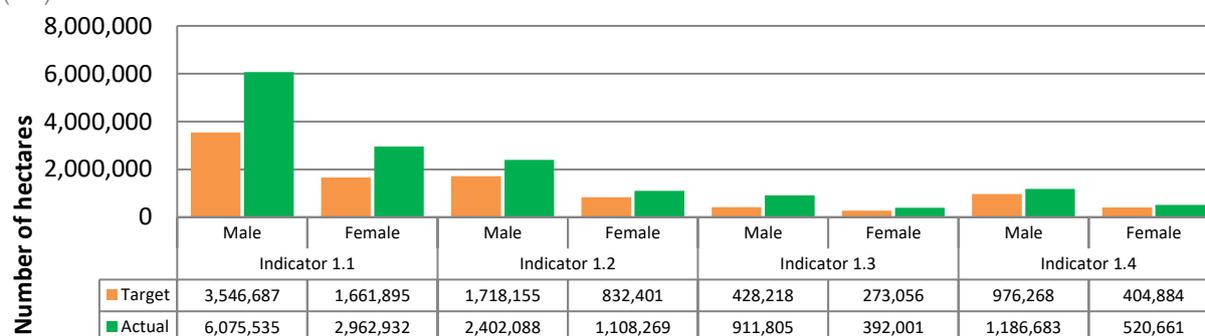
There is strong evidence that women have less access to ICT-enabled services due to social economic constraints. The grantees were, however, proactive in including measures to reach more women despite SSTP itself not having a clear gender focus. These measures included use of radio (to overcome higher levels of illiteracy among women), finding out when women are free to listen to the radio and seeking to have broadcasting at those times, having female voices on the radio and IVRs (including female broadcasters, lead farmers), setting up community listening groups to which women were encouraged to go to, and having women only groups (e.g. in Tigray). As can be seen in Figure 15 below, women were able to access the ICT-enabled services (indicator 1.2), although to a lesser extent than men.

⁹² The ET did double-check the accuracy of the data from MODES (Malawi) and EMM (Mozambique) with the MEL contractor and were assured that it was valid. Both grantees were not able to provide a good explanation about why their application rate was so much higher than the other grantees. The ET therefore assessed the data for indicator 1.3 for both grantees as outlier data. With the two grantees the average application rate is 39%; without the two grantees the application rate is 28%.

⁹³ This will be discussed further in Section 3.5.

Indicators gender disaggregated. Despite all actions undertaken by the grantees, the percentage of women for all indicators is still not above one third. Nevertheless, all targets for women were overachieved, although by less than the targets for men.

Figure 15: Gender disaggregated achievements for access (indicator 1.1), use (1.2), application (1.3) and hectarage (1.4)



Fair: Women have more limited access to ICT-enabled services than men as a result of cultural and socio-economic factors and the choice of crops and technologies under SSTP. Within that context, grantees have taken measures to ensure more access for women. These include several measures to address women’s needs such as the use of audio-visual channels to overcome illiteracy, female trusted voices, and female reporters. The targets for women for all indicators were around 33%. This was similar for the actuals, but due to overachievement of all indicators for men and women farmers, more women were reached than targeted.

3.4 Progress towards outcomes and impact

There were five EQs for this criterion, all of which has several sub-questions. There was some overlap in the findings of some questions. Hence findings for EQ12 have been incorporated in part under EQ11 and in part under EQ14. Findings on unintended outcomes and impacts (part of EQ15) were minimal and are not included. Hence the discussion in this section will cover EQ11, EQ13 and EQ14. This section of the findings is concerned with IP1, Outcome 1: “Increased use of quality inputs and improved technologies by men and women smallholder farmers”, and the NA-ICT CF anticipated impact: “Improved agricultural productivity in targeted food crops by smallholder farmers in 6 NA-ICT countries”. Outcome level findings are discussed under 3.4.1 below, and impact level findings under 3.4.2. There were two gender-related questions under EQ13 but, as they relate more to application (EQ11), not impact (EQ13), findings are reported under EQ11. While the section mainly reports findings at the programme level, there is also some discussion of variations between countries. Annex 9 contains more detailed country-level discussion of outcome indicators 1.3 and 1.4.

EQ11: What evidence exists to show that adoption of technologies is enhanced through the ICT-enabled advisory services? How and why? (Application)

EQ12: Which knowledges and practices have been adopted in what numbers, by whom, and why? (Knowledge)

EQ13: What evidence exists to show that integrated ICT-enabled advisory services are contributing to improving agricultural productivity of smallholder farmers, especially women? (Impact)

EQ14: Which ICT-enabled extension channels, and combinations of ICT-enabled extension channels, are the most effective in achieving results across the grantees, while taking into account the specific country context? (Channels)

EQ15: What are the intended and unintended, positive and negative outcomes and impacts that can be observed? (Unintended)

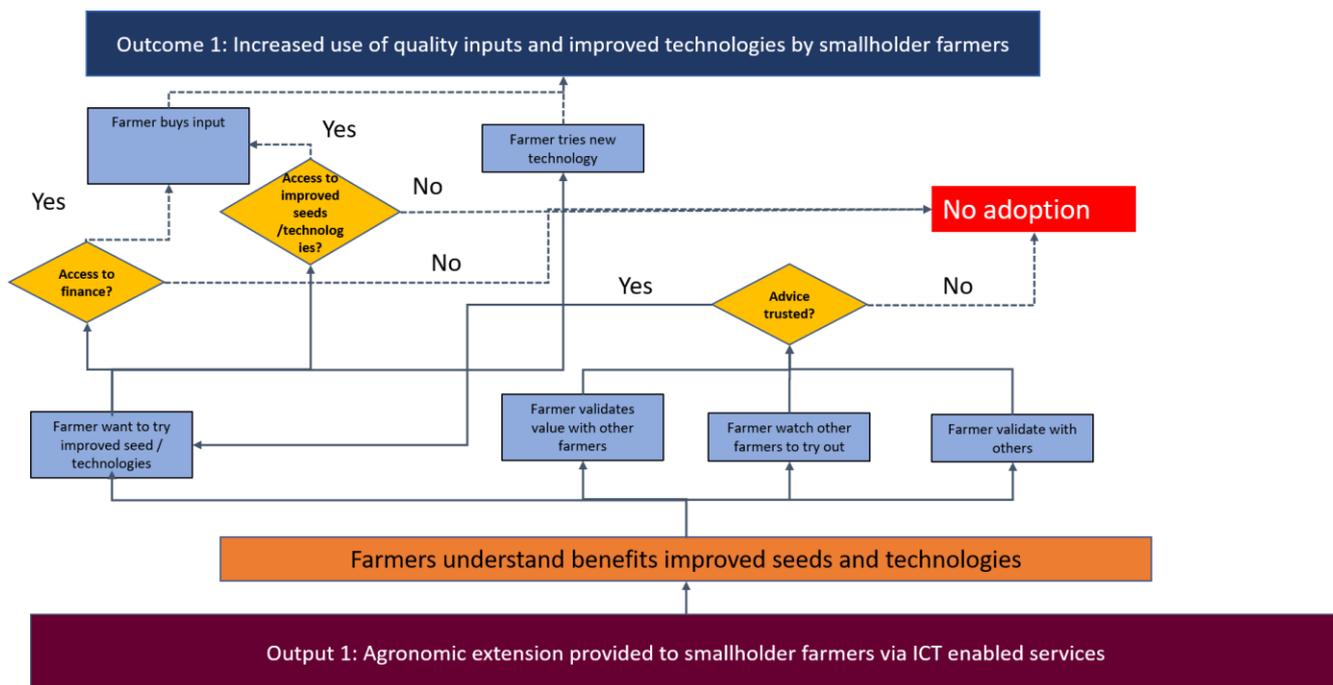
Summary of findings regarding the progress towards outcomes and impact criterion: The NA-ICT CF has achieved Outcome 1 “Increased use of quality inputs and improved technologies by men and women smallholder farmers”. It has exceeded its targets at the outcome level, as per the findings for *application of new technologies and best practices* (indicators 1.3) and *number of hectares under improved technologies* (indicator 1.4) across the programme as a whole. While, in fact, there was a great deal of variation between grantees in relation to actuals versus targets for hectares (1.4), with four out of the six grantees actually underachieving to date, the evaluation team considers the *application of technologies and best practices* indicator (1.3) to be a stronger indicator. Actual achievement of indicator 1.3 is 183%⁹⁴ and is expected to increase as the programme runs till March 2019). Application by women as compared to men was good in four of the six countries, given existing gender constraints and the focus of the SSTP-supported crops. The evaluation found that key factors contributing to application are trust, availability of inputs, the market context including the market for outputs and the promise of either or both of better yields or better climate resilience. With regard to the NA-ICT CF impact: “Improved agricultural productivity in targeted food crops by smallholder farmers in six NA-ICT countries in Africa” (EQ13), neither the NA-ICT CF nor SSTP measured this. While there is some, mainly case-based and indirect evidence of higher yields, there is no robust evidence. The findings at outcome and impact level are confirmed by the evaluation of the ToC for impact pathway 1 (IP1) as detailed in Annex 6 section 1.3, and by the contribution stories from three of the six countries (Annex 7). The articulation of the ToC for IP1 is assessed as being accurate. While the contribution stories for all three countries are strong at the output level (as discussed in the section 3.2), they are medium at outcome level and weak at impact level. This is not only due to the lack of evidence at impact level, but also due to the many other factors influencing productivity, apart from the ICT-enabled extension channels. Last, findings in relation to EQ14 were that, while radio is the most cost-effective ICT-enabled extension channel, video (in particular) followed by mobile-based extension led to greater application rates by those using these channels. Key findings are that ICT-enabled channels can work together and reinforce each other, and that they work best in combination with traditional extension.

3.4.1 Evidence of application (adoption) of technologies as a result of ICT-enabled extension (EQ11 and part of EQ12)

This section focuses on the output to outcome step of IP1 of the ToC as indicated in Figure 16 below:

Figure 16: Step 3 Output > Outcome level: Increased application of SSTP technologies and management practices

⁹⁴ Even if indicator 1.3 is corrected for MODES and EMM the performance is still at 144% of target (see 2.5 for more details on outlier data).



- **Performance against indicators 1.3 (application of technologies/best practices) and 1.4 (hectare)**

The programme has four outcome indicators:

- Number of farmers and others who have applied improved technologies or management practices as a result of donor assistance (indicator 1.3);
- Number of hectares under improved technologies or management practices as a result of United States government assistance (indicator 1.4);
- Number of farmers who have received donor-supported short-term agricultural sector productivity training or food security training (indicator 1.5). This was an optional indicator and is not discussed in the report;
- Percentage of costs of ICT-enabled services covered by non-donor sources (indicator 2.1). Findings in relation to this are discussed in section 3.5 Sustainability).

As noted in section 2.3, although the MEL contractor developed a common definition for 1.3 as being the number of smallholder farmers and others who have applied improved technologies or management practices, not all grantees interpreted this in the same way. In addition, targets for indicator 1.4 were derived, rather than based on actual data for most grantees, and thus susceptible to incorrect estimation of the average hectares on which farmers are applying the new techniques or practices.⁹⁵ Findings on indicators 1.3 and 1.4 are provided below and are based on the only data available to the ET. However, the comparability between countries of data regarding application (1.3) and hectareage is somewhat affected due to the caveats above and as outlined in section 2.3 (limitations).

