

# Digital Integration to Amplify Agricultural Extension in Ethiopia

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*MEL Framework Workshop*



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Friendship International Hotel*

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## **1 Workshop Overview**

The MEL workshop for the Digital Integration to Amplify Agricultural Extension was held in Addis Ababa, Ethiopia on February 5th and 6th. It was attended by the four members of the project consortium - Digital Green (DG), Farm Radio International (FRI), Awaaz.De and Dimagi. Building on existing relationships and projects, Digital Green was able to invite participants from the Ministry of Agriculture (MoA), the Agricultural Transformation Agency (ATA), Oxfam America, Sasakawa Global, AGRA/SSTP and iDE to attend the workshop and share invaluable knowledge about working with different ICTs in the Ethiopian context. In addition, the workshop was attended by a representative from IFPRI, who will be conducting the baseline and in year one and an RCT in years two and three, a researcher from the London School of Economics and London Business School (LSE / LBS) working on innovation and entrepreneurship, and a researcher from Agis Investment, a South African consulting firm. Lastly, a member of the USAID agriculture team, working on the grant, was able to attend a portion of the workshop.

The workshop was facilitated by Firetail using a participatory approach and placing a particular emphasis on creating the opportunity for workshop participants to get to know each other, discuss their different technologies and perspectives and work toward a shared understanding of the program. It was the first time that many of the participants were meeting each other and the initial purpose was to bring the four consortia partners together to develop a Theory of Change and to jointly work out the details of a Monitoring, Evaluation and Learning (MEL) Framework for the project. A draft M&E Framework document prepared by Firetail in advance of the workshop served as the basis for some of these discussions.

The focus shifted over the course of the two days as it became clear that there was a strong desire amongst participants to understand each other's work and to engage in project planning conversations to work out details of interdependencies and synergies between the three ICT platforms (video, radio, Interactive Voice Recording (IVR)). It also became apparent that there was a need and desire to discuss the operational realities of rolling out these technologies in the Ethiopian context. The varied experiences of the workshop attendees helped to highlight the role that ICT could play, but also the existing, country-specific, limitations and realities such as mobile and data network penetration, Government approval systems and the timeliness of content development.

By the end of the workshop, it was clear that further conversations and work regarding project planning would be required, as well as further work to finalize the MEL Framework. Attention will need to be given to ensure that there is sustainability of the program and the required institutionalization that will need to take place with the Government programs in order to ensure this. Finally, more specifically to the internal workings of the consortium, the roles and responsibilities of each participating organisation, especially their responsibilities regarding data collection and reporting, will need to be defined. This includes the role of Dimagi in data collection support and the process of collecting farmer phone numbers by DG and FRI for Awaaz.De's IVR system. More broadly a clear agenda and structure for bringing the partners together as part of a structured learning process, based on a core set of questions that the consortium seeks to answer, would help to ensure that the project delivers on the potential for learning that it offers.

### *Workshop: Day One*

Day one of the workshop focused on introducing the workshop, program goals and scope as well as introducing the partners and their respective technologies. During the introduction of the attendees, each participant was asked to outline their expectation of the workshop. Following these introductions, Firetail reviewed the existing MEL Framework that was prepared for the proposal as well as the existing indicators and their alignment with the USAID results framework and indicators, this framework can be found in Appendix 1. Each of the four partners was then invited to make a presentation on a scoping study they completed earlier that week as well as a presentation on the functionality and scope of their technologies. This helped set the forthcoming conversation on technological synergies and program integration with the existing MoA and ATA programs. While these discussions set the stage, the majority of the day was filled with a group exercise tailored to map the Theory of Change for each of the three technologies (video, radio and IVR) using causal pathways. This exercise sought to have the partners express how they feel change can and will come about for their technologies and help determine how change will be realized using their theories and assumptions about their technologies. This exercise raised core issues and helped stir intense discussions on the role of technology and the existing extension system as well as the role the Government will play in this project.

### *Workshop: Day Two*

Day two started off with a review and an open forum for questions and comments from the previous day thoughts can be found in Appendix 2. Following this, there was a group discussion on the possible synergies of the three extension and outreach technologies - noting that data collection through mobile applications supported by Dimagi would be discussed as another layer specifically relating to Digital Green. This brought out some important discussion on how the technologies would complement each other (e.g. through reinforcing messaging) to help achieve the goal of reaching 1 million farmers and securing 250,000 adoptions. The next exercise asked the participants to split back up into their respective ICT groups and map the existing USAID and draft project indicators onto their pathways as well as add in any new indicators they thought should be tracked. In addition, the groups were asked to post evaluation and learning questions onto their causal pathways. Following this, presentations were made and the group was able to discuss the merits of the additional indicators. There was then a short presentation by Digital Green on their tracking system, COCO (Connect Online, Connect Offline), more on this can be found on the Digital Green website: <http://www.digitalgreen.org/tools>. As a summary for the workshop, the facilitators for the group very briefly summarized the evaluation and learning questions.

Overall, the workshop set a good foundation for the consortium partners to begin to solidify their work plans and carry forward a conversation on priorities for monitoring, evaluation and learning. The workshop served as an initial introduction for all the partners and as a platform for learning about the different technologies, their capabilities, reach and roles in the project. This is an important step in being able to move the partners towards a common ground and clarify the key issues that would need to be addressed going forward. Throughout the workshop, the partners and participants were excited about the benefits that combining video, radio and IVR could bring to Ethiopian farmers and to the Ethiopian extension system.

## 1.1 Workshop Goals

The following were the initial workshop goals:

1. Building a common understanding of the project, the consortium partners, and current ground realities.
2. Articulating a common Theory of Change (for different technologies and for contributing to the national extension system).
3. Linking the Theory of Change to a measurement, learning and reporting framework.
4. Identifying tools, systems and reporting mechanisms required to deliver the MEL Framework.
5. Agreeing on key activities that will need to be carried out to make the project MEL system operational and roles and responsibilities to deliver this.

## 1.2 Group Workshop Expectations

As mentioned above, during the introductions, the workshop participants were asked to comment on their expectations from this workshop. Below is a short summary of the expectations, many of which were common and surrounded the roles and responsibilities of the partners and getting to know each other and the different technologies.

- Meet and get to know the other partners and workshop participants
- Know the roles and responsibilities of partners and how we will work together in future
- Build a common understanding of MEL plan moving forward (TOC, indicators, reporting)
- Explore the integration and benefits of ICTs with each other and with the extension services, other programs and farmers
- Learn about commonalities across technologies
- Understand the ICT landscape in Africa (Ethiopia)
- Learn about relationship between gender and ICTs

## 2 Scoping Studies: Opportunities and Challenges

Prior to the workshop, all four partners spent two days conducting a scoping study of the operations, facilities and capabilities on the ground for Digital Green, Farm Radio International and the Ministry of Agriculture. This study was meant to build the partners' understanding of each others' operations, the local context and to help them identify gaps and possible solutions to these gaps that could be further explored during this workshop. Each partner was asked to give a brief presentation on their organisation and their observations based on the scoping study visit. Presentations can be found in Appendix 4.

After each presentation, there was a short discussion and Q&A.

### 2.1 Digital Green (Video, COCO)

DG has been working in Ethiopia for around 3 years and has been able to establish a strong M&E system based on their operations in India. DG collects farmer-level data which is entered into COCO

(Connect Online Connect Offline), the DG MIS. COCO is designed for low-bandwidth regions and once data is uploaded/downloaded, the service can be used offline to provide an interactive analytics tool. During their presentation DG emphasized that technology is just a tool and there is a strong need to continuously engage with extension workers (Development Agents (DAs)). They see the DAs as pivotal to the approach and in efforts to embed the dissemination mechanism in a sustainable manner. They also found that videos enable DAs to become more effective and efficient at disseminating information. DG believes that it will be important for farmers to learn from someone like themselves, to encourage peer-to-peer learning post-dissemination as well as for the DAs to be interactive during the presentation.

### **Scoping**

A major challenge that DG saw was the high turnover rate of DAs. To mitigate this, they try to train and include Model Farmers to help with the disseminations. However, they also found that model farmers often do not get access to the PICO projectors because of government policy.

Finally, in order to strengthen the existing mechanism, DG will need to:

- Reduce the existing time-lag in collecting data and analysis for learning,
- Build in strong quality assurance,
- Make content available post-dissemination to ensure the message is reinforced,
- Establish a mechanism to ensure greater support to DAs post-training and
- Institutionalize feedback tools for farmers and DAs to help inform decision making.

### **Discussion**

Questions from this presentations covered several topics including the importance of incorporating indigenous knowledge into content, the response to ICT / media disseminations in the Ethiopian context and the possibilities of informal dissemination. DG responded to the comments on indigenous knowledge by letting the group know that DAs and farmers will be involved in content development through farmer feedback and through the PMC and TAC (Project Management Committee and Technical Advisory Committee). They also noted that Media channels have many different perceptions and that to date on their other projects video and radio were well received as sources of information, but it will be interesting to continue to follow-up on this. In regards to formal and informal dissemination, IFPRI and LSE / LBS will help evaluate this, for now COCO focuses only on formal dissemination. Questions for thought around how to ensure the best access to technology at all times, reinforcement of messages, best locations for disseminations and common definitions of indicators such as 'reached' and 'adoption' were also raised.

## **2.2 Farm Radio International (FRI) (Radio)**

FRI is an NGO based in Canada that works with local radio stations to support them and broadcasters / journalists to create agricultural programs that cater to the needs of farmers. Radio is an important medium because it is low-cost, accessible and there are no literacy levels required. The question that FRI would like to work on surrounds making radio more interactive and how the stations can be supported with different technologies. Currently they help broadcast Participatory Radio Programs where farmers can call-in to speak with experts to have their questions

answered. FRI also offer a range of service to the radio sector including impact programming, broadcaster training and resources packs, integration of modern technology, integration of other technologies such as mobiles. They also advise on fundraising, and support programs that focus on technology, market prices, value-chain issues.

### **Scoping**

The main issues that FRI face are around timing of their radio programs - it is often hard to have shows broadcast at a good time for male and female farmers. They currently have a baseline and endline evaluation for their program. For their baseline, they assess KAP of farmers before they listen to the programs, assess farmer's need for information, radio listenership, ownership and preferences (including timing). For the midterm and endline they attempt to assess how their programs affected farmer behaviour. They use random and purposive sampling methods for their data collection and usually collect more detailed information from community listening groups. Ultimately, they would like to work with Awaaz.De to supplement their broadcast content with IVR and SMS if possible.

### **Discussion**

Questions for the FRI presentation again revealed that the incorporation of farmer's voices, particularly farmers talking to farmers, makes the radio shows more compelling. Participatory methods such as setting up listener groups with trained facilitators is even more effective. Success is gauged in part by people calling in and participating through asking questions. This indicates the existence of an active and engaged listenership, even if it does not reveal scale or extent. Challenges that FRI faces include: ensuring appropriate timing of the programs for female farmers; evaluating the number of listener, given that owning a radio does not mean farmers are listening; listeners losing battery power and not being able to get new batteries; and competing with news and entertainment shows. FRI strive to produce contextual, local content and collaborate with the MoA at Kebele level, but would like to develop higher-level regional and federal connections. In terms of impact, it is difficult to assess the marginal contribution of their programs if other organisations or the MoA are working on similar projects in similar areas, and because this is so difficult to assess, they prefer not to use the term impact or adoption because they refer to long-term indicators which they do not feel they can assess at this point.

