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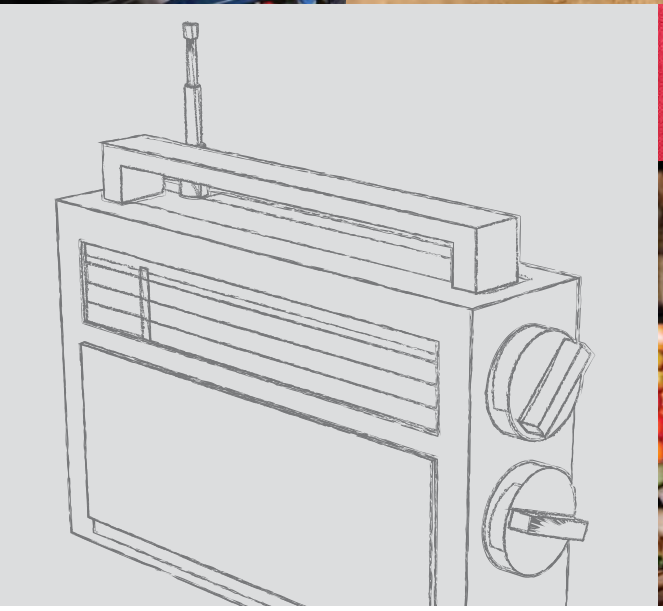
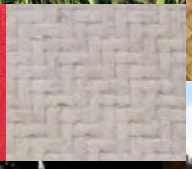
INTERACTIVE RADIO FOR AGRICULTURAL DEVELOPMENT PROJECTS

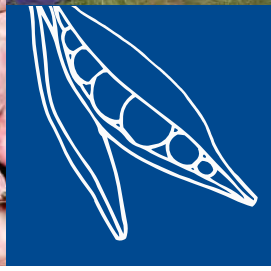
A TOOLKIT FOR PRACTITIONERS









BY JOSH WOODARD, FHI 360, DECEMBER 2012

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BY JOSH WOODARD, FHI 360

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This toolkit was developed by U.S. Agency for International Development's (USAID) Fostering Agriculture Competitiveness Employing Information Communication Technologies (FACET) project being implemented by FHI 360 under award number EPP-A-00-09-00007, which is an associate award under the FIELD-Support LWA (EEM-A-00-06-00001-00).

The original concept for this toolkit was proposed by Judy Payne, e-Business Advisor and ICT Advisor for Agriculture at USAID. It is the result of growing opportunities that now exist for Feed the Future (FTF) and other USAID-funded projects to interactively engage with farmers over the radio by integrating information and communication technologies into their work.

This toolkit was developed around the same structure as the Integrating Low-Cost Video into Agricultural Development Projects: A Toolkit for Practitioners that was written by Josh Woodard in April 2012 under the FACET project. Many of the worksheets in this toolkit were originally produced as part of the low-cost video toolkit. In addition, some language from the low-cost video toolkit has been used in this toolkit in instances where the same text was relevant to interactive radio (particularly in Component 2, but in other components as well).

Dustin Andres, communications specialist at FHI 360, deserves recognition for his substantive contributions to this toolkit, including researching most of the organizations featured in Component 1, drafting significant portions of that component, and for his feedback on other toolkit components.

Particular acknowledgement also goes to Judy Payne at USAID for her support of the development of this toolkit; Kevin Perkins and Mark Leclair at Farm Radio International for their insight and feedback, particularly in regard to content development and interactivity; and each of the following individuals for their input: Amy O'Donnell of FrontlineSMS, Katharine Tjasink of Farmer Voice Radio, Brenda Burrell of Kubatana.net, Pareshbhai Dave of Development Support Centre, Neil Patel of Awaaz.De, Zahir Koradia of Gram Vaani, Revi Sterling and Kevin McElhinney at the University of Colorado, and Nicholas Garnett and Graeme Fawcett at BBC Radio.

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ABOUT FACET

FACET is funded by USAID's Bureau for Africa, Office of Sustainable Development, Economic Growth, Environment and Agriculture Division (AFR/SD/EGEA). The project works closely with USAID's Economic Growth and Trade unit (USAID/EGAT) and USAID missions, as well as implementing partners, governments, and the private sector, to provide technical assistance to better enhance the competitiveness and trade in the agriculture sector across sub-Saharan Africa. Designed to be interactive and collaborative, FACET provides technical assistance to improve competitiveness and productivity across agriculture sub-sectors through the use of ICTs as tools to enhance the functioning and competitiveness of agricultural value chains and facilitate trade in agricultural products across sub-Saharan Africa.

To achieve its objectives, FACET has two components:

- Knowledge sharing across missions regarding sustainable and scalable approaches to using ICT to increase the success of Feed the Future activities.
- Short-term technical assistance to projects to help them improve their uses of ICT, especially in ways that may be helpful to other projects as well.

Numerous briefing papers and application profiles produced by FACET, along with other resources related to ICT and agriculture, can be accessed online at: http://www.ICTforAg.org. USAID-funded agriculture projects working in sub-Saharan Africa can request short-term technical assistance by contacting Josh Woodard at jwoodard@fhi360.org.

ABOUT THE AUTHOR

Josh Woodard is a project manager in FHI 360's Information Technology Applications Department and has managed the FACET project since its inception in 2009. He has been experimenting with using affordable ICT tools to improve communication and enhance impact for more than a decade. Prior to joining FHI 360, he worked for Thailand's Board of Investment, researching and writing articles on industries targeted for investment promotion and value chain enhancement, including agriculture and ICT. As a Peace Corps volunteer in a rural community in Thailand, he also worked closely with farmer groups to help them improve the marketing of their products and to employ computer-based accounting systems.

ACRONYMS

AFRRI	African Farm Radio Research Initiative
dB	decibel
GMO	genetically modified organism
ICT	information and communications technology
ICT4D	information and communications technology for development
IVR	interactive voice response
kHz	kilohertz
mAh	milliamps hour
RRA	rapid rural appraisal
SMS	short message service
SNR	signal to noise ratio
SWOT	strengths, weaknesses, opportunities, threats
UPS	uninterruptible power supply
USAID	U.S. Agency for International Development

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INTRODUCTION

For decades now, radio has been a dominant source of information for farmers in much of sub-Saharan Africa. Although the reach of radio varies from country to country, it is estimated that between 80 and 90 percent of households in Africa have access to a functional radio. The liberalization of regulatory environments in a number of countries has further increased the number of independent and community radio stations broadcasting over the airwaves.[1] Given the fact that adult literacy rates in sub-Saharan Africa are just over 60 percent and that electricity in many rural communities is non-existent, battery-powered radios are often the most affordable and practical way for rural farmers to access information.