⁹⁵ Most grantees did not perform baseline surveys to calculate targets for indicator 1.4; they used an estimate. The actuals were more accurate and were mostly based on outcome surveys to calculate the average hectares under improvement times the number of farmers that applied SSTP technologies and practices. Hence the occasional big differences between targets and actuals for indicator 1.4.

Table 6 provides information on the performance of each country, and for the overall programme, as compared to targets, for each of indicators 1.3 and 1.4.

Table 6: Performance of grantees on outcome indicators 1.3 (application of technology/practice) and 1.4 (hectareage)⁹⁶

	1.3. Number of farmers who have applied improved technologies			1.4 Number of hectares under improved technologies		
	Target	Actual	% achieved of target	Target	Actual	% achieved of target
Digital Integration (Ethiopia)	247,500	285,674	115%	371,250	148,676	40%
AgroTech (Ghana)	100,000	296,763	297%	51,100	659,807	1291%
MODES (Malawi)	145,408	457,579	315%	523,470	579,961	111%
EMM (Mozambique)	90,000	115,299	128%	200,925	116,459	58%
TICmbay (Senegal)	30,515	29,583	97%	55,235	36,713	66%
UPTAKE (Tanzania)	101,600	124,300	122%	179,172	168,270	94%
NA-ICT CF	715,023	1,309,198	183%	1,381,152	1,709,886	124%

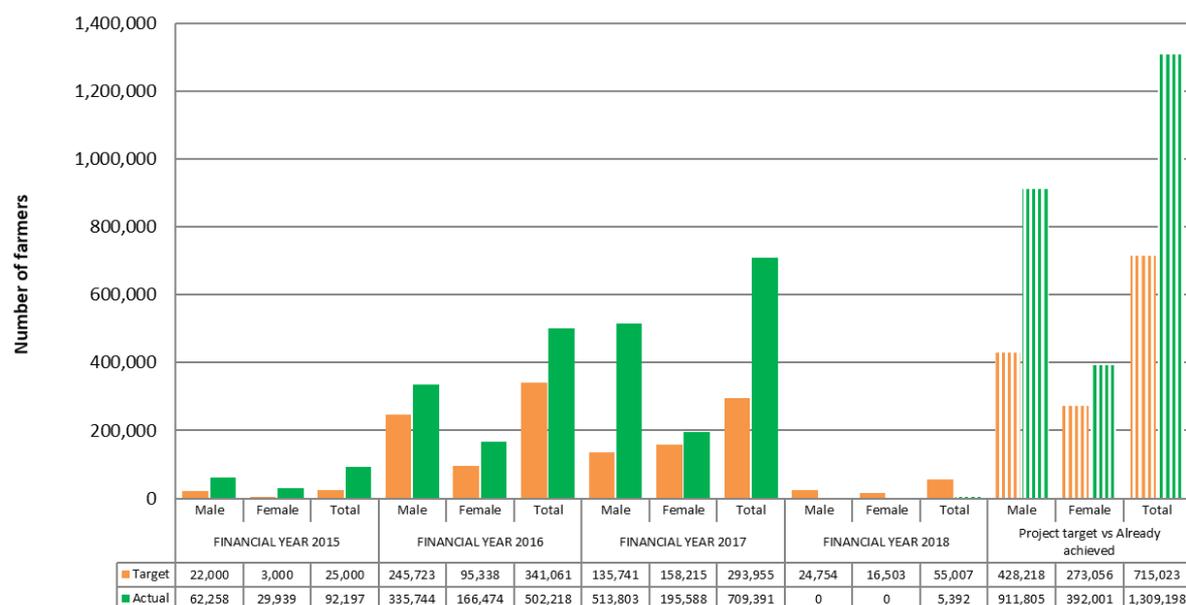
This table does not reflect the PIRS data from October 2017 to September 2018. EMM, TICmbay and UPTAKE are still implementing the programme and will report further on actuals. Despite the fact that some grantees are still operating, the overall programme has already overachieved the overall programme level target for indicator 1.3 by 183% and indicator 1.4 *number of hectares under improved technologies* by 124%. Based on the assessment in the DQA,⁹⁷ the ET has re-calculated the results assuming that MODES and EMM achieved the same application rate (the percentage of users that will apply SSTP technology) as the average of the other four grantees (28%).⁹⁸ Overall, indicator 1.3 would still achieve 144% of the target.

⁹⁶ Source PIRS 2016 and 2017, annual report 2016 for Ghana and quarterly report Q3 2018 for Senegal and Mozambique.

⁹⁷ In paragraph 3.4 the ET reported that the data from MODES (Malawi) and EMM (Mozambique) for indicator 1.3 number of farmers who have applied improved technologies based on the number of users of ICT enabled services (indicator 1.2) is too high.

⁹⁸ The data for MODES and EMM are treated as outlier data. The average conversion rate (28%) from indicator 1.2 to indicator 1.3 of the other 4 grantees is used to re-calculate results of MODES and EMM. MODES would then achieve 243,419 farmers and not 457,579 farmers, and EMM would then achieve 46,734 farmers and not 115,299 farmers. If so, Malawi would still overachieve on indicator 1.3 with 167% of the target, but Mozambique would underperform, with a result of 52% of the target for indicator 1.3.

Figure 17: Target vs actual indicator 1.3: Number of farmers and others who have applied improved technologies or management practices⁹⁹



At the country level, five of the six grantees greatly overachieved their targets in terms of farmers applying improved technologies. Only TICmbay has not yet reached their target, but they are close, and are still operating until March 2019. The DFID business case aimed at achieving 1,000,000 farmers applying SSTP technologies. The targets set by the grantees were below this number, but the programme already overachieved the 1,000,000 farmers, even after the ET corrected indicator 1.3 figures for EMM and MODES. Overall, indicator 1.3 would still achieve 1,026,473, which is still above the 1,000,000 farmers. From all farmers that applied, 29% were women.

The SSTP final survey, which was based on random selection from a list of farmers in each country who had benefited from SSTP interventions, whether or not they were reached by ICT-enabled extension channels through the NA-ICT CF, also measured application. Total application for all technologies across the six countries increased from 36% in 2015 to 42% in 2017.¹⁰⁰ Application rate depended on type of SSTP technology or practice and was highest for crop genetics (new varieties) at 72% of all farmers benefiting from SSTP interventions followed by cultural practices at 55%. The SSTP survey considered that application was higher against these categories because they were linked directly to services promoted by grantees (training, demonstration plots and provision of improved planting materials).¹⁰¹ While the findings from the SSTP final survey and its evaluation do not reflect the impact of ICT-enabled extension, they indicate a wider picture of quite high percentages of application, and these increasing over time.

Application rates varied by gender within the NA-ICT CF. While the performance of actual against targeted numbers of farmers applying technologies was 183%, men performed better with +213% of the target than women +144%. Of all farmers who applied SSTP technology, 29% were women and 71% men. This percentage varied between countries. This is mainly due to the total percentage of females reached in the first place. In Mozambique, 46% of all farmers that applied SSTP technologies are women, and in Senegal it is 43%. So, in these two countries, application

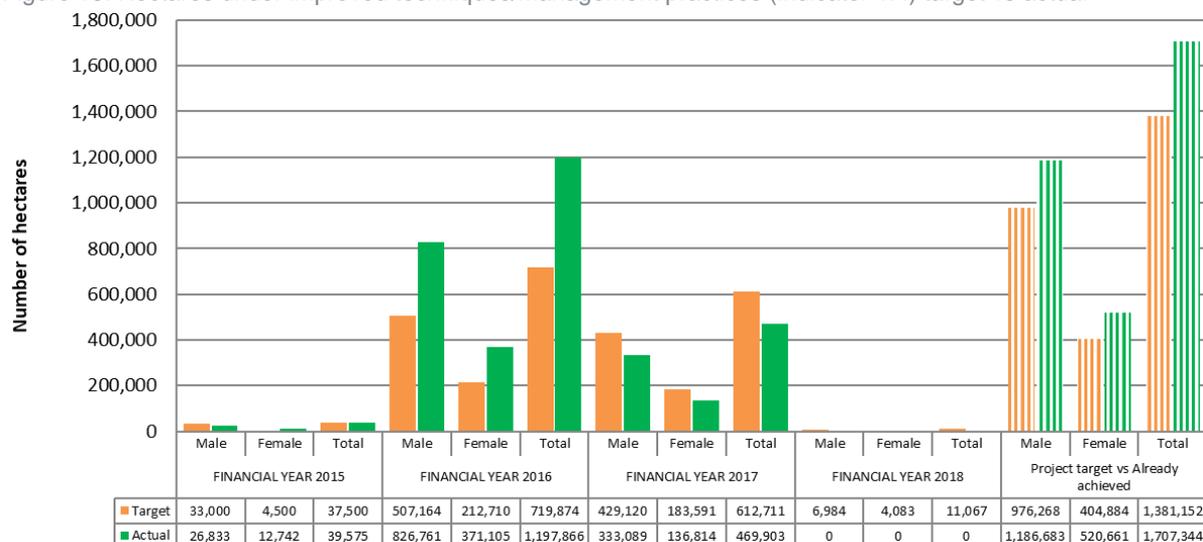
⁹⁹ Source PIRS 2016 and 2017 and Q3 2018 report TICmbay and EMM.

¹⁰⁰ SSTP, AGRA SSTP Outcome – Indicators Annual Assessment 2017, AGRA, p. 47.

¹⁰¹ SSTP technologies and management practices were categorised into eleven categories: Crop genetics, Cultural practices, Pest management, Disease management, Soil-related fertility and conservation, Irrigation, Water management, Climate mitigation or adaptation, Post-harvest handling and storage, Value added processing, and Marketing and distribution.

was almost equal to that by men. Tanzania is not far behind, at 38%, but the percentage of women applying compared to men in Malawi was lower at only 23% and in Ethiopia at 22%.¹⁰²

Figure 18: Hectares under improved techniques/management practices (indicator 1.4) target vs actual¹⁰³



The programme exceeded the programme target and reached 1,707,344 hectares under improvement. This is mainly due to achievements in Ghana and Malawi. The country with the highest number of hectares under improvement (indicator 1.4) is Ghana with 659,807 and the lowest is Senegal with 36,714. Only two of the six grantees, AgroTech in Ghana and MODES in Malawi, reached the target, as illustrated in Table 5. AgroTech exceeded their target by 1291% due to an underestimation by the grantees in Ghana of hectares per farmer and an overachievement of number of farmers that applied SSTP technology.¹⁰⁴ Digital Integration in Ethiopia only achieved 40% of their target.¹⁰⁵ The target in Ethiopia was set assuming a land size of 1.5 ha per technology user. However, in reality, it is 0.25/0.5 ha of land depending on the technology applied. Further, farmers tried out SSTP technologies on just part of their land. EMM reached 58% of their target but is still implementing. In Senegal, this indicator has not yet been met due to underachievement against 1.3 and, at the same time, overestimation of the hectares per farmer (see Annex 10 for more country-level details).

In terms of gender variation in relation to 1.4, in general men have more hectares under improved technologies. There was not much difference in terms of actual performance against targets. Women achieved 129% of the targeted number of improved hectares and men 122%. Further findings related to gender (drawn from EQ13 but more relevant to EQ11) are provided below:

- **Gender**

Factors influencing the participation of women and their application of improved agricultural technologies. Across all six countries, long-standing and common gender constraints still exist, with women having less access than men to extension services (with extension often targeted at mostly male heads of households, or cooperatives which have a higher

¹⁰² Data drawn from country level PIRS reports for indicator 1.3.