### **2.3 Awaaz.De**

Awaaz.De works mostly with IVR and SMS, although they still find issues in working with SMS in rural areas. They provide technology to organisations that can then decide how they would like to employ it. Interactive Voice Response can be used as a tool in several ways; an organisation can automatically call several hundreds or thousands of people at the same time and let them listen to a pre-recorded message (inbound call). At the end of the call, users are able to leave simple feedback and even record a message with their feedback. Users can also call in and select from a menu and listen to a specific pre-recorded message (outbound call). They are also looking forward to seeing how IVR can be used as a complementary service to video and radio disseminations by allowing for reinforcement of messaging.

## Scoping

Much of this conversation focused on how Awaaz.De can leverage the current ATA IVR system. The existing system is beneficial for several reasons, the first being that it will be easy to collect data and disseminate information because there is an existing system and people understand and know about IVR. During the scoping, Awaaz.De concluded they would be able to assist with analysis, reinforcement of messages and most importantly, integrate with existing services on the ground. A challenge raised was in the collection of farmer phone numbers and how they will integrate with FRI software.

Below is a short table on how Awaaz.De can contribute by leveraging ATA's current IVR system?

ATA	Awaaz.De	Challenges
<b>Non – interactive Content</b>	Integrate feedback mechanism (farmers can leave a response to a message) <u>Cross validation for Adoption practices - DG Videos</u> Farmers can report issues (crowd sourcing)	Integrating Awaaz.De's tech with existing software Farmers' phone numbers Response mechanism
<b>Analytics</b>	Farmer level analytics (Which content was listened to? Which time? For how long?)	Integrating Awaaz.De's tech with existing software
<b>Static Content</b>	Dynamic content – customized at farmer / group level – <u>Reinforcement messages for DG's audio content</u>	Synchronization with video screening and audio broadcasting

Table 1: Awaaz.De and ATA IVR system integration and support

## Discussion

Questions regarding a successful implementation of the Awaaz.De software led to an example of a project that affected 16,000 farmers and was in the form of a short on-demand radio program. Farmers were able to call in, listen to a short program and leave questions at the end, the next week, the show would be based on those questions asked. The program was made sustainable through running on advertisements. Other benefits raised included the lack of language barrier as you can record voice in any language such that content can be easily localized. While the ATA have a register of 500,000 famers who are already profiled for accessing their IVR service, issues were raised around mobile penetration and gender balance in ownership of mobile phone.

## 2.4 Dimagi

Dimagi s a social enterprise that creates mobile tools for frontline workers. They focus on data collection, client records and tracking, checklists and protocols, client counseling, program monitoring and evaluation and SMS for performance improvement. In this project, Dimagi will mainly be working with Digital Green to support their data collection through integrating their CommCare platform with DG's COCO.

## Scoping

During their scoping visit, Dimagi found that most farmers and DAs had basic Nokia java phones, mobile literacy was relatively high, mobile use and ownership was relatively gender balanced and that there are many young DAs who will be easy to train on new technology. They found that Digital

Green will be available to support video production with experts for content and tested techniques. Feedback is currently captured through existing paper forms, which will allow for relevant videos to be produced addressing farmer needs. Challenges ahead that Dimagi noted were that data collection and entry are currently manual, there were many questions on surveys that were quite similar and feedback is not very effective with paper tracking causing delays. They saw the opportunity to solve many of these problems through revisiting the questionnaires used by DG and moving towards a mobile-based tracking system.

They also raised some open questions to the group in order to help the consortium move forward in their planning and evaluation:

1. Is it possible to provide Development Agents with Android smart phones for data capture?
2. Do the Development Agents have capacity to pay for the data plan needed for transferring data to the relevant parties? If not, who pays for the data plan?
3. What should be the criteria, which define where we should pilot?
4. Could we create a support group for Development Agents if and when they start using mobile application for data collection?

<b>Participant</b>	<b>Role</b>
<b>Beneficiaries (Farmers)</b>	Receive information about agronomic practices
<b>Development Agents (DAs)</b>	Disseminate information about agronomic practices, screen videos developed by MoA and Digital Green
<b>Model Farmers</b>	Farmers whose productivity is high, are new learners of technology, influence in the community
<b>Development Groups</b>	Comprises farmers who are provided information on agronomic practices
<b>iDE</b>	Implementing partner of Digital Green, ensures smooth running of Digital Green videos screening, feedback and data collection
<b>MoA</b>	Recruits Development Agents, collects data regarding attendance during DG video screenings and adoption of agronomic practices
<b>Oxfam America</b>	Helped in the formation of Development Groups, implementing partner of Digital Green
<b>Digital Green</b>	Provides training to DAs which includes facilitation techniques, video production, and also equipment for video screening

Table 2: Participants and Roles, Scoping Study

## Discussion

Dimagi will work closely to help integrate its platform CommCare with DG's COCO and hopefully help reduce some of the delays that the current paper-based data collection system has challenges with. Questions were raised in regards to different platforms, for example, USSD, that could help run some of the applications for this program. While Dimagi is aware of these platforms, different countries have different regulations, but research into supporting USSD in Ethiopia could be explored.

### 3 Theory of Change: Causal Pathways for each ICT

The next session was a group exercise to outline a Theory of Change (ToC) for each of the technologies based on a predefined causal pathway (see Figure 1 below).

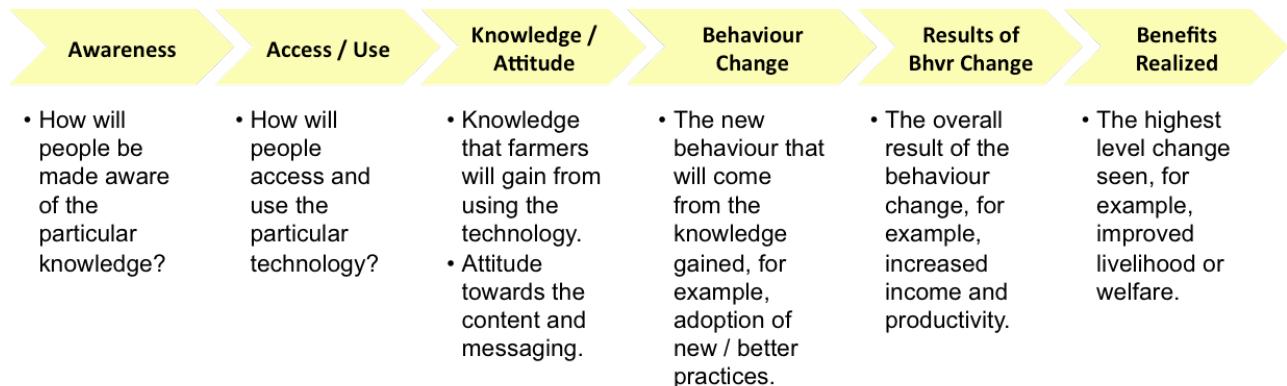


Figure 1: Causal Pathway ToC Instructions

The participants were split into three groups, one for each ICT: video, radio and mobile IVR (data collection to be explored later). Each group was asked to unpack their understanding of how desired outcomes at each step of the causal pathway could be achieved, based on the following questions for each step:

- What are the outcomes you would like to see achieved?
- What are the preconditions and constraints to achieving this?
- Who are the different actors upon whom achievement of these outcomes depends and what are their roles?
- What will the project do to support these actors to deliver this change?

While working on this, participants were asked to keep in mind the following questions that would be explored later in more depth:

- How can this contribute to change in the national extension system?
- How can these three technologies or TOC be integrated?
- What do we want to learn from this process?
- What are the evaluation questions we want to ask?
- How these technologies may or may not fit together?

### 3.1 Video

The video group was mainly comprised of DG staff and researchers from IFRPI, LSE / LBS and Agis Investments.

VIDEO	Awareness	Access / Use	Knowledge / Attitude	Behaviour Change	Results of Behaviour Change	Benefits Realized
Outcome	Farmer's awareness of video-based extension services; Farmers are aware that video-based extension services would benefit them	Farmers have sustainable physical / social access to video at suitable times; Increased efficiency of DAs	Have better knowledge of improved agricultural practices; Farmers buy into improved agricultural practices shown via video	Farmers will adopt new and improved agricultural practices shown via video	Increased productivity and production of farmers; efficient use of inputs	Farmers will have enhanced livelihood and income, food security, health, education, women's empowerment, investment and reduced poverty
Precondition	Acceptance of Video by MoA, BoA and other Ag. Stakeholders	Availability of suitable venue; DAs are available to facilitate; Working equipment; Availability of suitable videos	Relevant videos - content is tailored (regional crop), timely provision (crop calendar); Sessions are well facilitated - participation (Q+A)	Sustainable access to inputs; Demand driven videos; Timely distribution; Benefits of technique is conveyed; Proper follow-up and support; Access to finance	Sustainable access to inputs; Willing buyers of greater produce; Retained knowledge of non-negotiable and close follow-up by DAs	Access to market / linkages; Access to business development services; conducive policy environment; public-private partnership
Constraining Factors	Miscommunication of benefits by key stakeholders; non-targeted awareness campaigns	Lack of adequate infrastructure (venue + equipment); cultural dynamics affecting participation; content not aligned to farmer needs	High DA turnover; DG trained model farmers can't facilitate / access Pico; Adequate supply of videos --> lack of planning of production	Lack of sustainable access to inputs; Lack of active participation and motivation; Lack of follow-up support; Competing interests	Lack of inputs important for owing production; Limited follow-up by DAs	Lack of improved storage; Transport facilities; Infrastructure; Financial services; Skill trainings; Technology generation and development; Lack of market access / linkage; Lack of adequate institutional support
Actors	Model farmer (dissemination); Development Agents (dissemination); Digital Green funding (technical support); MoA (Admin and tech support); Other ag. Stakeholders	Farmers (venue); DAs (screening editing and production facilities); DG (video support, data training); MoA structures (content); Model Farmers (facilitation)	Das (facilitation); Woreda Ag.. Office (timely content development and video production); Model farmers (dissemination, mobile, 'acting'), DG (supportive supervision); Partners	DAs (facilitation and follow-up) and FTCs (training demonstration); Model farmers (dissemination and Mobile?); Rural financial service (credit)	Agro dealers (buyers); Das (follow-up); Model farmer (ongoing dissemination); DG (supervision and Technical Assistance); Woreda Ag Office (coordination)	Market: agro-dealers, cooperative, traders, suppliers, gov't, NGOs; Research and Development Institution
What Will Project do to Achieve This?	Targeted promotions - intensify target audience; stakeholder engagement	Capacity building of DA (timely video production and dissemination structure) and Woreda level structure; Provide adequate infrastructure (equipment, etc.); Monitor suitability, quality of videos	Give more attention to video production (bring partners together); Adequate training of Das (refresher and initial backstopping)	Adequate training of Das to facilitate and follow-up; Supervision of Das; Working with input companies; Stakeholder engagement	Enable buying linkages; Incentivisation of Das; Foster input supply chain; Robust data management	Co-ordination institutional support; Creating market linkages

Table 3: Video Causal Pathway ToC

### **Presentation Questions and Answers:**

After the presentation, several questions were asked around (1) how to make feedback loops functional, (2) the importance of ensuring increased access to inputs (improved practices often depend on improved inputs) and (3) increased access to videos by DAs (with a wider range of practices/technologies). DG currently has a web portal that hosts their videos, there were suggestions that these could also be posted on existing MoA / ATA portals. This led to further questions of how the project can align with government policies and structures (the national extension system. The video group responded by indicating that they hope the Government can provide funding and aid in the scale-up, and emphasized that ultimately, Government support would be a precondition for scale-up. At a policy-level, the MoA could help by removing the policy barriers that restrict model farmers' access to Pico projectors.