Yet for the most part, traditional radio promotes a one-way flow of information from the broadcaster to the listener. This can be effective for the passive consumption of information, such as weather reports or price information, but is not necessarily the best medium to foster active learning, such as promoting changes in farming practices. Radio as

1 Myers, M. "Why Radio Matters: Making the case for radio as a medium for development." (Developing Radio Partners, 2010)

INTERACTIVE RADIO is defined here to mean radio that leverages other ICT tools to create a two-way communication exchange between radio stations and listeners.

a primary conduit of information is also at risk from the growing prevalence of two-way communication channels, like mobiles phones and the internet. Not to mention the challenge it faces from the television, as increased access to television often correlates to a reduction in radio listenership.

All of that said, for the time being radio continues to be the best way to reach sizeable portions of rural smallholder farmers in Africa. Furthermore, advances in information and communication technologies (ICT) have made it significantly easier and more affordable to engage and interact with listeners over the radio. By using new technologies, it is possible to enhance the potential of radio as a powerful distribution channel beyond what had ever been possible. Radio stations and development organizations working with farmers now have a number of options available to them for converting traditional broadcast-only radio into what has become known as interactive radio.

WHAT IS THE PURPOSE OF THIS TOOLKIT?

This toolkit is designed to help USAID projects and other implementing organizations use interactive radio to augment the traditional agricultural extension services they are providing. In addition, it aims to provide practitioners with a foundational understanding of what is needed to create compelling radio programming. It is important to stress that this toolkit does not assume that radio is the most appropriate solution for disseminating agricultural information. Rather, given the fact that radio continues to be the most readily accessible communication tool in much of sub-Saharan Africa, this toolkit aims to enable practitioners to develop a more systematic approach to using interactive radio as one medium through which they share information with farmers.

WHY SHOULD YOU CONSIDER USING INTERACTIVE RADIO?

In response to the question "Why do you rob banks?" the infamous American bank robber Willie Sutton was purported to have replied, "Because that's where the money is." Although it is unlikely that Sutton actually uttered these words, the rationale for why you should consider using interactive radio is similar. Radio is likely where most of your audience is. It is still the most commonly accessible communications medium for significant segments of the rural population, including farmers, in many African nations. In fact, in the majority of developing countries more than 75 percent of households own a radio, and at least 95 percent of the globe has access to a radio signal.[2] Moreover, effective radio programming has the capacity to present itself as an extension of the long and established practice of oral arts and spoken word in many traditional African cultures. The potential impact of radio is further heightened through the incorporation of interactive elements, which has been shown to lead to positive increases in listenership, recall of information, and adoption rates. We know that radio can be extremely effective when used appropriately—the key is making sure you are using radio in a way that connects to listeners.

WHAT IS THE INTENDED AUDIENCE OF THIS TOOLKIT?

The primary audience of this toolkit is USAID implementing partners and other development organizations that are using or planning to use radio to enhance the impact of their agricultural and rural development project. It does not assume any level of prior knowledge of interactive radio from the reader.

The toolkit will primarily appeal to practitioners who are planning to work through established radio stations or disseminate audio recordings independently of radio (i.e. MP3 players or mobile phones). It is not

2 World Telecommunication/ICT Development Report (WTDR 2010), Target 8: Ensure that all of the world's population have access to television and radio services (ITU, 2010)

intended to be a guide to establishing a radio station from scratch, although you will likely still find much of the content relevant even if that is your main objective. If you are planning to help start a radio station, UNESCO's Community Radio Handbook is a good resource, despite being slightly dated.[3]

WHAT WILL I FIND IN THIS TOOLKIT?

There is no one-size-fits-all solution or approach to using interactive radio. What works well in one context or situation could fail to achieve its objectives elsewhere. As such, this toolkit will not provide you with a prescribed model. Instead, it aims to guide you through a series of questions that will help you and your team design an interactive radio activity that best suits your own objectives, beneficiaries, and project realities.

To facilitate this process, each component of this toolkit begins with learning objectives and ends with critical success factors that you will need to consider when implementing your activity. By the time you have finished using the toolkit, you will have developed an implementation plan for integrating interactive radio into your agricultural development work.

The toolkit is divided into the following six components:

- **COMPONENT 1: How is interactive radio currently being used for agricultural development?**
  This component provides an overview of how interactive radio is currently being used for agricultural development. It includes illustrative examples from organizations both in Africa and elsewhere, along with contact information, websites, and other resources that you can use to follow up directly to learn more about a given approach.
- **COMPONENT 2: Is interactive radio an appropriate way to achieve our objectives?**
  Before you begin using interactive radio, it is important for you to assess if it is really one of the most appropriate means to address the

3 http://www.unesco.org/webworld/publications/community_radio_handbook.pdf

challenges you are trying to overcome or objectives you are trying to achieve. It is also important to assess whether you currently have the capacity to work with interactive radio, and if not, what steps you can take to develop that capacity. This component will guide you through a process of assessing the appropriateness of a variety of ICT and traditional solutions to determine if interactive radio is indeed a good fit based on your own organizational, technical, and financial capacity. It also includes some suggestions for identifying and working with appropriate radio stations.

- **COMPONENT 3: How can we create our own agricultural radio programming?**
  This component will help you to identify how to create your own agricultural radio programming. It aims to help you create compelling scripts for original content and adapt other types of content for the radio that meet a baseline quality standard. In addition, it includes technical tips for effectively recording and editing your radio segments. Finally, it includes suggested techniques for lowering barriers to entry so that your team is more likely to produce its own content for radio, including simple ways to provide incentives.

- **COMPONENT 4: What are the different approaches that can be used to make our radio programming interactive?**
  There are a number of different ways that you can build interactivity into your radio programming. This component highlights the most promising approaches that are currently available, what is needed to integrate them into your programming, and how to effectively implement them. In addition, it includes suggestions for other ways that you can disseminate your radio programming without relying on radio airwaves.