¹⁰³ Source PIRS 2016 and 2017 and Q3 2018 report TICmbay and EMM.

¹⁰⁴ The assumption was that farmer would apply SSTP technologies on 0.5 hectares per farm. The actual farms of farmers that applied were larger (around 2.6 hectares). The number of farmers that applied SSTP technologies was also much higher than targeted (almost 3 times as high). The combination lead to a very high over achievement, but clearly based on low target setting.

¹⁰⁵ If Digital Integration in Ethiopia prepares a 2018 PIRS report (October 2017-September 2018), that will provide additional results on this indicator for the last quarter of 2017 when the grantees were still operating under an NCE.

male than female membership), finance and inputs; lower levels of literacy; less time due to higher levels of domestic work than men; and less decision-making powers. In some, but not all of the countries, women had less access to radios and mobile phones (e.g. in Tanzania where men may take the radio with them to the field, or in Malawi where women are seen as lazy if listening to the radio, and also in Tanzania where men may prevent their wives from giving their mobile numbers so as to receive messages). A further factor influencing the participation of women was that many of the SSTP-supported crops are ones that men tend to grow. SSTP itself did not have a gender focus. Further, in some countries (e.g. Ethiopia and Senegal) the focus of the ICT-enabled extension was on the stages in the value chain at which men are predominantly engaged, for example land preparation and planting, whereas women are more likely to be involved in some of the cereal crops, for example at the post-harvest handling and storage stage, which is less of a focus of the ICT-enabled extension. However, all six grantees considered gender at the design phase as discussed in the findings on relevance. The following are common examples of measures taken: targeting 30–50% women, having community listening groups where women could more easily access radio broadcasts, and running programmes at the time of day when women could listen.

Overall, compared to the other countries, Mozambique and Senegal were found to have the highest level of female application compared to men. Interestingly, the SSTP final survey, which considered all “SSTP” smallholders (whether they were reached by ICT-enabled extension or not), confirmed that adoption (application) rates of male farmers for all technologies were higher than those of the females in West African countries, but there was a different trend in East Africa where females did as well, or slightly better, than their male counterparts.¹⁰⁶

- **Whether men and women smallholder farmers have an equal opportunity to make an active decision to use quality inputs and improved technologies.**

In the case of this particular project, the SSTP technologies tended to be male oriented, although beans and cowpeas are often grown by women and sometimes cassava and rice. It is clear from both SSTP itself and the evaluation of SSTP that maize was given a great deal of emphasis compared to the other crops supported by both SSTP and, therefore, NA-ICT CF. In all three countries visited, women have fewer decision-making powers than men, although a few interviewees argued that, in some households (particularly of the younger generation) men and women do discuss and share the decisions regarding adoption of technologies. The situation is similar in the remaining three countries; for example, a document review for Malawi indicates that gender roles entrenched in culture affected the usage of various ICT channels. Findings from stakeholder interviews at country level revealed that:

Trust was an important factor that came out strongly across all countries. In both Ethiopia and Ghana, farmers trusted their extension agents more when they were using ICT-enabled extension such as video-based or app-based extension. The fact that these agents were drawing on ICT-enabled extension sources gave them more status and empowered them. Lead farmers are usually trusted by other farmers and the NA-ICT CF took advantage of this in Ethiopia, Senegal and Ghana, where lead farmer voices were used on the radio, and lead farmers were featured in videos, for example. In Tanzania, farmers hold researchers in high regard, and knowing (through farmer participation in content development alongside researchers, extension agents and others) that researchers were involved in developing content greatly increased their trust in the subsequent ICT-enabled extension messages. Another finding that came out strongly was that farmers prefer to have the opportunity to cross-check and validate what they learn from one extension source. In Senegal, for example, if they heard something on the radio they would want to first check with their

¹⁰⁶ SSTP. AGRA SSTP Outcome – Indicators Annual Assessment 2017 (January 2018), p. 51.

cooperative or with an extension agent if what they learned was true, and the same was the case in Tanzania. Extension advice that can be confirmed in these ways is trusted more, as is advice that is reinforced through the use of several complementary ICT-enabled channels.

Timely provision of good quality seeds and equipment was a critical factor that was not guaranteed. Where seeds being promoted by the programme’s ICT-based channels were not available, or were insufficiently available, then that clearly constrained application and, at times, led to farmers being frustrated by the lack of availability of the varieties being promoted and losing interest in them. SSTP grantees were at varying stages in their own development and exhibited varying abilities to supply their technologies and provide technical support to customers. SSTP noted that, in Tanzania, the breeder seed that was needed by SSTP grantees was not always available from the research stations. Close coordination between SSTP grantees and NA-ICT grantees was important to find alternative solutions, for example through SSTP grantees setting up sales outlets in districts where there was high demand, or to select alternative seed producers if SSTP grantees were not present.

The market context also affected the application by farmers of SSTP technologies. In some countries the market was disturbed through provision of free or subsidised seeds by the government, NGOs or cooperatives. In these cases, farmers would prefer to use those seeds, even where the quality and likely productivity of the subsidised or free seed/cuttings was lower. In Senegal, for example, only 22% farmers who had applied improved seeds mentioned that they had to buy them, with the majority of farmers accessing them through schemes with NGOs, cooperatives or the government. This hinders investments in good quality seed and input supply. Similarly, in Tanzania it was learned that the government closed the border to maize sales and this led to lower market prices, to the disadvantage of farmers. Also, in Tanzania, some of the potato varieties being promoted through SSTP (and therefore NA-ICT) were not ones that traders wanted to buy.

• **Some evidence of application of SSTP technologies and practices**

The ET encountered several good examples of how farmers applied ICT-based extension information. Farmers from Njombe in Tanzania started potato seed production. They applied all good practices they received from the radio and SMS¹⁰⁷ and were able to double the production. The ET physically could see the difference between the old and the new varieties. In Ethiopia, farmers watched videos in their village groups. They discussed the videos in their groups and committed to apply them. The lead farmer later checked if they really applied. The fact that they could see the new practices being implemented by similar farmers was very powerful and, in the case of the fall army worm, it saved their entire harvest. Even farmers who did not participate in a video group were informed by the farmers that did watch the video on how to protect their crop.

Factors motivating application or presenting barriers to application were explored with farmers, grantees and other stakeholders. The table below sums up the main factors that farmers listed as motivating them to apply a new technology or preventing them from applying it.

Table 7: Reasons farmers gave for whether they chose to apply or not apply new technologies and best practices.

Reasons to apply new technologies	Reasons for not applying new technologies
<ul style="list-style-type: none"> • Better yields • Better nutrition • Drought resistance / climate resilience / shorter cycles characteristics • Seen that it worked • Tried it already on a small portion of land 	<ul style="list-style-type: none"> • No access to supply • No access to finance • Too much risk or perceived risk • Lack of trust • Misuse of inputs

¹⁰⁷ Radio and SMS messages reinforced each other.

Reasons to apply new technologies	Reasons for not applying new technologies
<ul style="list-style-type: none"> • Inputs are available • There is a market for the product 	<ul style="list-style-type: none"> • Insufficient knowledge / Lack of expert guidance on how to apply • Lack of access to water • Lack of adequate labour

The SSTP evaluation also looked at reasons for farmers to adopt or discontinue using a particular variety and found that this relates to particular varietal characteristics such as yield, often in combination with weather-related conditions; issues of taste, storability, and other factors; the presence or absence of output markets; and the cost and availability of seed. The evaluation did not find a correlation between decisions to adopt/discontinue particular varieties and either the strategies used to promote them, or the way the farmers acquired the seed. Affordability, availability, and the absence of output markets emerge from both the qualitative and quantitative data as key barriers to improved variety adoption.¹⁰⁸

- **Contribution analysis of the outputs to outcome level of IP1**

Figure 16 above shows the steps in the ToC in the causal pathway between Output 1: Agronomic extension provided to smallholder farmers via ICT-enabled services; and Outcome 1: Increased use of quality inputs and improved technologies by men and women smallholder farmers. As noted in Section 2, the ET carried out contribution analysis of IP1 in all three countries visited. Evidence was that, overall, the NA-ICT CF contributed positively towards change at the outcome level. The contribution was assessed as “fairly strong” as compared to being “strong” at the activity to output level of the IP (see sections 3.2.1 and 3.2.2 and Annex 7). The country-level findings confirmed the anticipated causal pathway for this step from output to outcome (i.e. from receiving information to adoption/non-adoption). Alternative pathways were not in evidence, but, while information dissemination contributed to adoption, this was not the only factor. Various figures in Annex 7,¹⁰⁹ which depict the understanding gained in-country of how adoption is reached based on ICT-based extension, indicate that farmers also need to understand the technology, trust it, be willing to apply it, and that it has to be both affordable and available. The re-examination of the ToC for IP1 in Annex 6 also confirmed that the ToC for this pathway as a whole was strong.

Excellent: In sum, given that the targets for both 1.3 and 1.4 were overachieved by the programme as a whole, the level of application of new technologies and best practices by smallholder farmers as a result of the NA-ICT CF ICT-enabled extension channels is rated as excellent, particularly as the programme is still ongoing in three of the six countries. Application by women as compared to men, was good in four of the six countries, given existing gender constraints and the focus of the SSTP-supported crops. The NA-ICT CF was proactive in encouraging women to apply the technologies. Evidence from interviews and focus groups confirmed the contribution of the ICT-enabled extension information towards application, while contribution analysis shows also that at this higher level of the causal pathway other factors such as trust and availability of inputs influenced the likelihood of application.

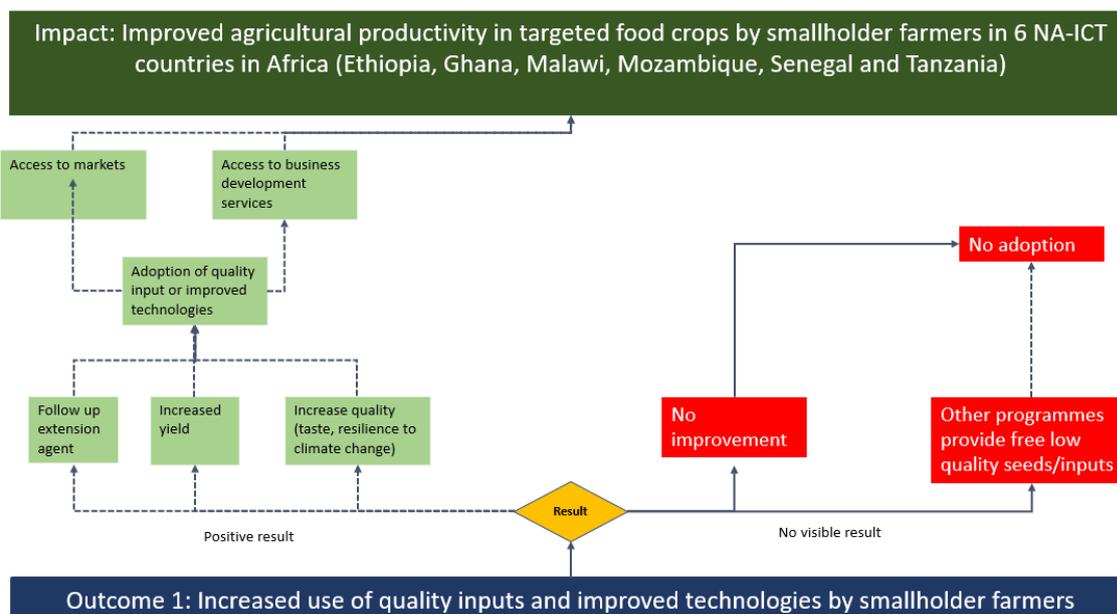
3.4.2 Impact: improved agricultural productivity (EQ13)

In this section evidence of increased productivity in targeted food crops for smallholder farmers in six NA-ICT countries in Africa is discussed. Figure 19 indicates the outcome to impact step of IP1.