One participant asked how DG would mitigate risks with video activities and how to relate this back to the MoA extension system, especially for approval of content. In response, the video group indicated that they would like to explore options for ensuring updated and relevant content as well as try to prevent the risk of misrepresentation of the project amongst different stakeholders. They also noted that video disseminations promote self-efficacy of farmers and improved farmer attitudes. The video group also realizes that the DAs are the most common interface and there is great pressure on them to inspire others to adopt. As a result, they have to be effective at cultivating a desire for change. Other risks that were raised were a lack of social structure or organisations to leverage, or the limitations of some DAs ability to explain videos at an understandable level. Another important aspect of risk is from the farmers' perspective: given that the process relies on farmers taking risks (for example borrowing money for additional inputs or adopting a new "untested" practice for the first time) it will be hard to predict how they will react.

### **Evaluation and Learning Questions**

- How can the videos be made locally relevant?
- What are the changes introduced / needed in the national extension system?
- How do we document things that don't work?
- What are the reasons for farmers not retaining knowledge
- How sustainable is the new technique or practice?
- What are the main constraints preventing farmers from adopting?
- What are the reasons for farmers not retaining knowledge?
- What prevents farmers benefiting from behaviour change?
- How has our approach changed the extension system?
- How will knowledge retention and adoption change with varied dissemination techniques and combination?
- How do we maintain data quality?
- How do non-project Woredas compare to project Woredas? (*Ceteris paribus*)
- How do we measure diffusion of dissemination beyond those directly involved in video screening?
- How sustainable is our approach (cost effectiveness / efficiency)?

### 3.2 Radio

This group was anchored by Farm Radio International and several members of the MoA, ATA and Digital Green.

Radio	Awareness	Access / Use	Knowledge Attitude	Behaviour Change	Results of Behaviour Change	Benefits Realized
Outcome	Male and female farmers are aware that there are specific times to tune into the radio (specific program times); Male and female farmers participate within radio programming (call-ins) (when they are aware they will participate)	Farmers listen to radio program; Farmers engaged (participate); Tell other farmers to tune	Farmers gained knowledge on important practices and techniques; Farmer knowledge towards risk analysis and mitigation	Demand for new practices; Adoption of knowledge gained; Farmers share / influence peers to adopt; More prepared for shocks and epidemics, droughts)	Increased productivity - increase yield; Increased number of Model Farmers; Reduced input costs and increased input / output ration; Increased income; Increased market supply; Improved quality product; Fast recovery from shocks	
Precondition	Farmers have radio sets and access to radio programming; Preferred time for radio programs; Collaboration with radio stations; Collaboration with Agricultural Woreda Offices	Farmers have access to radio; Availability of radio sets for farmers; Affordable; User friendly; Baseline study to understand timing and needs of farmers	Active participation of farmers; Farmers openness to new technologies; Participatory campaign - not only expert to farmer; Need to interview farmers; Relevance of topic within the Kebele level; Active participation of technical / knowledge partner (MoA, SSTP)	Availability of affordable and better technologies; Capacity of farmer to implement (financial, etc.)	Adoption; Flexible market based on demand-supply; Public and private input suppliers	
Constraining Factors	Access to radio sets; Attractiveness of broadcast program; Radio stations need to be in sync with timings that farmers are aware of...	Access to radio sets; Radio signal strengths (poor); Tailoring times (inaccessible); Not attracted to full program; Relevance of the topic	Social, cultural, pre-existing mind-sets towards new / old practices; Negative attitudes towards new technology	Unavailability of inputs (labour, seed, etc.); Lack of access to market; Lack of resources to adopt (on their plots); Lack of follow-up supports; Weak linkages between government structures	Weak market factors; Lack of storage facilities and transport; Lack of demand; Lack of business acumen	
Actors	Radio station; Farmers both male and female; DAs; FRI; Knowledge Partners (KP)	Farmers (users); Radio suppliers - low cost radios; Radio stations; Farm radio; Mobile suppliers (centers); Ag experts (MoA) in decisions on relevant topic	Active community listener groups (peer to peer to mitigate risk!); Experts, SSTP, DAs; Other farmers (diffusion attitudes)	Farmer; DA (provide support); Radio station / FRI / Experts; Market input and output		
What Will Project do to Achieve This?	Community mobilization (DA and different associations); Promos by radio station; Community promotes events	Train journalists on PRCs; Design program in collaboration of Ag Offices, journalists; Organize and establish new community listener groups; Capture farmer feedback (loop) - facilitator connects / syncs feedback w/ radio programs	Use other farmers / experts to convince users to change mindset; plan content which is relevant; A vast technology guideline; Attractive program; Basic training to journalists	Ensure input availability in disseminated region (ex. SSTP grantees --> inputs); Leverage data / feedback to inform market access; Provide easy follow-up support using ICT channels to asset adoptions and generate more demand	Radio market place!	

Table 4: Radio Causal Pathway ToC

### **Presentation Questions and Answers:**

Many of the challenges that were raised during the question period for radio were in regards to timing of the shows, content and participation. What would happen if a farmer missed the radio show? Is there any way to record it? In response, FRI noted that each show is broadcast and then repeated later in the week in case the show was missed or clarifications are sought. Listeners are considered as fitting into two categories: individual listeners and group listeners. Solar radios provided to the listener groups have a memory stick so that members can record the show and can gather and listen at a convenient time. The opportunity to turn the radio program into a series of IVR messages could enable farmers to get the desired clarifications and enable fully flexible listening times. Additionally, there were questions about other competing radio shows, news and entertainment shows, to which FRI responded that they currently train journalists and broadcasters to make the best radio programs that will attract high numbers of listeners. Farmers are also surveyed to gather their preferences, which helps tailor shows.

Finally, the difficulty that FRI experiences with tracking listeners of the agricultural radio programs they help broadcast was flagged as a major challenge. FRI do their best to estimate their listenership through baseline and endline studies (surveys) to assess the number of farmers with radios in the area that they broadcast to, they then conduct a follow-up survey to see if farmers listened to the programs and ask quiz-type question based on the show to more accurately assess listenership and retention. While this is their current model, they are open to testing different evaluation methods.

### **Evaluation and Learning Questions**

- What are the specific diffusion methodologies appropriate for women Community Listener Groups?
- What are the appropriate peer-to-peer dynamics for CLG?
- How do we ensure sustainability of the radio broadcasts and of the community listener groups?
- How do we document guiding of community / knowledge partners for content creation?
- How can we encourage more supply (demand) of radio sets?
- How can we best tap into the use of mobiles to support radio broadcasts?
- How do we effectively leverage the existing extension systems for radio?
- How can we reach the female farmer with interventions and timing specifically targeted to women?
- How do we assess the differences in adoption between the different approaches used (Venn diagram)?
- What would be the role of WoredaNET, which is already disseminating information through ICT (integration)?

### 3.3 Mobile (IVR)

MOBILE	Awareness	Access / Use	Knowledge Attitude	Behaviour Change	Results of Behaviour Change	Benefits Realized
Outcome	DAs and farmers know about the services available through mobile technology	DAs and farmers have access to mobile technologies	Understanding the benefits of the technology; Understanding of the content	Adopt improved management practices	Increased productivity	Increased income; Better livelihood
Precondition	Existence of awareness campaigns and interventions	Mobile devices available; Electricity; Network coverage; Cash (income); Simple IVR application	Literacy; Willingness to explore new technology; Clear and consistent message	Resources (improved availability of inputs); Availability of technology	Better inputs / technology; Support program; Climatic condition (favourable)	
Constraining Factors	Lack of willingness to generate awareness through campaign and intervention; Time constraints (farmer not able to attend awareness campaign)	Willingness to use mobile phone; Insufficient income; Security issues and not willing to buy high-end phones	Relevant content; Current best practices not included in the content; Localized significant proof of success	Lack of inputs; Lack of supervisory / back up support; Risk averse attitude	Technology may not yield what was expected; Unfavourable conditions	
Actors	NGOs: DG, others (Advertising campaigns); Gov't (use of gov't workers / event facilitation); Private sector (workshops and seminars)	Ethiotelecom (collaboration and improve network coverage and data coverage); EEPCO (electricity - provide power supply); Technosmode (mobile vendor - making available mobile devices); Donors (provide funds to programs to purchase phones); MFI (microloans for apparatus purchase)	NGOs (creating content based on programming; Gov't agencies (creating content through SMS); Research groups; Private sector	Private sector; Public sector; Ministry of agriculture; NGOs (DG, IDE, Oxfam, SG-2000)	Gov't agencies; Public sector; NGOs	
What Will Project do to Achieve This?	Organize seminars and workshops; Use gov't channels	Mapping resource to service status; Bringing partners together (Dimagi, Awaaz.De, DG, FRI); Influence market conditions and regulatory environment	Facilitating creation of relevant, localized content to help farmers understand the benefits; Provide evidence of success through pilots; Dissemination of messages	Collect data and evaluate the program; Capacity building; Identification of gaps and challenges	MEL services; Continuous support	

Table 5: Mobile (IVR) Causal Pathway ToC

### **Presentation Questions and Answers:**

There are several specific challenges that arise with the use of mobiles such as network connectivity and cost of calling (usually farmers will only call, or prefer to call in if there is no cost). Users would also need to have access to phones, electricity and have decent network coverage. Most of these challenges will fall outside of the control area for the partners. Questions were also raised on the use of mobile within the existing extension system and how it could play a complementary or supplementary role. Mobile is a useful tool for reinforcing messaging and for data collection. It is a mechanism for getting relevant content to a widespread audience provided there is mobile ownership and basic mobile literacy. This connects to the question about feedback loops, and getting information from farmers about what is working (or not) and why.

One potential issue pertaining to IVR is that it can be used by anyone and may create conflict if, for example, new private sector seed producers want to directly define and disseminate content which may be different from what DAs are responsible for disseminating (as per government policy). One suggestion was that IVR may be more useful for extension workers than for farmers themselves, as the DAs can access training and information that will help them disseminate information. There are however limitations in the length of time one may be able to listen to a pre-recorded message or in the amount of questions they may be able to ask due to the costs associated with the calls. The use of IVR for logistics and management was also raised as it could be a good communication tool for the consortium to use for management, reminders, calendar invitations, etc. This could trickle down to farmers who have mobile phones, who could potentially be sent reminders to join screenings or be used at a higher level, for example, with ATA using IVR as a system for tracking the supply of inputs from Woredas to Cooperative Unions.