- **COMPONENT 5: How can we track the impact that our radio programming is having on farmers?**
  Once your radio segments have been produced and broadcast, it is important to learn how they are being used and what, if any, impact they may be having. This component highlights various ways that you can track listenership and measure impact. It also includes suggestions for how to capture farmer feedback to better inform the creation of new content.

- **COMPONENT 6: What are the technical considerations we need to keep in mind?**
  There are a number of technical choices that need to be made before you can actually begin creating your own radio programming. This component includes overviews of the different types of low-cost audio recording devices, their strengths, weaknesses, and examples of situations for which they may be most appropriate. It also covers devices that support interactivity, peripheral devices, audio editing software and other important technical choices. This section will not make recommendations for the best devices. Instead, it aims to inform you of likely technical considerations, so that you can assess what is most appropriate for your situation.

HOW SHOULD I USE THIS TOOLKIT?

In each component, you will find helpful worksheets and templates, which are also included in soft copy on the accompanying CD. These are meant to help you tailor the design of your implementation plan to your specific situation. It is recommended that you read each component sequentially prior to implementing any interactive radio activity. Doing so will enable you to develop a detailed plan that is more likely to address most of the issues you will encounter during implementation. That is not to say that your plan should remain static. Once you have begun to implement your activity, you may find that certain assumptions you made have changed or that the realities of implementation are different than you had imagined. That is perfectly normal and to be expected. Make sure to revisit your plan along with relevant components throughout the implementation phase and revise it as necessary.

If you have already started implementing an activity with farmers using radio prior to reading this toolkit, first write down the main challenges you are experiencing. Then, read through the toolkit (or relevant components) with these in mind and make adjustments to your current activity as appropriate. Before making any significant changes to what you are already doing, you may want to consider conducting a small pilot activity with your intended beneficiaries to ensure that the changes will actually address the challenges you are facing.

PHOTO CREDIT: LIFELINE ENERGY

HOW IS INTERACTIVE RADIO CURRENTLY BEING USED FOR AGRICULTURAL DEVELOPMENT?

This component provides an overview of how interactive radio is currently being used for agricultural development. It includes illustrative examples from organizations both in Africa and elsewhere, along with contact information, websites, or other resources that you can use to follow up directly to learn more about a given approach.

COMPONENT GOALS

BY THE TIME YOU HAVE FINISHED THIS COMPONENT YOU WILL:

- ✓ *Understand some of the ways that technology is being used to make radio interactive.*

SINCE RADIO IS THE DOMINANT MEDIUM in most agricultural communities, it offers hope for overcoming the limitations of traditional extension. Radio is also a decentralized medium, meaning that it is well-positioned to represent the voice of the community. With advances in technology and the explosion of mobile phones in even some of the most remote areas of the globe, the opportunities to further leverage radio's potential are now greater than ever.

Coupled with the growth in community radio stations in Africa over the past 20 years, these technologies have the potential to completely transform the relationship between listener and content provider. The medium is now changing in new and fascinating ways by adapting to local contexts, developing low-cost and increasingly low-maintenance systems, and capitalizing on the mobile revolution to reach new levels of engagement with audiences. Through more interactive radio, farmers and other community members are being transformed into drivers of content rather than simply passive consumers.

What follows in this component is an overview of seven different organizations working in interactive radio and agriculture. This component is not intended to be comprehensive and should be seen as a starting point for further research. Much of the information below was provided directly by the organizations being highlighted, and have not been independently verified. As such, we encourage readers to do their own due diligence.

FARM RADIO INTERNATIONAL

WHO ARE THEY?

Farm Radio International (FRI) is an international NGO registered in Canada that provides technology, training, and resources to local partners to meet the information needs of smallholder farmers and their families in rural communities. To date, FRI has reached 39 million farmers in participatory radio campaigns conducted by partners.

PHOTO CREDIT: FARM RADIO INTERNATIONAL

PHOTO CREDIT: FARM RADIO INTERNATIONAL

FRI has extensive expertise in a variety of radio and online technologies while focusing on a local ownership model, working in total with over 400 radio broadcasters in 38 African countries.

The organization is a major source of information and training for radio practitioners, in addition to providing research on the impact of ICT-enabled radio in the developing world. FRI has developed competencies in a wide variety of technologies and approaches to support broadcasters, ranging from the most common computing and connectivity needs, scripting, and training to more complex solutions for interactive voice response (IVR) and mobile call-in connectivity. In addition, FRI conducts radio script writing competitions, and provides weekly radio scripts in English and French free of charge to partners in sub-Saharan Africa, where they are translated into hundreds of local languages.

WHAT TECHNOLOGIES ARE THEY USING?

FRI has experimented with a variety of different technologies to enhance radio interactivity and to support radio stations' access to information. Through the African Farm Radio Research Initiative, FRI tested a suite of different technologies for interactivity, including:

- low-cost MP3 players/recorders for field recording
- connecting mobile phones into mixers to facilitate call-ins or call-outs
- GSM modems and SMS management software
- IVR management systems
- rechargeable, recordable radios

HOW ARE THEY MEASURING IMPACT?

As part of the African Farm Radio Research Initiative, FRI partnered with 25 radio stations in five African countries to assess the impact of ICT on their work, with a significant focus on the potential of ICT to increase interactivity. Stations were provided with at least one of six different ICT packages. Over the course of an 18-week period, FRI worked with partner radio stations to collect data on the effectiveness of each package. Stations used log sheets to capture information on how the technology package was used by the station and its listeners. They also conducted periodic phone surveys with a select group of listeners from each station, and online surveys to collect information from radio station staff. Final evaluations were administered to both listeners—in the form of household surveys—and extension agents using Mobenzi Researcher, a mobile phone-based survey tool.

WHERE CAN I GO TO LEARN MORE ABOUT FARM RADIO INTERNATIONAL?

Farm Radio International can be found online at http://farmradio.org/. Their website includes downloadable versions of their research reports, detailed overviews of all of their programs, and resources for broadcasters. If you are interested in learning more about FRI or how you can partner with them, you can contact them at info@farmradio.org.

FREEDOM FONE

WHO ARE THEY?

Freedom Fone is a project conceived and made possible by the Kubatana Trust of Zimbabwe, a civil society NGO committed to the accessibility of human rights and civic information. The core development team of Freedom Fone has been IT46, a Swedish consultancy company, although the Kubatana team is currently working to bring its user interface design efforts in house. It is currently deployed by 23 partner organizations.