Figure 19: Outcome level > impact

¹⁰⁸ Feed the Future, EVALUATION MID-TERM PERFORMANCE EVALUATION OF THE SCALING SEEDS AND TECHNOLOGIES PARTNERSHIP IN AFRICA, October 26, 2017, p. 36.

¹⁰⁹ See Figures 13 and 14 for Ethiopia, Figure 19 for Senegal, and Figures 24 and 25 for Tanzania (Annex 7)



SSTP itself did not measure whether the new varieties led to improved productivity or higher yields. It was intended that the planned SSTP and PASS Phase 2 combined impact evaluation, and the follow-up report to the SSTP mid-term review, both commissioned by AGRA, look at productivity.¹¹⁰ The NA-ICT CF also did not measure productivity, although the original MEL plan for TICmbay had included this prior to streamlining their M&E in accordance with the common indicators for all six countries. It should be noted that the varieties being promoted by SSTP were not all bred primarily for yield, as other factors were also important, for instance greater resilience to drought and floods, and breeding shorter-cycle (quicker maturing) varieties.

The Ghana programme, AgroTech, however, did a baseline and an end line, and measured yields of maize in both. The average yield during the baseline was 1,355 kg per hectare, and this increased slightly to 1,568 kg per hectare – a 16% increase over the project period (there was a 230% increase in production also, but this was mainly due to planting larger hectarages). Interviews in Ethiopia and Senegal, and the evaluation of MODES, all provide anecdotal evidence of increased yields. Some examples were provided in Senegal with one cooperative, the Federation of Farmers Association noting that new varieties of cowpeas had four times higher yields than those that had previously been in use, and further, that they matured quicker, in just 45 days. Male farmers in Mow village also noted a four-fold increase in millet yields subsequent to their starting to use ApronStar seed treatment. The SSTP-CU trials in Senegal indicated increases of 70–80% yield with new varieties combined with good soil treatment.

In Tanzania some interviewees looked at increased seed sales as a proxy for higher yields. Potential yields from improved varieties compared with those commonly in use were noted for potatoes, beans and cassava. For each, the differences were as follows: 15–20 tonnes of potatoes per hectare compared with 5–9 tonnes per hectare for those commonly grown; up to 8 bags per acre of beans for improved varieties under best practices compared to 2–3 bags per acre for traditional varieties and practices, and, for cassava, up to 32 tonnes per acre of improved varieties as compared to 6 tonnes per acre for traditional varieties under traditional practices.¹¹¹

Contribution analysis was carried out at the outcome to impact level of IP1 (see Figure 19 above) during the three country visits (see Annex 7). This contribution analysis fed into a re-examination

¹¹⁰ It is understood that draft versions of both reports were produced in February 2019

¹¹¹ This information was gained from farmers, agro-dealers and/or agricultural scientists interviewed.

of the ToC (see Figure 2 in Section 2, and Annex 6, pages 91-94). There were no indicators to measure yield/productivity and grantees were not required to measure this. The contribution story at the outcome to impact level of IP1 is weak compared to the activity to output, and output to outcome levels. (See Annex 7). The re-examination of the ToC for IP1 in Annex 6 (page 94) at the outcome to impact level found that the one assumption at outcome to impact level (Assumption 13¹¹²) held, based on limited evidence only and, to that extent, the impact was achieved, hence the articulation of the ToC/IP was strong. However, other external factors could affect whether the use of quality inputs and improved farming technologies lead to improved productivity, for example for smallholders to be able to farm in peace and are not displaced by instability or conflict.

Not available: In summary there is some evidence that use of improved varieties increased productivity, but this is largely proxy, case-based and anecdotal evidence. A range of issues prevent women's equal participation and decision-making, although in a couple of countries application by women is not too dissimilar to that by men. There is not enough evidence to gauge whether the NA-ICT CF's ICT-enabled extension services did or did not lead to higher productivity (the NA-ICT CF's anticipated impact).

3.4.3 Effectiveness of ICT-enabled channels and choices of channels (EQ14)

This question looked at reasons for choice of channels, differences between channels in uptake, knowledge, try out and adoption of new technologies, and linkages with traditional extension. Findings are mainly drawn from grantee level documents and interviews, though findings from the SSTP evaluation and from the MEL contractor are also included.

- **The reasons for choice of channels**

Figure 2 in Section 1 indicates the channels used by each of the six grantees. Five grantees have used IVR, three used SMS, three used video, two used a mobile app and one used USSD (unstructured supplementary service data) as a dissemination channel. In general, radio was selected because of its reach and because it is oral and could be broadcasted in local languages. In Tanzania, where one language prevails, texts (SMS) were used, but in Senegal, where there are many languages (that are not actually written languages) voice messages were preferred. There was little difference between the percentages of women or men applying what they learned through each particular ICT-enabled channel, except for SMS, where the percentage of men applying what they learned was much higher than that of women, most likely due to differences in education level and literacy between men and women.

- **Application (adoption) related to ICT-enabled channels and combinations of ICT-enabled channels**

Overall, video had the highest application rate (44%),¹¹³ followed by IVR (38%), SMS (33%) and Radio (21%).¹¹⁴ In terms of absolute numbers, however, radio is the most effective channel in that it can reach far larger numbers at lower cost.¹¹⁵ There was variation in the extent to which radio listeners applied new varieties and technologies promoted by NA-ICT per country in Mozambique and Senegal, radio led to greater adoption than mobile (321 in Mozambique, You Talk in Senegal) although the messages sent out to farmers' mobiles in Senegal (mAlerts) were well received and acted on. In Tanzania, participatory radio campaigns were reinforced by SMS messaging and vice

¹¹² Assumption 13 of IP1: Increased use of quality inputs and improved farming techniques lead to improved productivity.

¹¹³ 44% of the farmers that watched video applied SSTP technologies or practices (application rate), while 38% of the farmers that received a voice message, 33% of the farmers that received a SMS and 21% of the radio listeners applied SSTP technologies and practices.

¹¹⁴ Figures are based on the PIRS. Not all countries disaggregate all figures consequently for channels over time.

¹¹⁵ Video has a larger application rate (44%) than radio (21%), but 2,500,000 listen to the radio whereas only 183,000 farmers watched the video.

versa, and both were informed by the same content. In Ethiopia, the combination of video-based extension and mobiles (calling in to Uliza, and IVR messages) was complementary, each reinforcing the other. This was very effective with 43% of those exposed to both video and mobile-based extension applying what they heard and watched). Also, in Ethiopia, there was government (Ministry of Agriculture) buy-in to, and ownership of, both video and mobile-based extension (whereas presently the radio extension falls under a different ministry). Both the MEL contractor and grantees in Mozambique and Malawi noted that farmers accessed radio programmes through their mobiles.

- **Findings regarding combining ICT-enabled extension with traditional extension channels**

A consistent finding was that the ICT-enabled extension reinforced and enhanced traditional extension. This was the case both where traditional extension was strong, as in Ethiopia, and where it was low, for example, in Tanzania. In both instances, the enhancement of existing extension services by ICT-enabled extension imparted greater respect for, and status of, existing extension providers (this was found in Tanzania, Ethiopia, Senegal, Mozambique and was most likely the case in Ghana and Malawi also). This finding held across the spectrum of public to private led extension, that is, from the case of Ethiopia where extension is a government service, right through to Mozambique and Senegal where private sector, civil society and NGO players have a primary role in extension provision.

Some ICT channels only work well when combined with traditional extension channels (presence of extension workers). For example, video-enabled extension requires a strong presence of extension workers as it is human mediated, often in small groups, unlike radio and mobile-based extension. Even ICT channels that can be effective without human mediation, like radio, can have greater impact when run together with extension staff. For example, where an extension agent is present for a radio listening group, in which case s/he can mediate discussion and respond to any questions/verify any facts provided over the radio. Radio and video (in combination with extension) are still the preferred channels to offer inclusive ICT-based extension. While the ownership of mobile phones is rapidly increasing, farmers lack the literacy levels to access SMS or the willingness/skills to talk to computers (IVR). The SSTP evaluation concluded that SSTP should expand support to technology promotion by experienced and specialised communication organisations (such as HNI, FRI and Digital Green), which use an integrated set of mutually reinforcing methods and communication channels to a powerful effect.

Good: Overall, while the radio had higher reach and was cost-effective, there is no clear cut "best" channel, as the use of SMS or IVR was also effective and they often worked well together. Video was particularly effective in Ethiopia. All channels benefited from the existence of traditional extension as well, and each (ICT and traditional) reinforced each other.

3.5 Sustainability

This section relates to IP2, including Output 3: Financially sustainable ICT-enabled extension services operating and integrated with non-IC extension services, and Outcome 2: Increased financially sustainable ICT-enabled services to complement other extension services. The PIRS indicator related to sustainability is indicator 2.1: *The percentage of costs of ICT-enabled services covered by non-donor sources*. There was only one EQ under this criterion. A number of areas were explored under this question, and findings are organised under these four sub-headings, which are: business models, scaling up towards sustainability, strategic partnerships, and ToC Impact Pathway 2: from financially sustainable ICT-enabled extension services to increased

agricultural productivity. The NA-ICT CF looked at sustainability from the viewpoint of financial sustainability¹¹⁶ and operational sustainability.¹¹⁷

EQ16: What evidence is there to demonstrate that mechanisms are in place to enable continued delivery of ICT-enabled advisory services after grant funding?

Note that, in this case, no summary of findings is provided here as there was only one EQ. See the end of section 3.5 for the summary of findings.

- **Business models**

Findings that grantees have developed business models that address financial sustainability towards Outcome 3: *Increased financially sustainable ICT-enabled services to complement other extension services* were strong. The six grantees have tried different business models depending on their country context, with four different routes towards financial sustainability.

- TICmbay pursued a social enterprise model (Jokalante) with a dissemination platform. This platform is agnostic with regard to content. Their revenue model is based on contracts with NGOs, input dealers and cooperatives, who want to disseminate messages to farmers¹¹⁸ ((Business2business2consumer or B2BC)).
- The opposite business model is that of Digital Integration in Ethiopia. Digital Green, the lead grantee of Digital Integration, has a long-term bilateral agreement with the Government of Ethiopia beyond the NA-ICT CF contract. The video-based extension is fully integrated in the government extension service. This is formalised in the Growth and Transformation Plan of Ethiopia.
- MODES (Malawi), EMM (Mozambique) and UPTAKE (Tanzania) have a mixed model. MODES and UPTAKE work closely with government and agricultural research institutions on institutionalisation of the content development process, but also on a B2BC¹¹⁹ model.
- In Malawi HNI works with Airtel and in Mozambique with Vodacom. They collaborate to disseminate government-approved content to farmers. The revenue model is partly based on farmer contribution, but also as a loyalty model for the Telco's to keep their clients. HNI's revenue model is based on selling space to NGOs to disseminate messages.
- In Tanzania, CABI works with Esoko for dissemination of message to farmers. Esoko's revenue model is similar of that of TICmbay in Senegal. They sell contracts to other NGOs to disseminate messages based on their farmer profile database.
- AgroTech originally intended that government takes over after the contract, but this did not work out. Instead, they started a partnership with ACDI/VOCA to focus on private sector agents in outgrower schemes with contract farmers. AgroTech agents combined the dissemination of agricultural extension information as a free service with the sales of farmer inputs, financial and insurance services to contract farmers. Their revenue model is based on a commission that is paid from the sales of farmer inputs and financial services through AgroTech. AgroTech also secured additional donor funding from IDRC to scale up and improve this business model.