As a feedback tool, IVR could help collect information on what the farmers are actually asking for or interested in. In this, the main issues that arose were around the ability to collect phone numbers and trust in that correct information and phone numbers were provided. If farmers call in, for example to the radio, their information will be recorded and they will likely give correct information, as they will likely trust the program after they have participated in the radio programs and video screenings. Again, the question of Government funding and possible scale up arose, as well as the potential policy changes required to enable IVR services (and other technologies) to function at their fullest.

For Dimagi, the issue of mobile literacy for using mobile applications was also raised as well as the need to support features and application, data coverage.

### **Evaluation and Learning Questions**

- To what extent were farmers aware about mobile technologies?
- How many farmers are able to access ICT-enabled agriculture services?
- How well farmers have been able to understand the content?
- What factors motivate farmers to adopt improved management practices?
- To what extent agricultural productivity increased as a result of this program?
- What are the key lessons for scaling up?
- How does this program impact agricultural productivity and to what extent? Why? Why not?
- What are the critical challenges in synergies?
- What mediums have been most effective in generating awareness?

- Will ICT-based dissemination tools have better acceptance compared to the additional methods?
- Will the farmers like these IVR-based approaches?
- To what extent have the farmers been able to adopt improved management practices? Why? Why not?
- To what extent will it align with traditional methods?
- How can we measure the value of IVR compared to radio and video?
- How far will the farmer will be familiar with the technology

## 4 Synergies

During the second day, there was a group discussion on the relationship between the three technologies and how they would and could potentially work together to reach the program objectives of reaching 1 million smallholder farmers and achieving 250,000 adoptions. Participants were asked to focus on extension and outreach methods, and potentially think about streamlined data collection (mobile) as another layer. Figure 2 below shows the potential interaction or synergies of these three technologies, while Table 6 outlines the potential synergies suggested by the workshop participants.

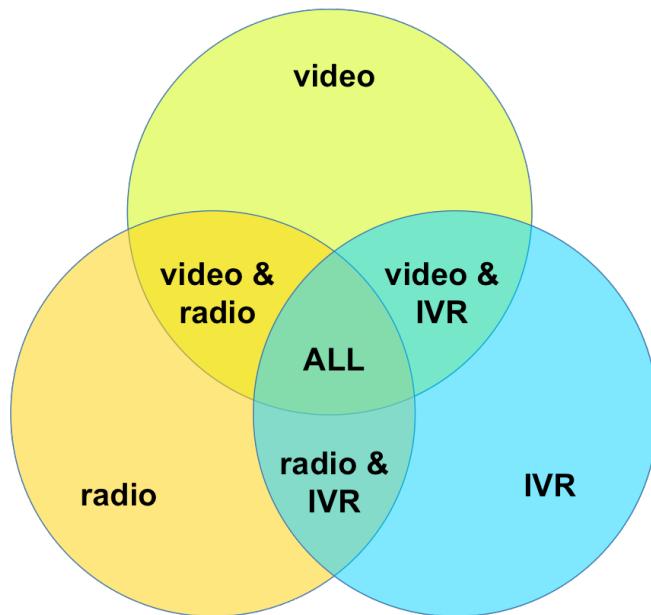


Figure 2: Venn Diagram - Video, Radio and IVR Technology Combinations

### Potential Synergies

<b>Video + Radio</b>	<ul style="list-style-type: none"> <li>• Combining community listener groups and video groups – ensuring that the message is the same</li> <li>• Radio as a means for creating awareness/demand at community level to motivate people to see videos/learn about new practices</li> <li>• Using radio to reinforce the messages (e.g. adoption points) that are heard in video</li> </ul>
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	<p>groups</p> <ul style="list-style-type: none"> <li>• Videos can inform people that there is a radio station</li> <li>• Involving model farmers (from videos) in the community listener groups</li> <li>• Learning from each others' approach: discussion amongst farmers about challenges they face and how they overcame them</li> <li>• Coordination and linkages between service providers, input providers, research agencies and extension services</li> </ul>
<b>Video + IVR</b>	<ul style="list-style-type: none"> <li>• Farmer level: <ul style="list-style-type: none"> <li>◦ Reinforcing messages shown in video: accessing IVR or outgoing call to get content that is directly related to a video that was watched</li> <li>◦ Creating a feedback loop between DAs and farmers – enabling farmers to share their views about videos and practices <ul style="list-style-type: none"> <li>▪ IVR to find out about farmers' demands to inform video/radio content production</li> </ul> </li> <li>◦ Informing/reminding farmers about upcoming video screenings (could be IVR or SMS?) - time and location</li> <li>◦ Crowd sourcing information on emergency issues (e.g. pest/disease outbreaks) and using this to inform video content for dissemination</li> </ul> </li> <li>• Ag office level <ul style="list-style-type: none"> <li>◦ Standardising adoption points – and disseminating to all Woredas</li> <li>◦ IVR as a management tool: video production and dissemination – performance management for DAs</li> <li>◦ Technical support for Das (e.g. maintaining equipment, following steps for facilitation, etc.)???</li> </ul> </li> </ul> <p>(Data collection on practices)</p>
<b>Radio + IVR</b>	<ul style="list-style-type: none"> <li>• Informing people about timing and content of farm radio broadcasts</li> <li>• Using IVR as a feedback tool on radio content/dissemination</li> <li>• Radio expertise in producing audio content that can also be used on IVR (Designed so they can access the specific information they want)</li> <li>• Farmers can call in with their questions and leave a recording – these can be answered later by experts (e.g. included in subsequent radio shows)</li> <li>• Using IVR to gather data from farmers (e.g. "would you plant teff in rows? And why/why not?") to assess levels of knowledge/perceptions about practices, etc.</li> <li>• Reinforcing messages broadcast on radio: using shorter voice clips of farmers to emphasise key messages</li> </ul>
<b>All</b>	<p><b>Next steps to crystallise this by the consortium:</b></p> <ul style="list-style-type: none"> <li>• Exploring the various options in greater detail (e.g. link with ATA IVR, with regional radio stations)</li> <li>• Different partners need to come together and work out the details</li> <li>• Identify practical activities</li> </ul>
<b>Questions</b>	<ul style="list-style-type: none"> <li>• How does this complement current extension work on the ground?</li> <li>• How to align radio programs with knowledge partners who work closely with the extension workers?</li> <li>• How does the video sync with the practical demonstration? Is there are practical joined up with the video screenings?</li> <li>• How do you link listener groups and video groups?</li> <li>• How do partners interact in order to synergize their technologies?</li> <li>• How do we track reach and adoption without double counting? <ul style="list-style-type: none"> <li>◦ LBS / LSE to research best combination of cost and adoption.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• What will be the cost of knowledge intensity of each technology?           <ul style="list-style-type: none"> <li>◦ This is part of the learning agenda, which technologies are appropriate for which content</li> </ul> </li> </ul>
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Table 6: Possible Technological Synergies

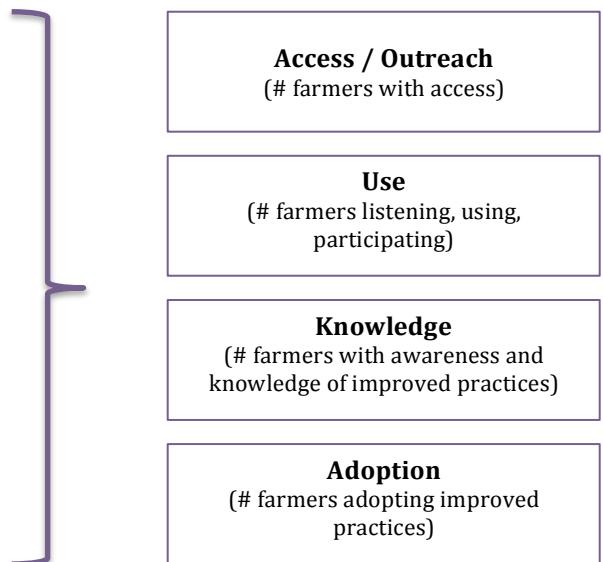
## 5 Indicators and Measurement Plans

This section is comprised of two exercises relating to measuring and reporting on existing indicators from the USAID and DG Measurement Frameworks and to measuring additional indicators that the participants saw value in tracking.

### 5.1 Measurement Plans

In order to lay the groundwork on measuring and reporting on the core project indicators, participants were divided back into ICT-based groups and each group was asked to answer the following questions related to access, use, knowledge and adoption:

- How will each partner measure and report on the core indicators?
- How will the data be collected?
- What tools, methods and approaches will be used?
- Who will be responsible for this?
- How will the data be stored?
- How will it be analysed and shared?
- By who?
- What tools, methods and approaches will be used?
- What are the gaps, if any?
- How could they be filled?



The mapping of the core indicators onto the TOCs gave participants the opportunity to explore how the different groups thought about the measurement of their programs. In the future, it will be important to ensure that there are commonalities between which partners are measuring which indicators along the Causal Pathway TOC and Measurement Framework. For a full list of indicators and for the indicator maps, please refer to Appendices 1 and 3.

## Video

	<b>Access / Outreach</b>	<b>Use</b>	<b>Knowledge</b>	<b>Adoption</b>
<b>Metric</b>	# farmers with access	# farmers participating	# farmers with awareness and knowledge of improved practice	# farmers adopting improved practices
<b>DG Measure</b>	# farmers registered; # videos produced	# farmers attended screenings	# farmers attended screenings	# farmers adopted non-negotiables of practice
<b>Paper --&gt; COCO</b>	<b>Registration Form:</b> Farmer; Location; Farmer Group / <b>Video Production Form:</b> Video; DA – Video Production	<b>Screening:</b> Farmers attendance; Video; DA	<b>Screening Form:</b> Farmers attendance; Video; DA; Interest expressed; Questions asked	<b>Attendance Form:</b> Farmer adopted; Video; DA; Non-negotiables check

<b>Level</b>	<b>Person</b>	<b>Data Collection Role</b>	<b>Storage Type</b>
<b>Village</b>	DA	Capture data on paper forms for Farmer Groups	Paper form (mobile)
<b>Kebele</b>	DA Supervisor	Collect paper forms from DAs	Paper form (mobile)
<b>Woreda</b>	IT Person	Enter data in COCO from paper forms	Paper form / COCO on computer
	DG-Program Managers; All	Monitor	COCO database; <b>Analytics Dashboards:</b> Location, Country, Zone, Woreda, Village / Time period

## Q+A on presentation

It is easy for DG to track farmers reached DAs or Model Farmers can capture data during the dissemination sessions. It was acknowledged that tracking the numbers of farmers who have participated in the video dissemination groups or watched the videos will not necessarily capture those who adopted a given practice or technology. It was also recognized that tracking of adoptions may not be as accurate as it does not take place in a controlled environment.