HOW IS THEIR WORK USEFUL FOR INTERACTIVE RADIO?

Freedom Fone is an interactive voice response system that makes it possible for anyone with a phone to access or contribute information on a specific topic at any time. Using interactive voice menus, it enables broadcasters to liberate their audio content from the constraints of a specific radio broadcast timetable, to organize polls, and for the audience to provide their perspective for future review and playback. This includes functionality for creating multiple-language menus and callback capability to reach populations hardest to reach due to cost barriers.

While the system also includes functionality to send and receive SMS, its main advantage is its use of audio, thus removing any literacy barriers that may exist. No internet access is required for the system to function, although Freedom Fone is laying the groundwork for a cloud-based system in the future.

WHAT TECHNOLOGIES ARE THEY USING?

The core of the system is a GSM gateway device that accommodates up to 4 SIM cards called the 2N OfficeRoute. It costs about US$1,500, and enables a station to receive multiple voice calls and SMS messages at once. In addition, to run Freedom Fone it is also highly recommended that users have a dedicated computer to use as a server and an uninterruptible power supply (UPS) backup device.

HOW IS IT BEING USED?

Freedom Fone has been built and deployed as both a standalone system and one that is connected to the internet. In conjunction with FRI's AFRRI project, two radio stations—Volta Star in Ghana and Radio Maria in Tanzania—have used Freedom Fone's IVR to make broadcast information available at any time. Market prices, previous broadcasts, news bulletins, and weather reports are also made available. This service was set up to be on demand, via calling in to the system. The voicemail box feature of the IVR can also be used to gather feedback from listeners.

FRI reports that Freedom Fone IVR experiments showed that farmers are willing to spend their mobile phone airtime accessing relevant information as long as it is concise. They have found that the average length of a call is 120 seconds, so callers need to be able to find what they want in less than two minutes.

WHERE CAN I GO TO LEARN MORE ABOUT FREEDOM FONE?

You can learn more about Freedom Fone on their website at http://www.freedomfone.org/. Their website includes detailed information on how their system works, and also features a demo of the software. You can contact them at info@freedomfone.org.

FRONTLINESMS:RADIO

WHO ARE THEY?

FrontlineSMS is an initiative of Kiwanja.net, an organization founded by technologist Ken Banks. It is an open source software platform that enables users to send and receive text messages with large groups of people without internet access. Originally conceived as a means of engaging communities surrounding Kruger National Park in South Africa in conservation efforts in 2004, it has since expanded to being used for dozens of purposes in at least 80 countries.

FrontlineSMS:Radio is a tailored version of the core technology of FrontlineSMS, and enables radio stations to use a laptop, mobile phone, or GSM modem to manage SMS communications with their audience. Although the first version of the program was standalone, the latest version is browser based, and is the foundation of a cloud-based model. It has been deployed to over 20 radio stations thus far.

HOW IS THEIR WORK USEFUL FOR INTERACTIVE RADIO?

The platform essentially creates a robust email interface for text messages, enabling radio stations to quickly receive and synthesize feedback, engage listener perspectives, gauge interest in broadcast topics, and conduct extensive research over time that can inform programming decisions.

At Rite FM in Kenya, a commercial station for agriculture and social development, FrontlineSMS:Radio is used to give listeners another option to connect with radio hosts and to deliver information the audience requests. The station reports that for shorter shows and for particular audiences, SMS provides another way to sound out on the topic of the day. On a good day, the station expects 10 responses via SMS from listeners.

Other stations—like FADECO Radio in the Karagwe district of Tanzania—report that the service helps them overcome geographic isolation and provides the means to connect with their audience. The station created a local SMS subscription service providing information on programming and the weather, attracting 200 users. One FADECO radio program is even based on questions received from farmers via SMS, which the station researches and reports back to the audience on the following broadcast.

WHERE CAN I GO TO LEARN MORE ABOUT FRONTLINESMS:RADIO?

To learn specifically about FrontlineSMS's work with radio, visit them online at http://radio.frontlinesms.com/. The site includes stories from community radio stations sharing how they have used FrontlineSMS. To download a copy of FrontlineSMS for yourself, visit their main page at http://www.frontlinesms.com/. You can contact them at info@frontlinesms.com.

GRAM VAANI

WHO ARE THEY?

Gram Vaani is a technology company and social enterprise based at the Indian Institute of Technology in Delhi. The company focuses on building open-source technologies for community media in rural areas. It works with communities to design accessible technology solutions using primarily existing infrastructure with an aim of making information flows more efficient, and more egalitarian. Most of their products are voice based, so that they can be used by illiterate and partially literate users. The organization partners with development agencies, NGOs, and government agencies to deploy these tools.

HOW IS THEIR WORK USEFUL FOR INTERACTIVE RADIO?

One of the tools developed by Gram Vaani, the Grameen Radio Inter-Networking System (GRINS), is a low-cost radio management system. It allows users to automate many of a radio station's most complex tasks. It enables radio station operators to schedule broadcasts, preview programs, make and receive phone calls, record live transmissions, stream over the internet, view analytics, and maintain a searchable library, all through a single user interface. To date, its greatest utilization has occurred in India, but in total it has been used by stations with 2.5 million listeners in six countries with more than 25 NGO clients. Future versions of the device aim to enable internet-connected community radio stations to share content with others and will include additional IVR functions to further engage listeners.

WHAT TECHNOLOGIES ARE THEY USING?

The GRINS box is a plug-n-play server that community radio stations use in place of their playout computer. The device can interface with multiple devices, such as microphones, telephone lines, GSM gateway devices, and the station's mixer.

WHERE CAN I GO TO LEARN MORE ABOUT GRAM VAANI?

More information about Gram Vaani and GRINS can be found on their website at http://www.gramvaani.org/. The site includes an overview document on GRINS, but for more detailed information you should contact them directly at contact@gramvaani.org.

FARMER VOICE RADIO

WHO ARE THEY?

Farmer Voice Radio is a project created by a 2009 grant to the American Institutes for Research by the Bill & Melinda Gates Foundation. In its initial three-year 'proof of concept' phase, FVR has developed a multi-faceted methodology to support radio practitioners, first in Kenya and Malawi, with expansion in 2011 to Tanzania and Uganda. FVR currently works with 32 radio services in the four countries. In late 2012, FVR operations will transition to a newly established Kenyan NGO, Kilimo Media International (KiMI).