¹¹⁶ Financial sustainability is defined by the ET as the ability to cover all cost of the ICT-enabled service without donor support after the end of the contract.

¹¹⁷ Operational sustainability is defined by the ET as the skills to continue to operate the ICT-enabled services to farmers after the end of the contract.

¹¹⁸ The contracts that Jokalante was able to acquire generated in April 2018 40% of the ongoing cost of the TICmbay platform.

¹¹⁹ A Business to Business to Consumer model is a collaboration with a Telco (in this case Airtel and Vodacom) and a value-added reseller (HNI) who develops a service to consumers (in this case to farmers) on the infrastructure of the Telco. Vodacom and Airtel pay the value-added reseller for the services, but use also their own marketing channels to attract more customers. Together they are able to create higher loyalty to the Telco network.

Figure 20 below shows the various revenue streams across the countries. All grantees agree that models just focusing on farmer contribution only cannot yet be sustainable. The chosen business models address different sources of income. Services to government (by Digital Integration in Ethiopia); service fees and commission through contracts to private sector clients such as outgrower schemes, seed companies, input companies, NGOs (by TICmbay in Senegal, AgroTech in Ghana and UPTAKE in Tanzania); value-added services to telecoms (MODES in Malawi, EMM in Mozambique); advertising (AgroTech, MODES; data sales (AgroTech and UPTAKE); farmers to pay: (MODES and EMM).

Figure 20: Various revenue streams across countries



Operational sustainability differs for each channel. The radio capacity building focused on creating interactive radio with sufficiently high listenership to attract advertisers like agro-dealers, fertiliser companies and seed suppliers to cover the cost of the programme. But this was difficult, especially for community radio stations. Dissemination of promotional information from technology providers could more easily become sustainable than rigorous content development based on new research, that requires a vetting process. Quality content development could be better embedded within the government extension process. The video capacity building by Digital Integration in Ethiopia of development agents and subject matter specialists is integrated in the Agricultural Technical and Vocational Education and Training curricula; TICmbay consortium partners in Senegal built the capacity of Jokalante to operate independently at the end of the project. The Ethiopian experience demonstrated that is aligning with formal government agricultural extension services promotes a higher chance of sustainability and adoption by other stakeholders. The Senegal experience focused on establishing a for-profit social enterprise that would continue to fill a much-needed gap in the local development market. This model is not yet fully financial sustainable, but the project still runs until March 2019.

The NA-ICT CF used only one indicator for financial sustainability. Indicator 2.1 measures the *percentage of costs of ICT-enabled services covered by non-donor sources*. This is a rather limited indicator that does not measure financial sustainability according to the ET. It covers only the ongoing cost of the ICT-enabled services. It does not cover content development cost, neither the overhead cost or product development investments. All grantees measured this indicator except UPTAKE (for whom the indicator was optional). At first, grantees struggled with this indicator.¹²⁰ Measuring this was new for most of the grantees and therefore it took time to understand the

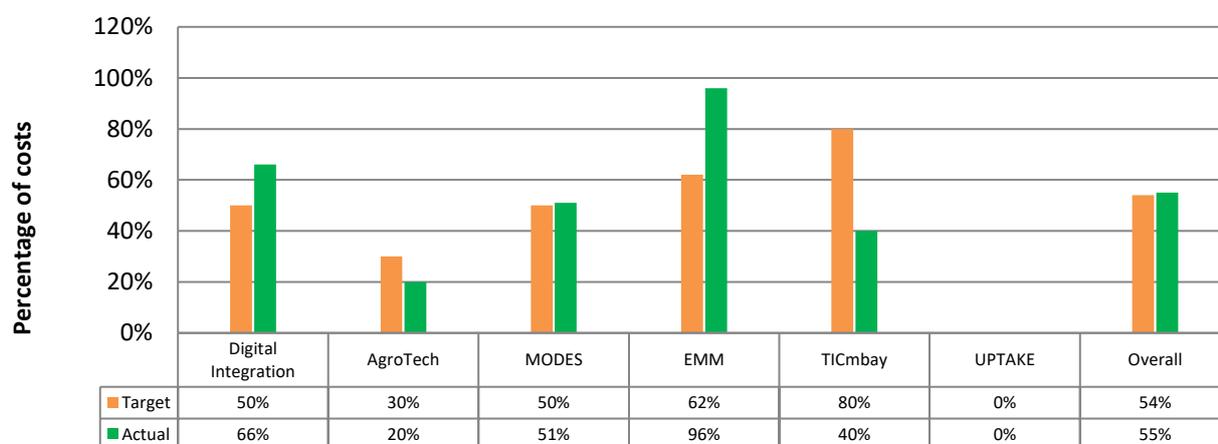
¹²⁰ "Non-donor sources" may include: National or regional governments, NGOs, telecoms, tech companies, social enterprises (such as co-working spaces that may contribute to the projects), and others (PIRS).

indicator and how to report on it. The MEL contractor built their understanding of it and more pressure was put on them to report against it. Grantees had first focused on building the ICT-enabled services, before they addressed financial sustainability fully. This indicator is a proxy measure for financial sustainability of the ICT services and potential for scaling up through private sector initiatives.¹²¹ The more the costs of ICT services are covered by non-donor sources (for example, from revenues from subscribers or advertisers), the more likely the ICT service operations will be able to take off through self-sustaining local processes.¹²² In their contract, grantees committed to cost-sharing and leveraging funds. Actual contributions of cost-sharing could not be matched with commitments due to a lack of data.

The ET has mixed findings for this indicator, partly because the indicator was not measured consistently over time,¹²³ which makes comparing difficult. Target setting was unclear. Not all grantees reached their target. Digital Integration in Ethiopia (66% versus target of 42%) and EMM in Mozambique (96% vs 62%) scored higher than the target. EMM had the highest result with 96% of the running cost covered (of 2017) due to a higher than expected contribution of Vodacom. AgroTech, Ghana had the lowest, with 20%. AgroTech had a shorter contract of two years rather than three. All were below 100% at the end of contract, although EMM, TICmbay and UPTAKE are still implementing.

All grantees expect/expected to be operationally and financially sustainable as required by the end of their contract. The ET found clear evidence for operational sustainability, but has not seen proof that all grantees could continue the ICT-enabled extension services without donor support.

Figure 21: Targets v actual percentages of operational costs covered by non-donor source



- **Scaling up towards sustainability**

Scale has different dimensions. Within NA-ICT CF the focus is on using ICT-enabled technology to reach far more farmers than through traditional extension alone. Scaling towards sustainability is seen as the ability to continue the ICT-enabled services beyond NA-ICT to reach farmers beyond the NA-ICT population. Outcome 2 is concerned with ensuring that ICT-enabled extension set up during the CF are financially sustainable, and, as seen above in Figure 21, targets were set by the CF for this.

¹²¹ Scaling up is seen as growing the ICT enabled serviced beyond the population reached under the NA-ICT CF.

¹²² PIRS.

¹²³ There were no data from Tanzania, only data of 2016 for Mozambique and Senegal (but Senegal did raise their target from 40% to 80% for 2018), of 2017 for Ghana and of 2016 and 2017 for Ethiopia and Malawi.

Some (sub) grantees focused on the development of their dissemination platform.¹²⁴ The number of farmer profiles in the database is key to attracting new contracts to disseminate messages to the farmers. Digital Integration (Ethiopia) and TICmbay (Senegal) could already scale up to new regions in their country and to different crops to create a larger farmer profile database in order to continue services after NA-ICT CF, but this needs to grow further before full financial sustainability is achieved.

Some grantees, like AgroTech (Ghana) also broadened their services to farmers. They added additional services such as financial services. Some grantees like MODES (Malawi) and EMM (Mozambique) reach scaling up through a collaboration with telecom companies. MODES (Malawi) worked with national radio stations, which reached beyond the SSTP districts, and far beyond the NA-ICT CF districts, hence this approach was helpful for scaling up.

Capacity building for community radio stations, government extension, SSTP grantees and farmer organisations in content development and ICT-enabled extension services will last and will make future potential projects (funded by other donors or government) more efficient and effective.

Grantees with a more rigorous content development processes like MODES (Malawi), UPTAKE (Tanzania), and Digital Integration (Ethiopia) will need to secure donor or government support to continue. More detailed findings per grantee are provided in the country sections of the VfM Analysis Annex 9.

Grantees were able to move towards financial sustainability of the dissemination cost at the end of their contract, but the ET could not prove that financial sustainability is achieved without any donor support for all the costs of continuing the ICT-enabled extension service.

- **Strategic partnerships for sustainability**

The ET has limited findings for this sub-question. All grantees have designed the project based on informal public-private partnership (PPP) constructions with government involved in design stage (through SSTP crop and technology choices, TICmbay), implementation stage (UPTAKE, MODES, AgroTech, Digital Integration, EMM) or sustainability stage (Digital Integration and AgroTech), and the private sector was involved in all stages. The grantees did not set up formal PPP constructions for content creation and delivery. AgroTech in Ghana mentioned that, with hindsight, they should have been looking from the start for a business owner or a scaling agent who could operate the service after the contract, and that they had focused too much on government as the long-term owner. The grantees were all NGOs, which made it perhaps more complicated to set up PPPs. It is challenging to drive the pilot phase of a project and hand it over to another entity who can take long-term ownership (government, private company or social enterprise) without involving them from the start.¹²⁵ Some grantees focused purely on government (as in Ethiopia) with some private sector input in the case of new technologies, whereas others have purely focused on the private sector without government input (as in Senegal). Most have established a mixed model with government input in the content creation (as in Tanzania, Malawi, Mozambique and Ghana) but with private sector involvement in content delivery (Mozambique, Malawi, Tanzania). Most grantees chose strategic partnership with their governments (Ethiopia, Ghana, Malawi, Mozambique and Tanzania) at least for content development. Digital Green in Ethiopia had a six-year bilateral agreement with the government to formalise video-based extension. AgroTech in Ghana mentioned that they used a strategic partnership model to become sustainable, e.g. with Cocobod (cocoa union), but this was not really successful. TICmbay established MOUs with farmer cooperatives to reach out to more farmers. HNI in Mozambique had

¹²⁴ Before sustainability could be reached the dissemination platform itself should be well developed.