## Radio

	<b>Access / Outreach</b>	<b>Use</b>	<b>Knowledge</b>	<b>Adoption</b>
<b>Metric</b>	# of farmers with access	# of farmers listening	# of farmers with awareness and knowledge of improved practice	# of farmers adopting improved practice
<b>How to Measure</b>	Mapping of frequency coverage; Household surveys; FGDs and /or community; listener groups; Secondary data <sup>1</sup>	Household surveys <sup>2</sup> ; Opinion polls – missed call response during programme; Farmers calling into stations	Household surveys; Opinion polls; Focus group discussions; Interviews with key informants	Household surveys; Opinion polls; Farmer interviews; Farmer interviews conducted by journalists for radio station
<b>Responsible</b>	Farm Radio; Local radio stations	Farm Radio; Local radio stations	Farm Radio; Local radio stations	Farm Radio; Local radio stations; Knowledge partners (e.g. Research Institutions, Woreda Level MoA)
<b>Storage</b>	Paper-based; Digital stats	Paper-based; Digital stats; Audio data	Paper-based; Digital stats; Audio data	Paper-based; Digital stats; Audio data; Photographic evidence
<b>Analysis<sup>3</sup></b>	External consultant(s); Farm Radio	External consultant(s); Farm Radio	External consultant(s); Farm Radio	Farm Radio

1 Information already collected from Ag bureaus, NGOs such as demographic, GIS and previous production data; 2 Household surveys require house-to-house questioning by Farm Radio staff; 3 Results of analysis are available freely online and are made available to all stakeholders

### Q+A on presentation

Again, during the radio discussions the practicalities of measuring listenership was raised in addition to questions on how FRI currently tracks farmer call-ins and what can be extrapolated from that information. FRI trains broadcasters to ask basic personal information such as name, location and sex, while journalists also complete digital log sheets to capture programmatic information such as the length and topic of the program. FRI also makes the assumption that only real farmers call in to ask real questions due to the cost associated with the calls. While the number of calls does not necessarily show the exact number of listeners, it can give an indication of the popularity as well as an estimate of the percentage of listeners at that time. Indicators for measuring the outcomes related to radio broadcasts are not straight-forward and there is a need to experiment with different ways of measuring while evaluating what works and what does not.

### Mobile (IVR)

	<b>Access / Outreach</b>	<b>Use</b>	<b>Knowledge</b>	<b>Adoption</b>
<b>Data collection / Responsibility</b>	DG's registration forms; FRI's data	Awaaz De's Call logs	Voice Surveys to a certain sample	Voice Surveys to a certain sample; Validation of DG's adoption data
<b>Data Storage</b>	DG's COCO; Awaaz.De's MIS	DG's COCO; Awaaz.De's MIS	DG's COCO; Awaaz.De's MIS	
<b>Data Analysis / Sharing</b>	Comparative access of mobile penetration between Woredas; Will be shared with MoA, Consortium	Number of listeners/users per woreda; Relationships between timings of broadcasting and listens; Number of listeners who are registered and not registered; Will be shared with MoA and Consortium partners	Which Kebeles farmers have more knowledge?; Within a kebele which practices were better understood?	Which Kebeles adopted more practices?

#### *Q+A on presentation*

In order to measure access, Awaaz.De will need help from other partners to get phone numbers. With their call logs, Awaaz.De will be able to compare mobile penetration between Kebeles and Woredas as well as help with analysis such as determining the best listening times and being able to discern whether a caller is part of this project or not. In addition, IVR could complement radio and existing measurement making it more robust by helping with mobile data collection and minimizing the number of enumerators needed in the field. This data can then be compared and verified with data collection from DAs at the Kebele and Woreda level. A challenge that was raised at this moment in the discussion was in regards to the patterns of mobile phone ownership – is the program only targeting farmers who are better off and can afford a mobile phone, or will there be a bias towards male farmers who may be more likely to own a mobile phone?

## 5.2 Tracking: Additional Indicator Recommendations

Below is a table outlining additional indicators that the workshop participants would like to track. After the participants mapped the existing indicators onto their Causal Pathways Appendix 3, the groups were asked the following questions:

- What are the indicators that you would like to track at each step of the intervention? These may relate to outcomes, preconditions/constraints, actors and project activities.
- Are there any points at which you would like to collect feedback data from actors to gain insight into reasons for high/low outcomes?
- What are the priority indicators that you need to collect and what is the data that you might better collect through studies, etc.?

	Awareness	Access / Use	Knowledge / Attitude	Behaviour Change	Results of Behaviour Change	Benefits Raised
Video	Number of promotional campaigns disseminated, disaggregated by type of promotion (radio, flyer...); % of farmers who believe that video is a credible and useful source of agricultural information; % of farmers who are aware of video as a medium of agriculture extension	Number of video disseminations; % of video disseminations meeting a defined standard; % of videos that meet defined by a standard; Number of project Kebeles having trained a DA in position; Number of projects Kebeles having functional equipment; Number of women groups targeted; Number of women specific technologies and videos produced	% of farmers who perceive videos are easy to adopt (per video)		% yield increase for farmers who adopt	
Radio	Number of radio programs aired; Number of broadcasters trained by FRI; % of farmers engagement on the radio shows --> call in / out, male / female					
Mobile (IVR)	Number of campaign interventions	DAs and farmers accessing all three services				Measure nutrition indicators; Perception of DAs and SMS on the alignment of ICT w/ the traditional

Table 7: Tracking - Additional Indicators

## 6 Conclusions and Next Steps

The workshop provided participants with the opportunity to get to know each other, to understand each others' organisations and ICTs, to familiarise themselves with the particularities of the Ethiopian context and to develop a shared understanding of how they would work together in practice. The workshop also began laying the foundations for establishing a common MEL Framework, defining some of the key questions that the consortium would like to explore during the course of the project and establishing the key outcomes and indicators that they will need to track for reporting purposes. Having said this, due to the early stage of the project and the importance of giving participants the time and space to better understand each other and the local context, it was not possible to go as deeply and systematically into the MEL Framework as had initially been planned. Further work will be required to complete the development of the MEL Framework, both through one-to-one interaction between DG and the other consortium partners (for example while developing detailed workplans) and potentially also through a follow-up workshop with the

consortium partners to clearly define and establish a common evaluation, learning and measurement plan. An integrated TOC could also be developed on the basis of the program.

More specifically, the following key steps would help to complete the MEL Framework:

1. Develop a consolidated set of evaluation and learning questions that integrate the questions proposed for each ICT and define an evaluation and learning plan that defines how the different questions will be answered. This can form the basis of a common learning agenda for the consortium to engage with on a regular basis. This could be done through the Project Management Committee but potentially also with other relevant stakeholders at different levels, as appropriate to support the required learning and sharing.
2. Complete the matrix on non-core indicators to be tracked (using the questions in section 5.2 as a guide) for each technology. These should be framed in a manner that helps to answer the evaluation and learning questions (i.e. to gain insights that help to improve the program).
3. Prepare a comprehensive measurement framework that details how each partner will collect data against both core indicators and non-core indicators, the tools that will be used for data collection, and how the data will be stored, analysed and used. This should relate back to the evaluation and learning plan that specifies how the data collected will help to answer the different evaluation and learning questions.
4. As the project progresses, work will need to be carried out to refine data collection and analytic tools and develop the systems that will support routine data collection and analytics.
5. Periodic studies may need to be designed and commissioned to explore different issues over the course of the project. Adequate budget provisions should be made available to support this in a manner that helps each partner address their learning and information needs.

## 7 Appendix

### 7.1 Appendix 1: USAID / DG Indicators

USAID / New Alliance	Digital Green and Consortium
Indicator	Indicator
<b>PROGRAM GOAL:</b> Improve food security and reduce poverty among smallholder farmers in targeted areas defined by SSTP in six New Alliance countries: Ethiopia, Ghana, Malawi, Mozambique, Senegal, Tanzania	<b>PROGRAM GOAL (PG):</b> Increase agricultural productivity of select food crops and improve nutrition security in project regions among smallholder farming communities
<b>Impact Indicator:</b> Percent of households living below the poverty line (\$1.25/day)	<b>Impact Indicator (II):</b> Percent of households living below the poverty line (\$1.25/day)
USAID/New Alliance indicators do not cover the proposed DG impact indicators.	<p><b>Impact Indicator:</b> Improved food security among smallholder farmers in the project area.</p> <p><b>Impact Indicator:</b> Improved productivity gains for target commodities among smallholder farmers in the project area.</p> <p><b>Impact Indicator:</b> Empowerment, agency, and inclusion of women in the agriculture sector in the project area.</p>
<b>OBJECTIVE 1:</b> Increase use of quality seeds and improved technologies by smallholder farmers	<b>OBJECTIVE 1 (O1):</b> At least one million smallholder farmers access information about agronomic practices such as improved seeds, fertilizers, other New Alliance priority technologies, and related good agricultural practices (GAPs), in alignment with SSTP goals, using ICT-enabled services.
<b>Indicator 1.1:</b> Number of farmers with access to (the provided) ICT-enabled services.	<b>Outcome Indicator (I 1.1):</b> Smallholder farmers have access to ICT-enabled services.
<b>Indicator 1.5:</b> Number of individuals who have received USG (i.e., donor) supported short-term agricultural sector productivity training or food security training.	<b>Outcome Indicator (I 1.5):</b> Smallholder farmers reached through DG video approach
	<b>Outcome Indicator (I 1.5):</b> Smallholder farmers reached using radio broadcasts
	<b>Outcome Indicator (I 1.5):</b> Smallholder farmers accessing agricultural information using mobile devices
<b>OBJECTIVE 1:</b> Increase use of quality seeds and improved technologies by smallholder farmers	<b>OBJECTIVE 2 (O1):</b> At least 250,000 smallholder farmers adopt improved agronomic practices through ICT-

	supported, human-mediated knowledge exchange platforms.
USAID/New Alliance indicators do not cover the proposed DG impact indicators.	<b>Outcome Indicator:</b> Smallholder farmers reporting knowledge and awareness of improved agronomic practices
<b>Indicator 1.3:</b> Number of farmers and others who have applied improved technologies or management practices as a result of (donor/US government) assistance.	<b>Outcome Indicator (I 1.3):</b> Smallholder farmers adopt agronomic practices promoted by the New Alliance partners
<b>OBJECTIVE 2:</b> Increase financially sustainable ICT-enabled services to complement other extension services.	<b>OBJECTIVE 3 (O2):</b> Build evidence on the cost-effectiveness and efficacy of an integrated ICT-supported extension system at scale.
USAID/New Alliance indicators do not cover the proposed DG impact indicators.	<b>Outcome Indicator:</b> Cost per adoption is lower than the cost per adoption of traditional extension services
<b>Indicator 2.1:</b> % of costs of ICT-enabled services covered by non-donor sources.	<b>Outcome Indicator (I 2.1):</b> % of costs of ICT-enabled services covered by non-donor sources (i.e. MoA).