HOW IS THEIR WORK USEFUL FOR INTERACTIVE RADIO?

The FVR model is designed to overcome gaps in the traditional agricultural extension in sub-Saharan Africa. At both national and local levels, FVR links existing agricultural extension officers to a radio-based system and a consortium of key partners to ensure sustainability, message clarity, and impact programming. The idea is to build organizational structures that cultivate buy-in from officials, extension agents, radio partners, and local stakeholders.

FVR does not create content itself, but has developed 14 different programming formats with partners, including one-minute 'Ag Tips' that are circulated to FVR partner stations. In addition, automated software

developed by the ICON Group provides weather information in local languages for radio hosts to 'rip and read,' as well using TotoAgriculture, an automated dashboard of agricultural information.

FVR facilitates the recording and capture of relevant expertise, helps scale it to a mass radio audience, and uses mobile technology to generate a two-way conversation with farmers to support effective behavior change. This includes engaging with radio stations to secure free airtime, training radio teams to capture content in the field, and setting up a research desk at every station to both push information via SMS and pull feedback from farmers.

In Uganda, for example, they are working in partnership with the Grameen Foundation's Community Knowledge Worker (CKW) program. Farmer stories and questions are recorded by CKWs, who then send the clips to local radio stations via their mobile phone. This content is used by the stations to inform their programming, and sometimes even broadcast on the air.

WHAT TECHNOLOGIES ARE THEY USING?

FVR and its partners utilize a variety of technologies, including low-cost MP3 players/recorders for field recording, GSM modems and SMS management software, and IVR management software.

WHERE CAN I GO TO LEARN MORE ABOUT FARMER VOICE RADIO?

To learn specifically about Farmer Voice Radio, visit http://www.farmervoice.org/. The site is currently fairly basic, but includes core elements of their methodology and a blog with detailed examples of their work.

LIFELINE ENERGY

WHO ARE THEY?

Lifeline Energy is a non-profit, humanitarian organization based in London and registered in the United States that develops wind-up and solar powered radios and lights. It has been working as a provider of off-the-grid radios and lights for low-resource environments since 1999, with particular focus on sub-Saharan Africa.

HOW IS THEIR WORK USEFUL FOR INTERACTIVE RADIO?

In 2010, Lifeline Energy released the Lifeplayer MP3, a rechargeable and recordable rugged media player and radio. Its ability to recharge off-the-grid and record live radio broadcasts makes it a potentially useful tool for radio listening groups or radio agents. It also includes a monitoring and evaluation software that can tack listening patterns and usage. In Rwanda, SC Johnson has distributed 225 Lifeplayer MP3s to farming communities producing pyrethrum with pre-loaded content on best farming practices and health information.

WHAT TECHNOLOGIES ARE THEY USING?

The Lifeplayer MP3 uses both solar and wind-up power, and comes with an optional 12V external DC input for use with car batteries or mains electricity. One hour of solar exposure or one minute of wind up can generate enough energy for 30 to 40 minutes of radio play at normal volume. It also includes two SD memory card slots—one internal and one user accessible—that can take up to 32GB of memory each, meaning that content can be pre-loaded or added later.

WHERE CAN I GO TO LEARN MORE ABOUT LIFELINE ENERGY?

More information about the Lifeplayer MP3 can be found on Lifeline Energy's website at http://www.lifelineenergy.org or by contacting Kristine Pearson, Lifeline Energy's CEO, at kpearson@lifelineenergy.org.

AVAAJ OTALO

WHO ARE THEY?

Avaaj Otalo is a service that delivers agricultural information over the phone to farmers. It was created for—and is currently managed by—the Development Support Centre (DSC), an Indian NGO, in collaboration with UC Berkeley School of Information, Stanford HCI Group, and IBM India Research Laboratory.

Avaaj Otalo was originally conceived as a complement to DSC's popular weekly radio program, Sajjata No Sang, Lave Kheti Maa Rang (Bringing Color to the Farmlands), which ran for five years on Thursday evenings over All-India radio. The service delivers relevant agricultural information on demand, and offers voicemail box capabilities for farmers to share their questions, experiences, innovations, and experiments. At the time of writing, it was receiving between 60 and 120 calls per day.

HOW IS THEIR WORK USEFUL FOR INTERACTIVE RADIO?

Avaaj Otalo found in the three years that the radio program and call-in service ran concurrently, that voice calls to radio program experienced a rapid decline. DSC found that the transition away from radio allowed them to reach farmers in a more targeted way. In 2012, DSC decided to continue to produce their radio program, but instead distribute it entirely through mobile phones using Avaaj Otalo, thereby saving the costs to broadcast through All-India radio.

In addition, by dialing a phone number and navigating through simple audio prompts, farmers can record, browse, and respond to agricultural questions and answers. Questions are routed to appropriate experts, and saved. The service also includes an announcement board of headline-like snippets updated regularly by DSC staff, and a radio archive to listen to past episodes of DSC's popular weekly radio program. Through Avaaj Otalo, farmers can also subscribe to receive calls several times a week for a small subscription fee with information about the weather, pieces of radio programming, agricultural prices, event announcements, government programs, and more.

WHAT TECHNOLOGIES ARE THEY USING?

Avaaj Otalo runs on the Awaaz.De cloud-based IVR system, which means that users do not need any specific hardware to use the system. Since it is housed in the cloud, radio stations that are managing this system do need a computer and access to the internet in order to interface with it.

WHERE CAN I GO TO LEARN MORE ABOUT AVAAJ OTALO?

The Development Service Centre can be found online at http://www.dscindia.org/. To learn more about how they are using Avaaj Otalo, contact them at dsc@dscindia.org. More information on Awaaz.De, a company working to develop voice-based information services to engage rural and underserved communities, which is responsible for the backend development of Avaaj Otalo, can be found on their website at http:///www.awaaz.de or by contacting them at info@awaaz.de.