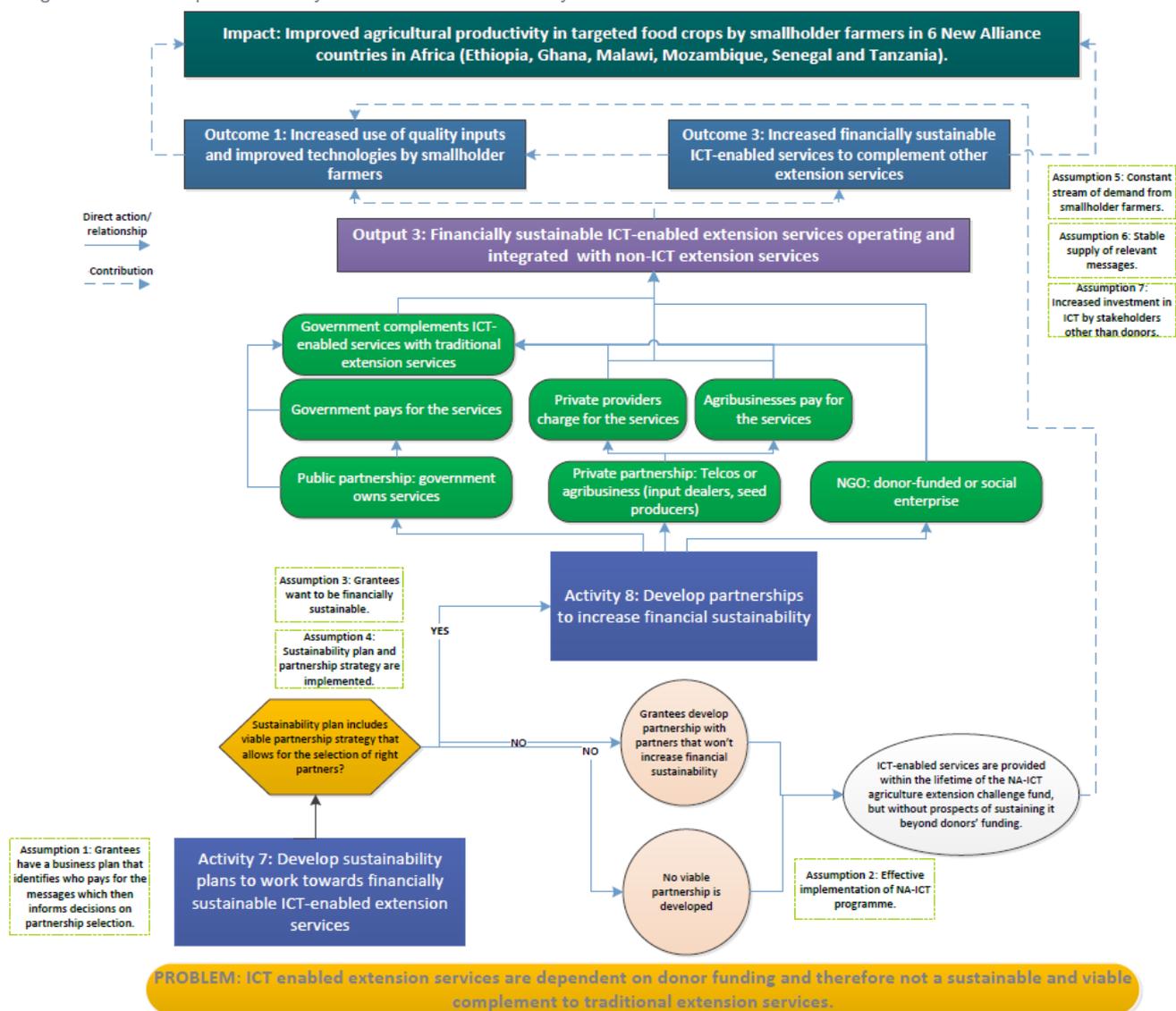
¹²⁵ Design for scale is one of the principles of Digital Development. Good practice can be found at <https://digitalprinciples.org/resource/principle-4-build-for-sustainability/>

a strategic partnership with Vodacom and in Malawi with Airtel. CABI closed a strategic partnership with Esoko to have long-term access to a dissemination platform. Most grantees also worked closely with SSTP grantees even after SSTP closed.

- **Theory of Change Impact Pathway 2**

Impact pathway 2 of the ToC focused on achieving financially sustainable ICT-enabled extension services.

Figure 22: ToC Impact Pathway 2: Financial sustainability



The full analysis of Impact pathway 2: Financial Sustainability, is shown in Annex 6. The ET has mixed findings for this impact pathway.¹²⁶ At the activity to output level just two of the four assumptions were valid. Assumption 1 partially held,¹²⁷ the third (assumption 3) did hold.¹²⁸ Therefore, Output 3: Financially sustainable ICT-enabled extension services operating and

¹²⁶ The ET noticed that the difference between Output 3 and Outcome 3 is not very clear. Outcome 3 could be reached before Output 3. It would have been better to formulate Output 3 more at the level of "Sustainable business model of ICT-enabled extension services operational".

¹²⁷ Not all grantees created a business plan to address financial and operational sustainability.

¹²⁸ If financial sustainability is defined as the ability to continue without further donor funding than the assumption did not hold. But if sustainable flows of grants were included this assumption holds.

integrated with non-ICT extension services, was not fully achieved. The three assumptions from output to outcome held, but with only partially achieved performance at the activity and output level, the outcome level was affected negatively for some countries (Ghana and Senegal). The anticipated outcome 3 was not fully achieved by all grantees, indicating that the articulation of the ToC for IP2 was of medium strength. Some assumptions were missing. For example, this was the case for the assumptions for different channels (radio channels have a different business model than platforms or video extension). In the long run, post-project, the ET sees a challenge regarding ongoing supply of relevant messages.

Fair: The NA-ICT CF looked at sustainability from the viewpoint of financial sustainability¹²⁹ and operational sustainability.¹³⁰ Financial sustainability is likely to remain a challenge once the CF stops, at least in some of the countries. The ET is confident that operational sustainability will be achieved by the grantees. In terms of financial sustainability, the grantees did commit to leveraging the NA-ICT funding with non-donor sources, although the ET did not have sufficient data on actual contributions from all grantees to assess if all commitments were achieved. The grantees were all NGOs, they focused on delivering the service and building government/radio station capacities first to replicate, scale up¹³¹ and achieve operational sustainability. Most grantees did not secure buy-in from government or a company as a scale-up agent from the start of NA-ICT CF except for Digital Integration in Ethiopia who secured government buy-in and could scale up with additional BMGF funding. AgroTech in Ghana managed to secure funding from another donor to scale up AgroTech to more extension agents and to fine tune their business model. EMM, TICmbay and UPTAKE are still in implementation. Jokalante, the social enterprise established by the grantees in Senegal, is able to attract contracts for their services, but still needs time to become fully financially sustainable. IFAD are considering funding a second phase of UPTAKE. In the long run, post-CF, the ET sees a challenge regarding ongoing supply of relevant messages where there are no ongoing funds to support the content development process.

¹²⁹ Financial sustainability is defined by the ET as the ability to cover all cost of the ICT enabled service without donor-support after the end of the contract.

¹³⁰ Operational sustainability is defined by the ET as the capacity to continue to operate the ICT enabled services to farmers after the end of the contract.

¹³¹ Scale up is seen by the ET the ability to grow the ICT enabled extension service beyond the population reached during the NA-ICT CF.

4 Lessons learned

This Section first provides a summary of lessons learned by grantees. Next, the extent to which lesson learning and sharing was prioritised by the grantees and at the programme level is discussed, along with findings on whether any action has been taken, or is intended, by partners and donors, based on lessons shared. These two sections (4.1. and 4.2) respond to EQ17: To what extent have lessons learned (and which lessons) been shared and adopted by project partners? Third, lessons learned by the ET, based on findings in Section 3, are explored, with the intention that these then lead into the conclusions and recommendations Section as illustrated in Section 1, Figure 1. Fourth, a summary pulling together the ET's reflections on the key challenges that the NA-ICT CF process faced at both design and implementation phases is provided.

4.1 Summary of lessons learned by grantees (EQ17)

Table 8 collates and summarises the main lessons learned by the grantees across the six countries, drawing on a review of the lesson learning content of their final, and most recent annual and quarterly reports as well as five country briefs collated by the MEL contractor.¹³² In total, 18 documents were reviewed and a total of 65 lessons identified in the country-level reports. Lessons learned are sorted into eight topics based on thematic areas that emerged during the process of analysis and consolidation of the lessons.

Table 8: Lessons learned by grantees

Topic and main lessons learned
Topic 1: Added value of combining traditional extension with ICT-enabled extension
<ul style="list-style-type: none">• Video-enabled extension in Ethiopia is human-mediated and this enhances participation in traditional extension system and feedback on the videos. Video-based extension is not a substitute for face-to-face communication – the two need to be paired together and work in complementary ways.• Paying regular visits to farmers by the radio stations and grantee was appreciated by communities and can increase radio listenership (Ghana).• Lessons from the MODES project in Malawi indicate that combining ICT channels and local activities enhance listenership and usage. RLCs increased radio listenership and, when facilitating these, local institutions can help track progress, enhance feedback and provide entry points for future projects to build on.• Traditional channels (instruction cards, community theatres, posters and demonstrations) were useful in raising farmers' awareness of the 321 service and illustrating how to access it (Mozambique).• In Senegal it was learned that combining human interaction with the ICT-enabled services increased trust in the ICT-enabled extension messages. Complementing radio broadcasts with face-to-face meetings is ideal. <i>“By comparing rates of application of SSTP technologies among farmers exposed to ICT services, SSTP programmes (demonstrations), both projects or neither, it was shown that neither the ICT project nor the SSTP project on its own had a significant impact on the rate of application of new technologies. However, in combination, ICT</i>

¹³² No brief was prepared for Ghana as the project there had already closed.

*and SSTP (demonstration) programmes significantly increase rates of technology application”.*¹³³

Topic 2: Combining different ICT-enabled extension services

- A lesson learned in Ethiopia was that some ICTs are better at certain things; e.g. mobiles are useful for exchanging small pieces of information that fluctuate often, such as information on market prices or the weather. Video-enabled extension provides richer information, which can motivate viewers.
- In Malawi it was learned that most farmers have access to various ICT services and that a single message delivered through multiple channels has a better chance of reaching more farmers and improving uptake.
- In Mozambique it was concluded that SMS alerts do work in alerting farmers to the existence of agricultural content on 321 and thus encourage farmers to engage with the 321 service.
- Additional value addition to an SMS information service is obtained by linking it to sought-after services like money transfers, loans to purchase inputs and other value-added services (Tanzania).

Topic 3: Interactive radio-based extension

- In Ghana the radio landscape changed over time and, with the addition of multiple local radio stations, farmers preferred to listen to these rather than the regional stations.
- Reports from three countries confirmed that the use of radio is very cost-effective compared to other channels (Tanzania, Malawi and Mozambique) but a lesson learned in Mozambique was that the high level of farmer interactivity (through Uliza) could result in costs that were not sustainable by radio stations, and it was recommended to farmers that they combine Uliza with other local alternative methods of interaction (e.g. free phone numbers).
- Both TICmbay and EMM learned the importance of having farmer leaders and local extension speak on the radio. In Mozambique the radio stations experienced weak collaboration from local technicians, this was because they had been approaching them informally. They were advised to send technicians formal invitations to speak on the radio.

Topic 4: ICT platform design

- TICmbay in Senegal and MODES in Malawi learned that platform design needed to be flexible. In Malawi, the design was not flexible enough to take on emerging, dynamic content such as advice on fall army worm, when needed. In Senegal, demands from different clients of Jokalante made it very clear that all functionalities of the platform needed to be agile, so as to quickly adapt to new requirements.