## 7.2 Appendix 2: Day 2 Morning Review and Thoughts

- Lack of experience in Mobile group led to better explanation of activities to achieve outcomes at different levels
- Did we put mobile in a difficult position to come up with something given that their roles would be more complementary?
- Mobile had a good opportunity to get a sense of the local context.
- Learning day - to learn about programs and approaches
- How do you develop TOC with such variation?
- Are we still in design phase vs. measurement phase? Naturally there will be some open endedness, but hopefully we will be in a good position and know where we need to go after
- First identify interventions and activities and then look towards outcome, advised to work backwards, start with what you would like to see vs. setting up outcomes and outputs from specific activities

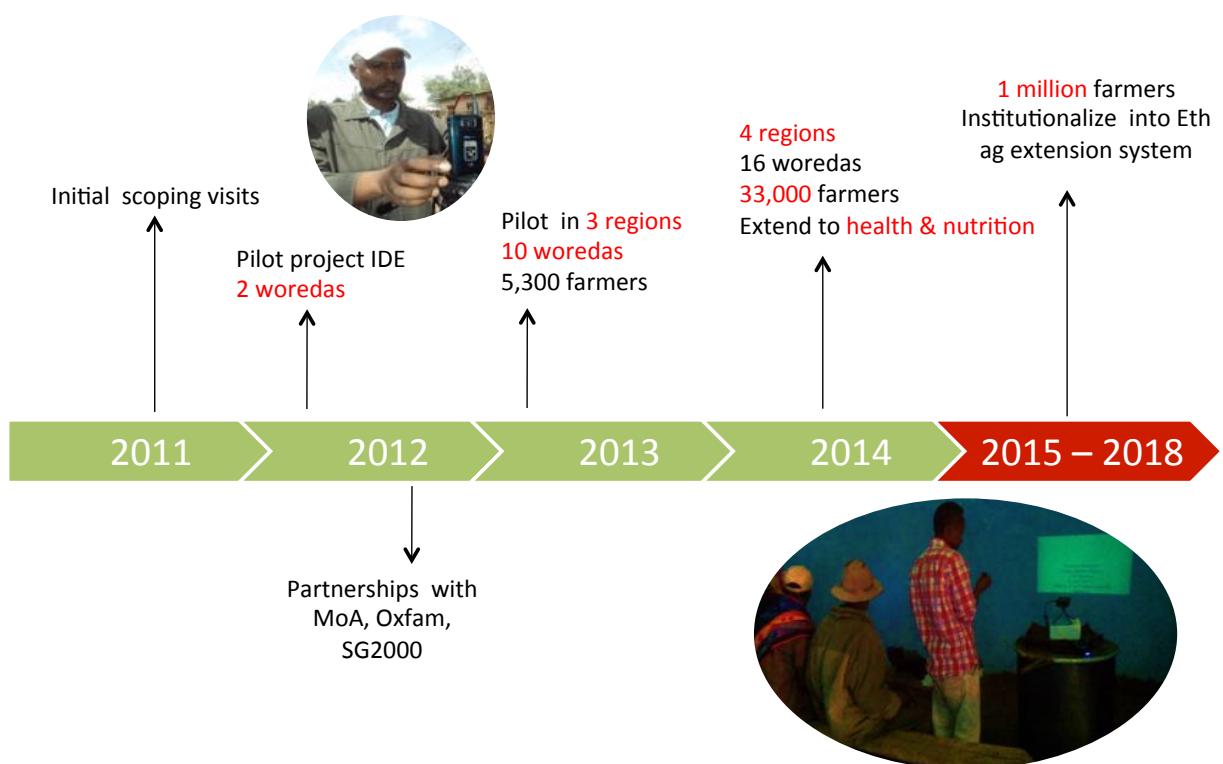
### 7.3 Appendix 3: Indicator Mapping

## 7.4 Appendix 4: Full Partner Presentations



# Digital Green

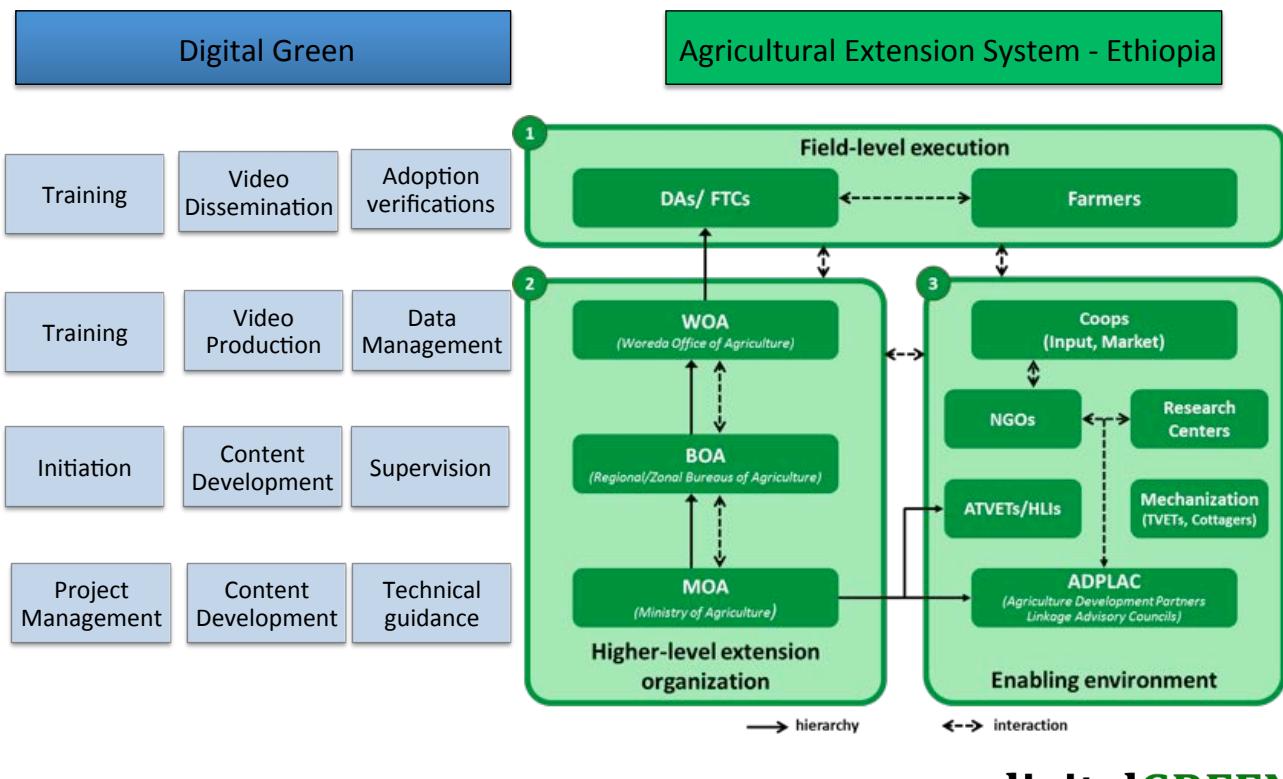
## Evolution and Key Lessons in Ethiopia