NOTES

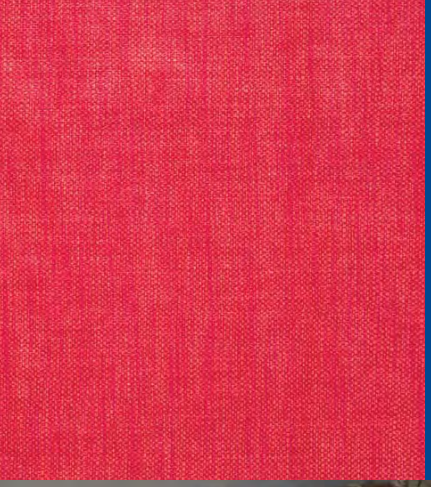

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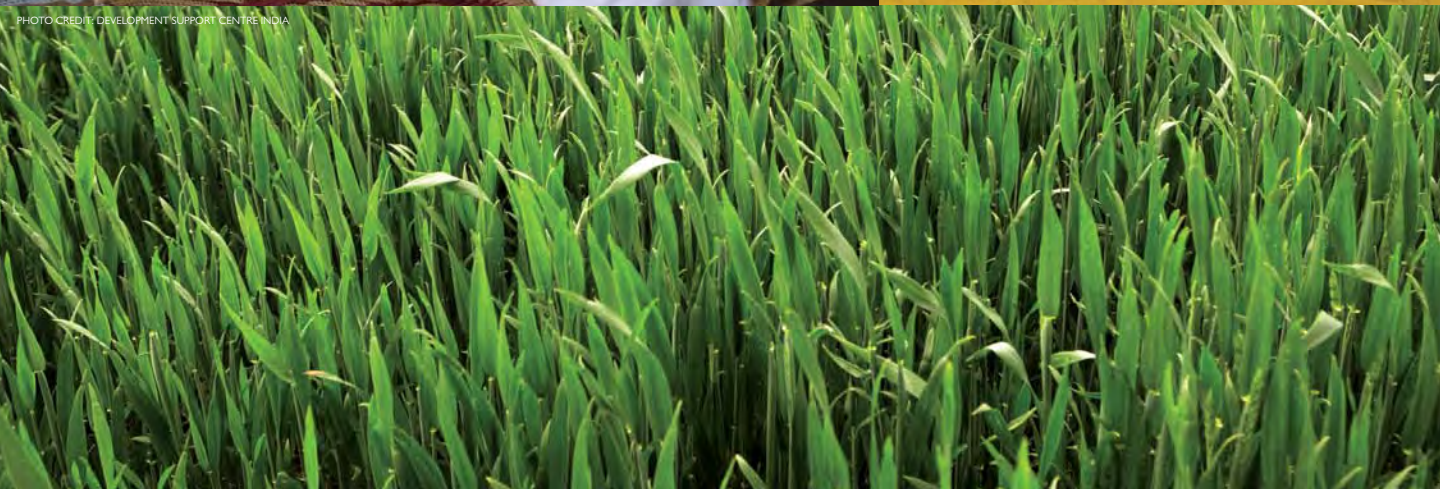
PHOTO CREDIT: DEVELOPMENT SUPPORT CENTRE INDIA



IS INTERACTIVE RADIO AN APPROPRIATE WAY TO ACHIEVE OUR OBJECTIVES?[1]

Before you begin using interactive radio, it is important for you to assess if it is really one of the most appropriate means to address the challenges you are trying to overcome or objectives you are trying to achieve. It is also important to assess whether or not you currently have the capacity to work with interactive radio, and if not, what steps you can take to develop that capacity. This component will guide you through a process of assessing the appropriateness of a variety of ICT and traditional solutions to determine if interactive radio is indeed a good fit based on your own organizational, technical, and financial capacity. It also includes some suggestions for identifying and working with appropriate radio stations.

COMPONENT GOALS

BY THE TIME YOU HAVE FINISHED THIS COMPONENT YOU WILL HAVE:

- ✓ *Decided if interactive radio is an appropriate option to achieve your objectives.*
- ✓ *Determined how to identify the right radio station partner(s).*
- ✓ *Developed a draft implementation plan for your interactive radio activity.*

[1] This component is a modified and augmented version of Component 2 in the *Integrating Low-Cost Video into Agricultural Development Projects: A Toolkit for Practitioners* by Josh Woodard that was published in April 2012 by the USAID's FACET project and can be found online at: http://www.ictforag.org/video.

WHEN USING TECHNOLOGY IN A DEVELOPMENT PROJECT, we often start with a technology solution in mind and then determine how to best use it to achieve our objectives. Although this may result in the successful application of technology, it can also be highly limiting because it locks us into viewing the challenge through whichever technology lens we have chosen. As the old saying goes, "If all you have is a hammer, everything looks like a nail." This is why it is important to first assess which option—whether interactive radio or another method—is the most appropriate to address the challenges you are trying to overcome or objectives you are trying to achieve.

To do this, we need to take a step back. Instead of accepting using radio as a foregone conclusion, this component will guide you through a process of assessing the appropriateness of a variety of ICT and traditional solutions to determine if interactive radio is, indeed, a good fit based on your own organizational, technical, and financial capacity. It is possible that another ICT solution, or a more traditional solution, may be even more appropriate in your situation. If that is the case, you will be thankful for determining that before you have invested the time and resources in going down the wrong path. Conversely, if you determine that interactive radio is appropriate for your situation, the process will provide a foundation from which to build your own work.

HOW DO WE ASSESS THE APPROPRIATENESS OF DIFFERENT ICT OPTIONS?

To start, you will want to write out your objective. It might be helpful to discuss this with your project staff first to make sure that everyone has the same understanding of what you are trying to achieve. Depending on how broadly you have defined your objective, certain options may be more or

less appropriate for different purposes or type of information. For example, information about agronomic practice may be best communicated through visual means (such as demo plots, video, face-to-face exchanges), whereas price and weather information may be better provided using radio, mobile phones, or bulletin boards. Similarly, a public awareness campaign may be best done through mass media, whereas training may be best accomplished through facilitated exchanges with farmers.

It is best, therefore, to make sure that your objective includes the type of information you plan to provide and the purpose of providing that information. Rather than saying, *Improve agricultural knowledge of smallholder farmers in Ghana,* which could include dozens of specific activities, you might want to consider something more specific, like: *Increase productivity of smallholder farmers in the Northern region of Ghana through expanded access to information on best farming practices.*

Once you have agreed upon your objective, it is important to lay out the context in which you are working. Although you have already most likely mapped out this context as part of your broader project design, it is helpful to do so again here, with a particular focus on the profile of your typical target beneficiary and the current ICT infrastructure in the area where you will be working. This information will be helpful when completing the **ICT Option Assessment Tool** found later in this component.