Topic 5: Availability of inputs

- One lesson learned noted by reports in five countries (Ghana, Malawi, Mozambique, Senegal and Tanzania), was to consider availability of inputs and equipment before promoting it through ICT-enabled channels. Sometimes SSTP-supported inputs, particularly seeds, were not available, or they were available but only in limited quantities, in distant locations and/or at the wrong time. In Senegal TICmbay sought to link farmers directly with seed providers/warehouses and in Tanzania UPTAKE engaged closely with private sector suppliers

¹³³ TICmbay Annual Report October 2016-September 2017, p. 24.

and sought their buy-in towards future ICT-enabled extension, which could then be linked to what they actually had available.

Topic 6: External factors affecting ICT-enabled extension

- A lesson learned (but not solved) in both Ethiopia and Senegal was that government subsidy or free provision of inputs affected farmers' willingness to buy the varieties being promoted (which were often available for sale from private sector SSTP grantees).
- In Mozambique, while EMM was promoting good practice on how to reduce aflatoxin levels in groundnuts, farmers were unwilling to do this as the market did not discriminate between seed that had been dried properly (to reduce aflatoxin) and regular seed.
- ICT-enabled messaging in Mozambique, which sought to be dynamic and respond to farmers' needs, included market price information. However, the government-supported system sometimes had technical difficulties which meant that EMM could not source up-to-date market information.

Topic 7: Gender concerns and ways forward

- Gender concerns included women having lower literacy levels than men (raised by grantees in Ethiopia, Mozambique and Tanzania) and lower decision-making powers (Tanzania), as well as lower ownership of mobiles than men (Malawi). With regard to radio listenership, in Malawi it was noted that women were seen as being lazy if they listened to the radio. In Senegal it was noted that women were less likely to call in to the radio station than men and, further, the messages were less relevant to them than to men.
- Grantees found several ways to address these gender disparities as reported in their "Lessons learned". In Senegal grantees sought to have more women voices in the broadcasts (including female broadcasters, female experts if available, and female smallholders) and to have specific programmes on crops and related nutritional messages for women. Similarly, in Ethiopia, grantees thought having ICT-enabled extension focused on women's concerns and seeking to reduce their labour burden would be good. As in Senegal, they sought to include women's voices in participatory radio campaigns and videos and to have either women's only, or mixed, video viewing groups, depending on women's wishes. Further, scheduling of video screening and participatory radio campaign (PRC) listening groups was best scheduled at times and places convenient to women.

Topic 8: Monitoring and evaluation

- Lessons learned related to M&E were few and disparate. UPTAKE in Tanzania and MODES in Malawi mentioned the benefits of getting feedback from farmers, with MODES noting the potential of 321 services for this. Digital Integration noted that the external quality assurance (QA) they arranged for needed to be aligned with the seasons. EMM realised that they needed to advise farmers in advance (through extension agents, SMS and radio) that they would be carrying out an outcome survey of the PRCs. As it was, farmers were not aware that this outcome survey was going to take place and some were unwilling to respond.

While the above are all key areas for learning, lessons learned are scattered in different reports. They were not at any stage collated together and analysed further in joint grantee/MEL contractor learning events. The MEL contractor focused on the monitoring aspect of their role in the face-to-

face and virtual webinars, with an emphasis on building grantee capacity in how to use the PIRS indicators (see findings for EQ6).

The majority of lessons learned reported by the MEL contractor (rather than those learned by the grantees as per the table above) concerned process issues. The only lessons learned on the ground by the MEL contractor are documented in a report on a field trip taken to Senegal and Ethiopia in June-July 2018.¹³⁴ In brief, the MEL contractor learned then that the majority of farmers appreciated accessing information from multiple sources (radio, IVR push and pull, video) but that many farmers had difficulties with IVR and even more so with SMS: *“We have documented instances where technologies that are accessible (radio) and entertaining (video) have a better chance of being picked up by farmers versus other ICTs such as IVR, which have proven to be hard to understand both in function and process”*.¹³⁵

4.2 Extent of lesson learning and sharing (EQ17)

4.2.1 Lesson learning and sharing

At the country level, lesson learning and sharing has not been and is not, a priority among grantees, particularly beyond the in-country consortia. There was a commonly held view among the grantees that lesson learning and sharing is something that happens towards, or at the end, of the project. While there are case studies and success stories in grantee reports, it is not known if these were disseminated. A few examples of the members sharing lessons from the project more widely were found, for example, SB Conseil (a TICmbay consortium member) sharing with CTA, Practical Action (also a TICmbay consortium member) sharing lessons with the wider Practical Action organisation, and FRI grantees/sub-grantees sharing with the wider FRI. All grantees did, however, share information if requested at the MEL contractor’s learning events. In Senegal, an annual review workshop is organised involving stakeholders in and beyond the consortium and it does involve lesson learning and sharing. Annual and quarterly reporting cover lessons learned to a variable extent (these are drawn out in section 4.1 above). The Malawi end report has careful consideration of lessons learned.

The donor group had intended for a higher level of sophistication in lesson learning than that illustrated in Table 8 in section 4.1 above. It was intended that the lesson learning events facilitated by the MEL contractor focus on topics such as: the effective combination of ICT-enabled agricultural extension channels; the combination of ICT-enabled agricultural extension channels and traditional extension; consistent multi-channel content development; and sustainable business models. However, in-depth reflection on such questions did not take place to the level anticipated. Section 3.2.3 discusses how effective the MEL contractor was in facilitating learning within the grantee network.

DFID’s annual reviews include a section on lessons learned. Beyond this, there was minimal lesson sharing at programme level, that is, between and beyond the donor group. At the donor level, DFID is arranging for a donor presentation in the form of a webinar involving the evaluators, all four donors and grantees from the six countries, which will provide the opportunity not only to present and discuss evaluation findings but also to have a roundtable discussion on wider issues related to the use of ICTs in agricultural extension.

¹³⁴ TDY Post-trip report NA-ICT CF M&L Services Task Order July 2018, the MEL contractor.

¹³⁵ Ibid, p. 2.

4.2.2 Action taken based on lessons learned and shared

As noted in 4.2.1 above, little attention has been paid to the sharing and discussing of lessons learned between the CF donors. Nevertheless, there is interest for this. BMGF, based on their rural advisory services, are looking further at content, platform and cost. They wish to look at content development across the value chain, and they recognise that digital platforms are necessary because of the cost implications of relying on traditional extension means. They have a lot of interest in learning more about the challenges in getting messages out, what capacity building is needed, how content can be refreshed and who should be responsible for this. On the digital side, they are interested in learning about why women have been harder to reach. Furthermore, they would like to learn more about costs, that is, dollar per person to drive out information. Questions such as which channels drove behaviour change are of interest to them. USAID and BMGF are participating in multi-donor discussions and events related to advancing the cost-effectiveness, accountability and impact of agricultural extension services. It is recognised that insights from the NA-ICT CF experience could inform these discussions.

It is understood by the ET, that NA-ICT CF findings could be of interest to the World Bank, GIZ, IFPRI, DG and USAID (e.g. in relation to USAID's Feed-the-Future "Developing Local Extension Capacity" project). Findings could also be of interest to the larger project that AGRA has started on completion of SSTP: Partnership for Inclusive Agricultural Transformation in Africa. DFID also hopes to learn from the evaluation, in order to inform the design of new digital/ICT-based programmes. In sum, while available evidence indicates that partners have not actioned lessons from the NA-ICT CF thus far, going forward the lessons distilled from this evaluation will be useful to inform the design of new digital programmes. While project partners have not taken action yet based on lessons learned and shared from the project, there is interest in evaluation findings that could inform decision-making about future design of ICT-enabled extension among the donors.

Fair: While lessons were being generated by grantees, an opportunity was missed in terms of sharing these lessons across the grantees. The NA-ICT CF could have given greater priority to lesson learning and sharing. It could have sought to reflect in-depth on factors such as combinations of ICT-enabled extension channels, content development, and sustainable business models; and to develop informed learning briefs on such analyses for those interested in supporting or applying ICT-enabled extension. Donors are interested in lessons so as to inform the design of new programmes having an ICT component.

4.3 Lessons learned by the evaluation team

Reviewing the findings presented in Section 3, the ET identified seven main topics around which lessons have been learned. Most of these topics are informed by findings arising from several of the evaluation criteria presented in Section 3.

4.3.1 Programme design

Key lessons concerning programme design, relevant to donors, were that the ICT-enabled extension services should have been better built into the SSTP programme, and that MEL be considered for both together, to enhance joined-up planning, implementation and MEL and increase the likelihood that the MEL contractor be appointed at the start of the programme. Further, donors entering into a multi-donor-funded arrangement need to recognise the challenges related to different reporting cycles, different understandings of the programme, and different expectations, for example in relation to VfM and MEL requirements. Although the programme was termed a "Challenge Fund" (which implies the involvement of private sector bodies rather than, or as well as NGOs, as grantees, as a potential solution to sustainability concerns), grantees were

NGOs. This impacted on their approach to financial and operational sustainability. Last, the two to three-year timeline of the programme was too short given that the focus of the CF was on rain-fed crops.

4.3.2 Monitoring, evaluation and learning

Evidence was not gathered regarding donor-relevant MEL lessons learned because the need to gather high-quality evidence of cost-effectiveness and impact level was not included in the ToRs for the MEL contractor. This relates back to the point made under programme design which notes how important it is for good understanding between the donors at that stage regarding what was required. Secondly, ideally a MEL contractor with extensive experience in establishing common cross-country indicators and ICT-enabled extension services would be appointed. This, combined with the late contracting of the MEL contractor, when grantees already had established their own M&E plan, was not a good basis to create common indicators with clear procedures, shared definitions, quality assurance methods and tools for high-quality, standardised data collection. A lesson learned that is relevant to MEL contractors themselves is that, whether appointed at the start of a programme, or at a later stage, both the monitoring and learning components of MEL are important, and that specific attention needed to be given to building a culture of learning knowledge sharing between grantees.

4.3.3 Content development for ICT-enabled extension

The ET identified best practices, related to content development. First (relevant for donors and practitioners) a participative, well-organised, content development process with feedback loops, enabled the development of dynamic content. The involvement of all relevant stakeholders (research, input-suppliers, extension, ICT service providers and farmer organisations) made content needs-driven, credible, relevant, trusted and actionable, which in turn increased the chance of uptake by farmers. Second (for practitioners), delivering content at the right time according to the local crop calendar, tailored for the right channel and in the local language increased the chance that farmers will act based on the message received and apply the technology or practice promoted. And third (for sustainability of the content development process), embedding this in government processes made a difference, because it added to credibility and helped in ensuring a continuous and dynamic flow of relevant content.

4.3.4 Combining ICT channels, and combining these with traditional extension

Drawing from findings regarding outputs, and particularly progress towards outcomes and impacts, there were lessons learned regarding best practice in relation to both combining ICT-enabled channels, and the synergy created from the use of both ICT-enabled and traditional extension channels (all of which are particularly relevant to practitioners). Use of multiple channels simultaneously reinforced messages shared. Each channel had its own strength. At the same time, the ICT-enabled extension channels complemented each other. The ET learned that farmers trusted extension messages more when they were reinforced through several channels. This went beyond ICT-enabled extension, in that farmers may learn of a new practice or variety, for example through the radio, video or mobile phones, but then double-check it with their extension agent (if available). ICT-enabled extension actually reinforced and enhanced traditional extension, because ICT-enabled extension imparted greater respect for, trust in, and status of, existing extension providers. These are useful lessons for donors in designing future programmes.