Digital Green's journey in Ethiopia

**digitalGREEN**

# Institutionalizing Digital Green

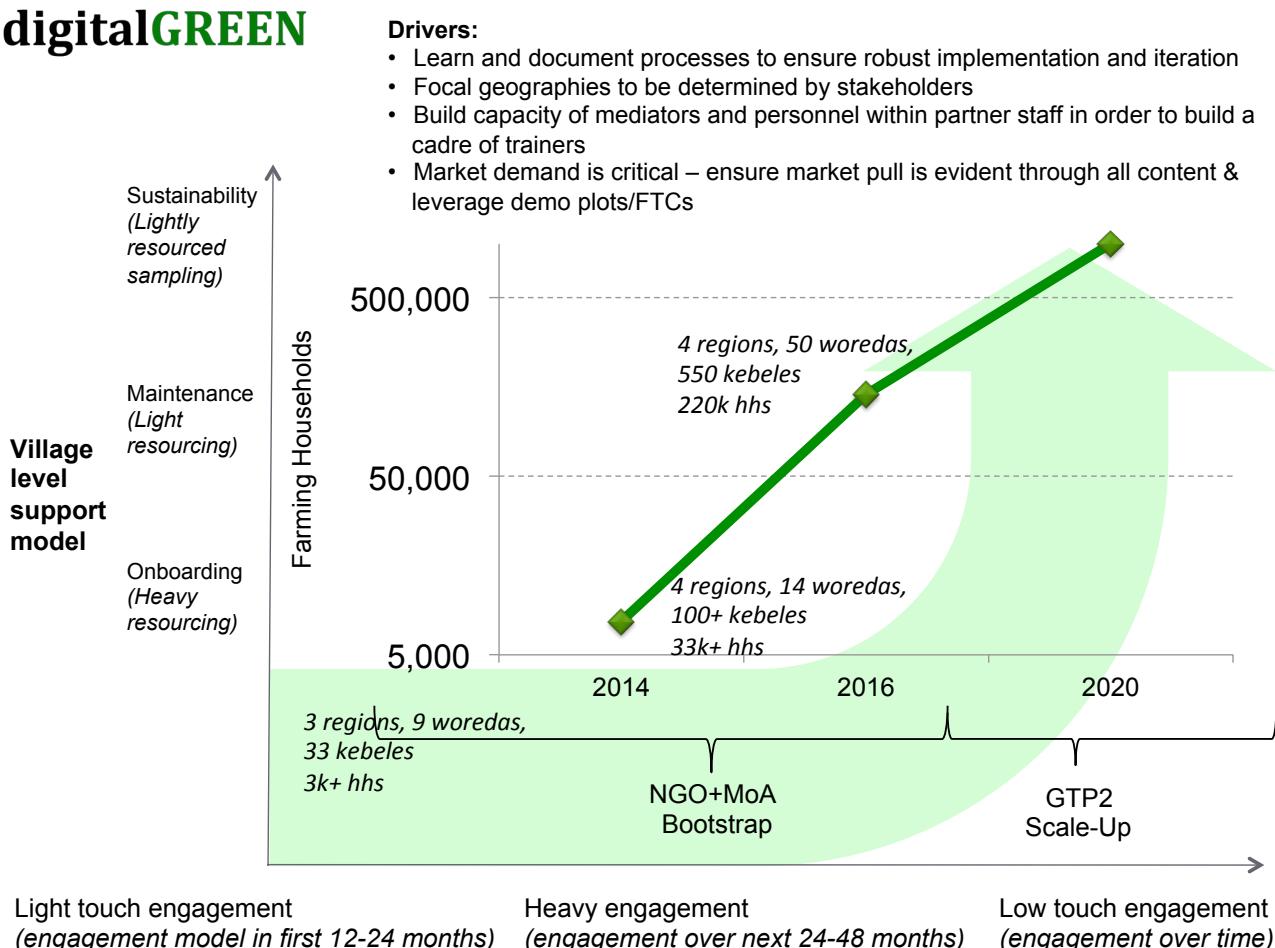


**digitalGREEN**

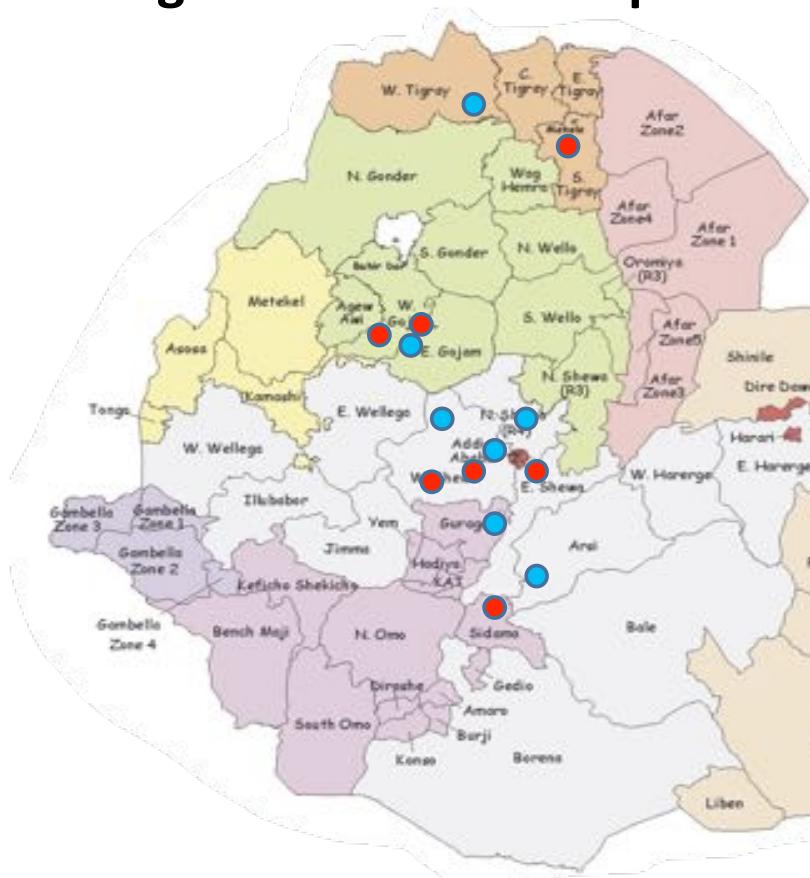
## Digital Green: 2012-2014



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## Digital Green in Ethiopia: Current operations



### Current Engaged AGP Woredas:

Alamata

Ada'a

Becho

Bure

Jabitehnan

Woliso

Wondo

### Current Engaged Woredas:

Arsi Nagelle

Dawo

Debre Libanos

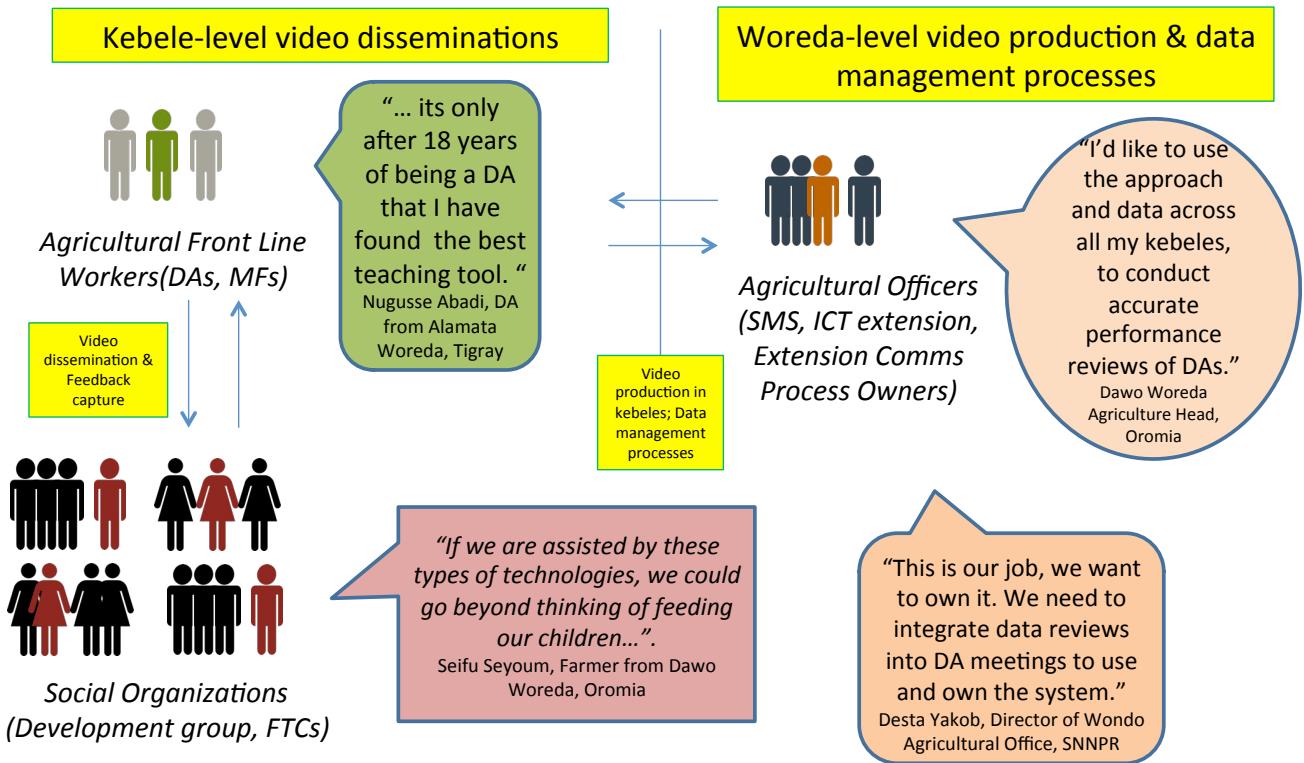
Dembecha

Gumer

Ilu

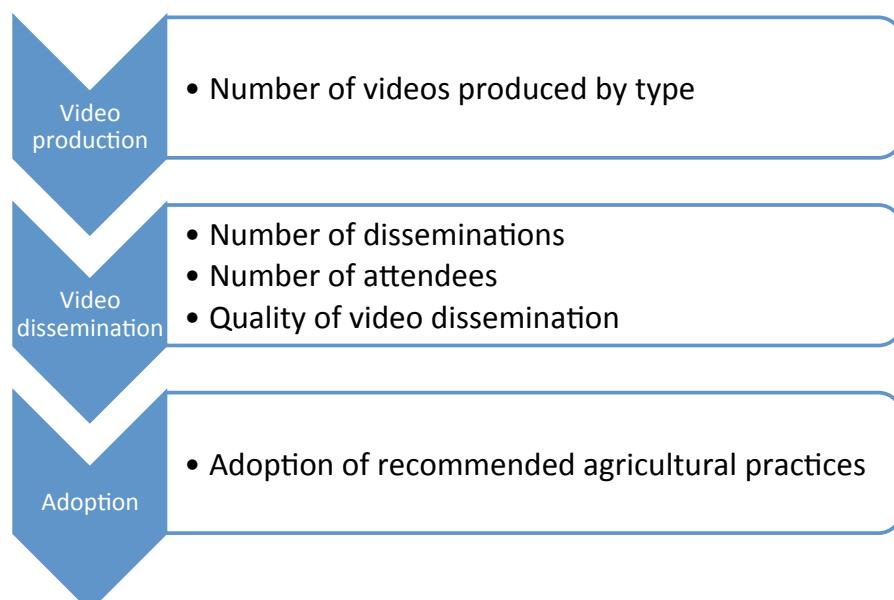
Medebay Zana

# Digital Green at woreda and kebele levels



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## Monitoring of Digital Green's Core Processes



# Digital Green: Technology

- **COCO**
  - Web-based MIS for challenged networks
  - Captures data for DG's core processes
  - Data entry operators at woreda level
- **Analytics**
  - Monitor & Evaluate aggregated data
  - Improve performance and accountability
- **Video Library**
  - Centralized global repository
  - Search, filter, organize into video collections

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## Digital Green: Key Lessons

- **Technology is not a quick fix – it alone does not ensure that development agents and farmers are engaged and productivity of their farms is improved.**
  - Heavy hand-holding support is required
  - Collaborative partnerships and ownership needs to be nurtured
- **The video-based, community approach makes development agents' jobs more effective and efficient, increasing reach and adoptions of agricultural best practices.**
  - In some areas prior to Digital Green, DAs prioritized model farmers earlier; focusing on 15-20 in one kebele; adoption rates were close to 15%
  - At present, engaged DAs work with over 400 farmers in their kebele; adoption rates are over 50%
- **Approximately 200 model farmers were trained to mitigate turn over of development agents.**
  - Model farmers lack technical knowledge; pico projector access
- **Provides opportunity for farmers to learn by seeing, hearing and demonstration in one session.**
- **Farmers are learning from three agents: development agent, video & their peers.**
- **Institutionalizing the approach within the Ministry of Agriculture Extension system is necessary for sustainability.**

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# How to strengthen existing mechanisms?

- **Content**
  - Make content accessible post video dissemination? To whom?
  - Reinforce messages? How?
- **Data Management**
  - How do we reduce COCO-based data entry time-lag?
  - Do we need more robust quality assurance tools?
- **Support & Feedback**
  - How do we provide greater support for DAs post training?
  - How do we institutionalize feedback tools for farmers and DAs to help inform decision making?

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**Sharing Knowledge – Giving Voice**



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  - Mali
  - Burkina Faso
  - Ghana
  - Ethiopia
  - Uganda
  - Tanzania
  - Malawi
- ***Over 560 broadcasting partners across sub-Saharan Africa***

2

# Farm Radio International



## IMPACT PROGRAMMING

We work with local partner radio stations to plan and deliver special radio campaigns and programs that have a specific impact on a development challenge such as soil erosion or banana bacterial wilt. All programs are in local languages and are developed in a farmer-centred, participatory manner.



## BROADCASTER TRAINING

We provide training services to broadcasters, including direct in-station training, distance education and custom workshops to help them meet a higher standard of farm radio services.



## BROADCASTER RESOURCES

We develop radio scripts, information packages, a weekly electronic news service, and a special on-line community called Barza, and share them with thousands of African broadcasters.



## INTEGRATING MODERN TECHNOLOGY

When we say "radio" we are referring to radio which is enhanced by other modern technologies such as mobile phones. All of our projects integrate innovative uses of technologies to reach even more farmers and to monitor and evaluate the program's effectiveness.