Determining the profile of your typical beneficiary will help you to assess which ICT solutions will likely be most appropriate to their needs and capacity. For example, if your typical beneficiary is illiterate, then using SMS text messages to disseminate information to them may have limited impact, even if there is high mobile phone penetration in the area where you are working. On the following page you will find a list of questions that you may want to consider asking about your beneficiaries.

SAMPLE QUESTIONS:

- ✓ What is the average age of your typical beneficiary?
- ✓ What is their average level of education?
- ✓ What is their average level of literacy?
- ✓ What is their average socioeconomic status?
- ✓ What are their primary crops or commodities?
- ✓ Are there any cultural considerations or local beliefs that should be kept in mind?
- ✓ How do people currently tend to access information?
- ✓ How do people tend to share information?
- ✓ What times of the day are people normally available?
- ✓ Where do people tend to congregate?
- ✓ Do most farmers participate in farmer or community groups?
- ✓ What types of ICT do people generally have access to?
- ✓ What is their level of knowledge of and comfort with each of these?

Truly understanding your audience and their needs will be a key input into the design of your work with interactive radio. Ideally, you should consider conducting some sort of survey or rapid rural appraisal (RRA) in the communities that you are working in to help you complete this profile. You can also use parts of the **ICT Infrastructure Questionnaire** found in the component worksheet section to help gauge the access to and knowledge of ICTs among your beneficiaries. Not all of the questions on the questionnaire may apply to your situation, so you should select only those that are the most relevant or add your own. This questionnaire might also come in handy later when you are assessing the ICT capacity of potential partner radio stations.

The FAO has developed a good overview of rapid rural appraisals if you would like to learn more about how to conduct one. It is available online at: http://www.fao.org/docrep/W3241E/w3241e09.htm.

If you do not have the resources or time to conduct an appraisal, you should at least bring together a diverse selection of staff and partners to help you create your profile. Think about each of the above questions and write down your answers as a group on flipchart paper. Remember, the aim is to create a profile of a typical beneficiary. This may not apply to all of the farmers you work with, but it should generally apply to most of them.

Once you have finished answering these questions, you can synthesize your answers into a more concise profile like the one that follows.

Age	35 – 55
Education level	6th grade
Literacy level	Basic literacy; limited time spent reading
Socioeconomic status	Subsistence, smallholder farmer
Primary crops	Staple crops (maize, potatoes, onions, beans)
Local beliefs	Significant esteem placed in elders
Information sharing	Mostly word of mouth; storytelling by elders
Availability	Mostly in the evenings after sundown
Main points of congregation	Local market, village leader's house
Group participation	Occasional participation in farmer association meetings
ICT profile	Access to a basic mobile phone; may own radio or listen to radio with neighbors; limited access to electricity

Once you have finished creating your detailed objective and beneficiary profile, the next step is to use the **ICT Option Assessment Tool** to determine the most appropriate means of achieving your objective given your local context. This tool is basically a modified strengths–weaknesses–opportunities–threats (SWOT) analysis that will help you to consider the potential benefits, costs, and staff capacity for each option. When considering strengths and weaknesses, it is important to keep your beneficiary profile at the forefront when making your determinations. Often what may appear to be a strength when considered through our own lens of experience may have either limited impact or be a weakness given the local context. For staff capacity, make sure to consider both local and home office capacity. This should include both technical capacity and time available. You might find it helpful to divide technical capacity into four classifications, as follows:

None	No current capacity
Limited/basic capacity	Can use basic features
Intermediate capacity	Able to use most features, but limited ability to train others
Advanced capacity	Able to create/manage content and train others

Identifying your local and home office capacity in advance will help to determine whether it is possible for you to proceed with using a given ICT option even if all other signs point to yes. The fact that your staff may have only limited capacity does not, in and of itself, mean that you should not proceed. You may be able to hire external support or pay for technical training for your staff to bring them to a level where they are able to implement your proposed activity. In addition, the remaining components of this toolkit have been designed so that they can be used by both local

and home office staff to develop their own capacity specific to using interactive radio and training others. Like any technical skill, it will require practice and experimentation first, but it is not as daunting a process as it may seem.

You can use these capacity considerations, along with equipment, material, and other potential costs, to help you determine whether the likely total costs of a given option fit within your available budget.

Based on your responses to these criteria, you should be able to determine which option is most appropriate. You may find that more than one option appears appropriate for achieving your objective. If this is the case, you may want to consider piloting activities using each appropriate option to determine which one actually achieves the greatest impact. Alternatively, complementary strategies can be used to further enhance outcomes. For instance, if you determined that both video and radio were appropriate options, it may be that using both mediums to reinforce messaging is the most effective option of all—assuming that you have the capacity and budget to do so. Regardless of which option you choose, you should build in a way to evaluate your methods to refine them over time.

A completed, sample **ICT Option Assessment Tool** has been included on the following page to give you an idea of what it may look like. A blank copy has also been included at the end of this component. Before you write anything on the template, you may find it helpful to brainstorm ideas with your project staff so that you have more space. After you have made your final determination, consider sharing it with colleagues or other stakeholders who were not involved in the process to ensure that it makes sense to them. Ask them to evaluate your assessment by double checking assumptions you have made and providing their own recommendations for improvements. Use their input to strengthen your assessment.

OBJECTIVE: INCREASE PRODUCTIVITY OF SMALLHOLDER FARMERS IN THE NORTHERN REGION OF GHANA THROUGH EXPANDED ACCESS TO INFORMATION ON BEST FARMING PRACTICES.