4.3.5 Gender

Drawing from findings regarding relevance, VfM and progress towards outcomes and impact, the ET learned that donor requirements of grantees in relation to gender in the design phase needed to be more explicit, specific and contextualised given that NA-ICT CF was supporting SSTP. The

extent to which gender was a priority or not, was not clear, neither were any specific expectations the donors had of grantees in this regard. This, combined with the lack of recognition during programme design of the focus of SSTP on, largely, “men’s” crops, meant that the grantees lacked sufficient guidance on what was expected of them in relation to gender.

4.3.6 Sustainability

Drawing from relevance, VfM and sustainability findings, the ET identified five lessons related to sustainability. First (relevant to donors and practitioners), while the programme aimed at financial sustainability of ICT-enabled extension, the grantees were all NGOs, yet NGOs might not be the best partner in the long term for the continuity of the service. Second, there is no one clear recipe for a sustainable business model that fits all countries. A business model should fit the local context. This also means that a programme needs more time to test models that really fit the context and have time to make mistakes and to experiment. A three-year period is not long enough to create this sustainability. Third, a big constraint to continued sustainability of ICT-enabled extension channels is ensuring a continuous and dynamic flow of relevant content, which costs money and is difficult to recover from user-fees only. This constraint needs to be considered carefully at the design phase. Fourth, the ET is of the view that assuming at the programme level that non-donor funding is the most sustainable way forward for all contexts (as implied in indicator 2.1 *The percentage of costs of ICT-enabled services covered by non-donor sources*), is not appropriate. The indicator may have been more realistically worded as “The percentage of costs of ICT-enabled services covered by other sources” which would then recognise that continued sourcing of donor funding is a common route taken by NGOs at least for sustainability. And fifth, if donors want to stimulate financial sustainability, the indicator should include all costs of a service and not just the operational cost of disseminating messages.

4.3.7 Need for capacity building

A key lesson learned was that it should not be assumed that the capacity is already built for some aspects of programme implementation. While existing capacity was variable, and while the MEL contractor put major effort into building the capacity of grantees to understand and measure each of the PIRS indicators, there remained some shortfalls in capacity and understanding. This also led to some different interpretations between grantees on how to measure the PIRS indicators. Second, as discussed under sustainability, the grantees were, on the whole, NGOs which have a modus operandi of seeking donor funding rather than developing business models. A lesson learned here is that the grantees needed support right from when they were awarded the CF grants in how to develop a sustainable business model, which could become financially sustainable and scalable within the two to three-year time period of donor funding.

4.4 Key challenges in the NA-ICT CF process

Table 9 below sums up the reflections of the ET on the key challenges, in terms of process, that the NA-ICT CF faced, at both design and implementation phases.

Table 9: Challenges in the NA-ICT CF

Challenges	Comment
Design phase	
Lack of VfM measurement integrated from the start	VfM measurement along the 4 Es (economy, efficiency, effectiveness and equity) was not a required aspect of CF proposals. While the lack of VfM analysis may not have been seen as a challenge

Challenges	Comment
	by the donors or grantees, it was a challenge for the evaluation
Failure to include indicators to measure impact	USAID did not require grantees to measure agricultural productivity. The assumption that SSTP would do so was incorrect. In addition, the short time frame of the funding meant that impact level change would be unlikely in that time
Different reporting formats and different reporting deadlines at donor level	While this may be unavoidable, it would be advantageous for joint-funded programmes to consider how reporting can be made more consistent in future programmes
Relatively short grantee funding period	The 2–3 year programme for rain-fed crops is too short a time period to achieve financial sustainability

Implementation phase

Late start-up of MEL support	Benefits were evident among grantees for whom the MEL contractor was already in place when their country programme commenced. Contracting of MEL provider should be prioritised alongside those of the implementing partner(s)
Differences in the way countries measured indicators	The MEL contractors provided continued support, but more guidance is required to ensure that countries do not interpret how to measure indicators differently
Opportunity for shared learning between grantees not fully exploited	An issue related to the MEL contractors and USAID, with more emphasis being placed on monitoring by both the contractors and USAID
High turnover among donor staff	Though sometimes unavoidable, staff changes can reduce institutional memory
No programme-level reporting	Aside from two joint donor virtual meetings, there was no consolidation and analysis of findings from across the countries, which could have led to better guidance of the grantees and better overall understanding of the programme's challenges and successes
Formalised content development approvals and lengthy government regulation processes can reduce the responsiveness of ICT-enabled extension	ICT-enabled extension has the potential to reach many farmers quickly in the case of emerging diseases/pests, but lengthy content approval processes can damage the ability to respond rapidly to the onset of sudden problems, such as fall army worm. Earlier dissemination could have saved harvests for many farmers

Challenges	Comment
Gender equity is difficult to achieve as SSTP crop selection and SSTP technology selection are male oriented	Despite this limiting factor, grantees tried to reach women within the context of SSTP choices
Mismatch of scaling up of supply of SSTP technologies and creating demand through the ICT-enabled extension	This caused frustration and distrust in some countries

5 Recommendations and conclusions

5.1 Recommendations

These recommendations are based on the lessons learned as described in Section 4, particularly the lessons learned by the ET as outlined in section 4.3 (which in turn, were derived from the findings in Section 3).

5.1.1 For donors

To strengthen design and implementation of new agriculture programmes, the following actions are recommended:

- **Mainstream ICT-enabled extension into programme design.** This will allow for ICT extension to be better synchronised with both traditional extension measures and the wider agricultural programme, including the availability of any advocated use of inputs.
- **Contract the MEL provider at the same time as the implementation partner/s.** This will ensure that the MEL framework is developed at the start of the programme, that it can be developed in collaboration with partners and be consistent across partners.
- **If donors agree at the design stage that they will be requiring VfM¹³⁶ and/or impact evidence, build that into the design, budget and ToRs of the MEL contractor.** This will ensure clarity regarding what types of evidence will be gathered and what will not be gathered (unless through other means external to the programme).¹³⁷
- **Tailor invitations for bids to ensure the best combination of partners (whether private sector, NGO or government) for future sustainability of the programme.** By thinking about this at the design stage, donors can influence the sustainability options at the end of the programme.
- **When designing agricultural programmes that will be mainly implemented in rain-fed areas, seek to fund these for a minimum of five years, to allow for capacity building, impact and sustainability.**
- **For cross-cutting issues, for example gender, be more specific about how implementation partners are expected to address them, within the context of the specific focus of the programme and its cultural context/s.** This will increase practitioners' and MEL

¹³⁶ Annex 10 provides guidelines on VfM.

¹³⁷ For example, Digital Green in Ethiopia were successful in leveraging funding for IFPRI to carry out a randomised control trial exploring aspects of the NA-ICT CF project there.

contractors' understanding of what is required and may allow for a more harmonised approach to gender and measurement of gender-related indicators.

5.1.2 For MEL contractors

To ensure an efficient and effective MEL system to report on performance and support lessons learning, the following recommendations are proposed:

- **Where contracted to provide MEL for a multi-country programme, establish common indicators at the beginning of the programme, with shared definitions, and create data collection tools in collaboration with the implementation partners in the countries concerned.** This will ensure that findings against monitoring indicators can be compared between countries.
- **If the donor is requiring measurement of VfM, impact, or specific cross-cutting issues, this should be built into the MEL plan, results framework and indicators, in collaboration with the implementation partners.** Related to VfM, ensure a good alignment between the MEL framework and the programme's financial systems which will need to capture expenditure data related to outputs and outcomes. This will enhance the likelihood that sufficient comparative data from across the countries (where a multi-country programme) for each of efficiency, economy, effectiveness and equity will be available, thus allowing for comparative VfM analysis to be carried out. Such an analysis is useful for both donors and practitioners alike.¹³⁸
- **Assess level of M&E capacity of implementing partners at the beginning of the programme and build in space to build capacity if needed, e.g. in monitoring VfM and/or impact.** Capacitated practitioners can better understand indicators and gather robust evidence against them.
- **For the learning component of MEL, for knowledge sharing and learning to take place, invest in building trust and communication between implementation partners right from the start of the component, ideally in a face-to-face context.** This will help to create a community of practice where deep learning can take place and trust can be built.

5.1.3 For implementation partners (practitioners)

For implementation partners (practitioners), to strengthen impact and sustainability, the following actions are recommended:

- **When supporting ICT-enabled extension content development and validation processes, ensure that these involve all relevant stakeholders, and ensure space for development of dynamic content (to respond to sudden information needs in response for example to particular pest and disease infestations).** Following these good practices, as identified through the evaluation of the NA-ICT CF, will greatly enhance the relevance of content to smallholder farmers and to extension agents, which will in turn increase motivation to follow the ICT-enabled extension based on the content developed.
- **When using ICT-enabled channels, use local languages and ensure that the content is developed in a timely manner and is tailored to, and tested for, each ICT channel in use.** In considering which ICT channels to use, identify the costs and strengths of each, and how they can complement each other and reinforce extension communication. Using a combination of ICT channels reinforces the messages and increases farmer trust in the messages.

¹³⁸ See Annex 11 for specific guidelines on VfM.

- **During both design and ongoing implementation, consider how best ICT-enabled extension and any existing traditional extension can be synchronised to reinforce messages, build trust and create synergy.** Engage with extension agents in the locality, whether they are government, private sector and/or NGO, inform them of the ICT-enabled extension component of the project and build ongoing communication with them. Added value can be gained through collaboration and through synchronising extension messages through both traditional and ICT-enabled channels.
- **Ensure that ICT-enabled extension draws on “trusted” voices (e.g. of cooperative leaders, researchers, extension staff, lead farmers) and takes gender into account by carrying out landscape analysis to find out which ICT channels women have access to, using women (farmers, broadcasters) voices, and, where female smallholders have limited access to certain ICT channels, draw on community/radio listening clubs.** This will make a difference to the extent to which farmers are likely to trust, and take action based on, the information provided. It will allow for greater numbers of women to access extension messages, and in a group context in which they can discuss them with each other and any agent present who is facilitating the club.
- **When bidding to engage in an ICT-enabled extension programme, build in a sustainability plan, particularly if the organisation bidding is an NGO but where sustainability may require long-term ownership by the private sector or social enterprise.** Longer-term sustainability is more likely if this is considered at the start of the programme.

5.2 Conclusions

The evaluation concludes that the programme did reach its targets in terms of increased use of quality inputs and improved technology use by smallholder farmers but is less likely to in terms of increased financially sustainable ICT-enabled services to complement other extension services. Performance was rated as fair to good overall, with the programme’s greatest achievements relating to reaching access and application targets. Its lowest achievements, on the other hand, were in measuring results that could help provide evidence on impact, such as increased productivity. Learning and best practice regarding content development for ICT-enabled channels, use of ICT-enabled channels individually or in combination with each other, and alongside traditional extension services, can provide useful guidance for donors and practitioners interested in supporting, designing and using ICT-enabled channels.

Annexes

- 1. Terms of reference**
- 2. Bibliography**
- 3. List of interviewees**
- 4. Evaluation methodology**
- 5. Evaluation matrix**
- 6. Theory of change**
- 7. Contribution stories**
- 8. Data quality audit**
- 9. VfM analysis**
- 10. VfM guidance**
- 11. Dissemination plan**

*Please note that all annexes are included in another file due to ease of transfer



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