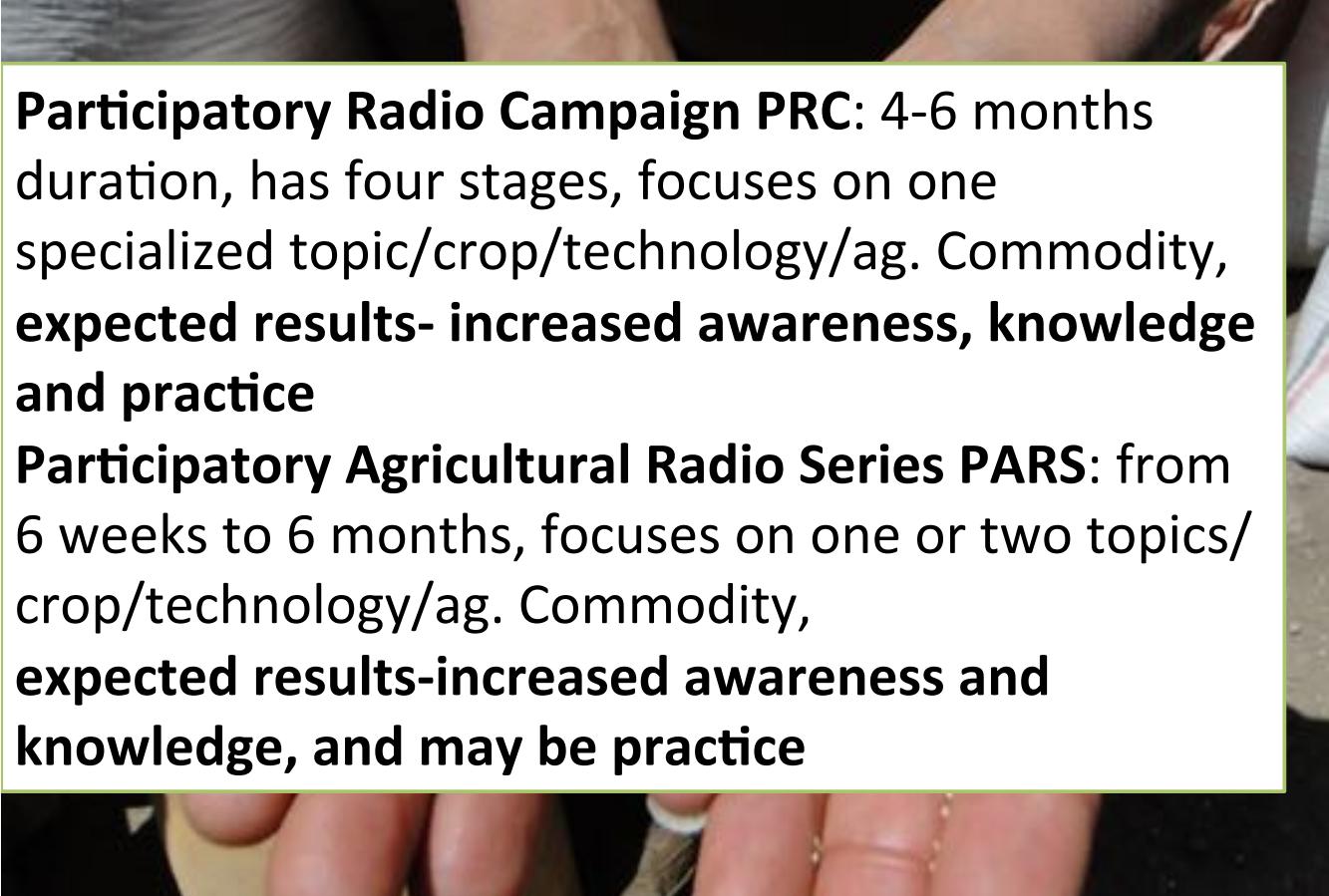
A close-up photograph of a person's hands working in dark, moist soil, likely planting seeds. The background is slightly blurred.

**Participatory Radio Programmes PRPs**  
**Farmer-centered, farmer-approved commodities**

**Brings together: local radio stations, farmers, farmer organizations, agricultural extension services and researchers, input suppliers ...**

**Employ Variety of formats**  
**ICT is integrated with radio**

**FRI at present.....**



**Participatory Radio Campaign PRC:** 4-6 months duration, has four stages, focuses on one specialized topic/crop/technology/ag. Commodity, **expected results- increased awareness, knowledge and practice**

**Participatory Agricultural Radio Series PARS:** from 6 weeks to 6 months, focuses on one or two topics/crop/technology/ag. Commodity, **expected results-increased awareness and knowledge, and may be practice**

## Participatory Radio Programmes: Approaches



Interactive/Effective Farm Radio Advisory Services I/EFRAS: no time limit, built on existing farmers programme, treats different farmer selected commodities/technologies... including weather and market information, **shares PRC and PARS approaches and expected results**

Radio Market Place RMP: 4-6 months duration, making radio as market place for farmers, focuses on one specialized crop and market situation, **expected results- farmers and market linked...**

## Participatory Radio Programmes: Approaches

## **At present:**

- PRC : promoting planting and utilization of QPM in Tigray, Amhara, Oromiya and SNNPR
- Echo PRC: improved planting technology of tef in Amhara, Tigray, Oromiya and SNNPR
- PRC : use of improved seed for planting 'enset' in Kembata zone, SNNPR
- PRCs : increasing productivity and use of improved seed (Faba bean, Haricot bean and Sorghum) in Amhara, Tigray, Oromiya and SNNPR
- I/EFRAS on different farmer selected topics in Oromiya and Tigray RMP for maize in Oromiya and Amhara regions

**Projects...**

## **BASELINE AND END LINE EVALUATIONS**

### **Baseline**

**To asses the KAP before farmers listen to the PRPs**

**To asses farmers needs for information**

**To asses farmers' radio listener ship, ownership and preference**

### **Mid term and end line**

**To assess how the PRPs contributed to farmers' decisions to introduce one or more improved technology of planting practices/crops....**

**To assess farmers' satisfaction with the PRPs as a method for learning about, evaluating, and introducing new farming practices**



## Data collection

### Methods

- Use of simple random sampling and purposive sampling methods in three selected communities in each project area/region (Active listening community, passive listening community and control community) using mobenzi mobile researcher
- **Community listening groups to increase listenership and collect feedback (about 40 CLGs in Oromiya region)**



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- Build the capacity of radio stations (ISTS on production of participatory radio programmes and feedback collection mechanisms and other radio production techniques)
- Conduct baseline survey on KAP of farmers on selected ag. Commodity, radio listenership and access to radio
- Design content with broadcasters and KPs for PRPs (planning the campaigns)
- Monitor and send feedback to broadcasters on PRPs (checking quality and standard)
- Conduct midterm review with farmers, CLGs and radio broadcasters





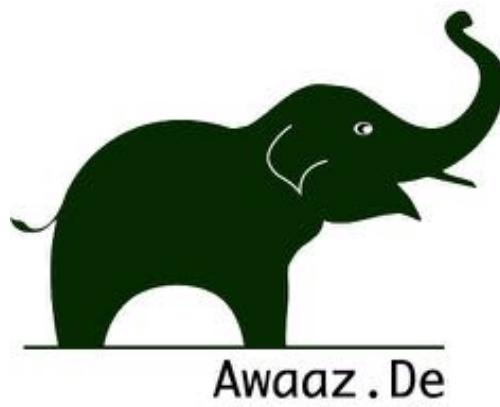
**FRI and Awaaz.DE work together to increase interactivity using IVR and if possible SMS services**





Sharing knowledge, giving voice.

	<a href="mailto:info@farmradio.org">info@farmradio.org</a>
	<a href="https://twitter.com/farmradio">@farmradio</a>
	<a href="https://plus.google.com/u/0/b/105000000000000000000/farmradio">gplus.to/farmradio</a>
	<a href="https://facebook.com/farmradio">facebook.com/farmradio</a>



### Theory of Change workshop

**Feb 5th 2015 \* Friendship Hotel, Addis Ababa**

## About Awaaz.De

- We help our partners design mobile data interventions that maximize impact – through IVR and SMS
- 7 countries 24 languages
- Connected 3 million people through 10 million+ phone calls
- 116 partners (NGOs, Universities, Foundations)
- Agriculture, Health, Education, Finance

## Outbound calls



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## Inbound calls / Responses



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## How Awaaz.De can contribute by leveraging current IVR system of ATA

ATA	Awaaz De	Challenges
Non – interactive content	<p>Integrate feedback mechanism (farmers can leave a response to a message)</p> <p><u>Cross validation for Adoption practices - DG Videos</u></p> <p>Farmers can report issues (crowd sourcing)</p>	<p>Integrating Awaaz De's tech with existing software</p> <p>Farmers' phone numbers</p> <p>Response mechanism</p>
Analytics	Farmer level analytics (Which content was listened to? Which time? For how long?)	Integrating Awaaz De's tech with existing software
Static content	Dynamic content – customized at farmer / group level – <u>Reinforcement messages for DG's audio content</u>	Synchronization with video screening and audio broadcasting



# Theory of Change Workshop

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## 5-6<sup>th</sup> Feb, Ethiopia



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### Dimagi's Mission

*We deliver open and innovative technology to underserved communities everywhere.*



## About Dimagi

- Created out of Harvard and MIT Media Lab
  - Business units in Cambridge (USA), New Delhi (India), Cape Town (South Africa), Maputo (Mozambique), Dakar (Senegal)
  - In-country staff in Nepal, Guatemala, Zambia
- Leaders in Open-Source product development and Software-as-a-Service (SaaS) support for mobile technology
- Collaborative model of Dimagi technology with partners in implementation and research
- Multi-disciplinary team of 100+ engineers, field implementers, consultants, scientists, public health experts, and physicians
- 10+ years of experience with over 170+ ICT projects across numerous sectors and technology approaches



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## 200+ Active Projects in 40 countries



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# Mobile tools for Frontline Workers



## Observations from Scoping Visit

Participant	Role
Beneficiaries (Farmers)	Receive information about agronomic practices
Development Agents (DAs)	Disseminate information about agronomic practices, screen videos developed by MoA and Digital Green
Model Farmers	Farmers whose productivity is high, are new learners of technology, influence in the community
Development Groups (DGs)	Comprises farmers who are provided information on agronomic practices
iDE	Implementing partner of Digital Green, ensures smooth running of Digital Green videos screening, feedback and data collection
MoA	Recruits Development Agents, collects data regarding attendance during DG video screenings and adoption of agronomic practices
Oxfam America	Helped in the formation of Development Groups, implementing partner of Digital Green
Digital Green	Provides training to DAs which includes facilitation techniques , video production, and also equipment for video screening

# Observations from Scoping Visit

- Mobile penetration – Most farmers and Development Agents have mobile phones which are basic Java phones. Mobile literacy is high
- Electricity situation – Fairly good for the use of mobile technology.
- Gender – Balanced Development Groups in terms of gender ratio. Alignment with program outcomes.
- Age – Young, enthusiastic Development Agents which makes it easy to train them on new technology.
- Content development – Subject Matter Experts available for script preparation, support for video production techniques available from Digital Green
- Feedback - captured through existing forms which allows for relevant videos that address challenges of farmers



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## Challenges

### ▪ Data collection

- Data collection and entry are manual
  - Takes team of data entry resources to get all forms into system
  - Too many questions/similar questions
  - Carrying forms around, communication between different participants is costly and time consuming
  - Feedback loop not very effective, Forms must be manually “passed up the chain” from DAs to IDE to MoA to Regional HQ. Causes delays in updates.

### ▪ Workforce Management

- Limited visibility into Development Agents beyond submission of forms
- Management oversight for data driven program management
- Analytics dashboard that can be integrated with DG MIS to understand which kabelas are performing well



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## Open Questions:

1. Is it possible to provide Development Agents with Android smart phones for data capture?
2. Do the Development Agents have capacity to pay for the data plan needed for transferring data to the relevant parties? If not, who pays for the data plan?
3. What should be the criteria which define where we should pilot?
4. Could we create a support group for Development Agents if and when they start using mobile application for data collection?