	ICT OPTION					
ASSESSMENT CRITERIA	**Basic mobile phone (voice + text)**	**Radio / Podcasts**	**Smart phones / tablets**	**Video**	**Web**	**Other: Billboards**
Strengths of each option	Most farmers have access	High penetration, used by most farmers	Portable, large screen	Most farmers enjoy videos when they have access	Currently none in this case, as there is virtually zero internet access	Relatively easy to produce and distribute
Weaknesses of each option	Limited literacy levels	Depends on partnership with local radio stations	Zero hardware penetration, concerns about network capacity	Dissemination channels do not really exist	Internet access extremely limited	This has been tried before with limited impact
Current staff capacity	Intermediate	Limited	Limited	None	Intermediate	Advanced
Potential costs	Would need to purchase or develop MIS program	May need to pay for air time and some equipment for interactivity	Would need to purchase devices and provide training on use	Would need to invest in staff training and equipment	Would need to purchase computers and satellite internet	Cost of billboard rental and materials
Is this an appropriate option? Why?	Yes — primarily in support of other options given limited literacy	Yes — farmers are already listening to radio in large numbers	No — lack of staff capacity and penetration	Maybe — could help broaden outreach beyond traditional methods	No — currently no internet access	No — have already tried this option with limited results

Adapted from a table originally developed by Mark Bell and Judith Payne for the USAID-funded MEAS project (2011), which can be found online at: http://www.measict.weebly.com/extension-and-ict-options.html.

HOW SHOULD WE IDENTIFY APPROPRIATE RADIO PARTNERS?

After you have determined which options seem to be most appropriate, you will need to collect some additional information before coming to a final conclusion. If radio made it to the top of the list, you will now need to consider what your broadcast options are. On the face of things, radio might be the best way to reach your audience based on local availability, learning objectives, and cost. Local broadcast restrictions or lack of interest from radio stations, however, could make radio less appropriate than it may seem. Therefore, you should also survey potential radio station partners in advance to determine if the possibility exists to work with them to achieve your objectives.

At a minimum, you will want to ask the following questions of each of the stations you are interested in working with:

- ✓ What is your broadcast range?
- ✓ How many hours per day are you on the air?
- ✓ How many estimated listeners do you have? What is their demographic profile?
- ✓ What radio formats do you use (news, music, skits, etc.)? In what percentages?
- ✓ What percentage of your programming is agriculture focused?
- ✓ What is the average length of your agricultural programs you air?

- ✓ Where do your programs come from (produced in-house, from parent station, etc.)?
- ✓ Would we need to pay for airtime to broadcast our program?

You can use the **Radio Station Survey Worksheet** to help you collect this information from each of the radio stations you are targeting. Ideally, you should be working with radio stations that have an audience that closely resembles your target audience and is interested in broadcasting the type of programming you plan to create. Although not every station will have a complete profile of their audience, they should at least have a general sense of who their primary listener is. If not, you may need to visit the communities within its broadcast range to find out who tends to listen to their station.

It is also extremely important to examine the relationship between each station and your target audience. Since your ultimate objective is likely to include some level of behavior change, you will want to work with radio stations that are known and trusted by listeners. Choosing the wrong partners—such as a radio station with limited credibility—can severely affect the potential impact of your messaging, even if the information is accurate. You will want to ask farmers in your target audience about how they view each station you are thinking of working with. This can be as simple as asking them which radio stations and announcers they view as trusted sources of information.

Your completed survey might look something like this:

RADIO STATION SURVEY WORKSHEET

STATION NAME: Community Radio Chipata

ADDRESS: Great East Road, close to the police station

PHONE NUMBER: 062 458 9201

CONTACT PERSON: Damian Choolwe

BROADCAST RANGE: Chipata, Chikomene, Mshawa, and Kalume

AUDIENCE PROFILE	
Gender ratio	Probably 60% men, 40% women
Average age	Hard to say, but mostly over 40
Profession	Predominantly farmers, some traders
Socioeconomic status	Mostly smallholder farmers
PROGRAMMING PROFILE	
Broadcast hours	6am until 8pm
Radio formats used	News, music, call-in and talk shows, radio dramas
Most popular program	Sunday evening radio drama and Thursday morning Ask an Expert
Agricultural programs (as a % of all programs)	While not explicitly agricultural, most of their call-in and talk shows cover agricultural topics and some of their radio dramas are about farmers. Hard to provide an exact percentage of programming.
Average length of agricultural programs	Most call-in shows are 1 hour long. Their radio dramas vary between 15 and 30 minutes.
Source of programs	Radio dramas are predominantly shared by larger national broadcasters.
Cost of airtime	Free if it fits within their programming interests, otherwise we would need to negotiate a fee.

Reported by:

Raymond Kane

Name ***Date***

RADIO STATION'S CONSIDERATIONS

- your interests
- your reasons for wanting to work with radio station
- support you are able to offer
- how your content fits within their business model

YOUR CONSIDERATIONS

- audience closely resembles your target audience
- broadcasts type of information you plan to create
- trusted by listeners

The process of finding partners is not just one-way though. When you are meeting with local radio stations, explain what your interests are, why you would like to work with them, and what support you would be able to offer them, whether that be financial or through technical assistance. Some may already have agricultural programs or interest in adding an agricultural program, while others may not yet see the value in such programming. It is up to you to sell them on why your plan for interactive radio fits within their own business model. Each station will have its own reasons for why they may or may not want to work with you. In the end though, if they see value in what you are proposing they are likely to consider working with you.

In the event that the availability of local partners does not meet your needs, you will need to decide whether another option is more appropriate given this reality or if you are willing to work with less than ideal partners.

Once you have decided on radio station partners, you need to develop a partnership agreement with each of them to formalize your team. The nature of this agreement will depend upon the relationship that you plan to have with each station. At a minimum, it should include the following information:

- Contact information for representatives from all parties
- The roles and responsibilities of all parties
- Additional expectations about the nature of the partnership

Under roles and responsibilities, you should be clear about who is responsible for what and on what timeline. You may also consider including targets for each item, such as the number of listener interactions per month or frequency of radio program broadcasts. In addition, if you plan to offer stations with technical support or capacity development, make sure to clearly outline what that will entail. Work with each radio station in advance to identify where the gaps in their capacity are so that you can determine what support they need. It might not be possible for your project to address all of their needs, but you can play a significant role in helping them improve their capacity.

If you are working with a local NGO partner or government extension agents as well, you should also consider including them in the same agreement so that all parties have a common understanding of what work will be done.

The following page shows an example of what an agreement might look like. All of the parties in this example are fictitious.

WHAT DO WE MEAN BY TEAM?

Throughout this toolkit you will notice the use of the term 'team' often. We use 'team' to represent all members of your interactive radio activity team, including staff from local radio stations, local NGOs, government extension offices, and your project staff.

PARTNERSHIP AGREEMENT

BACKGROUND

Radio Furaha is a community radio station located in Lodwar, Kenya. It broadcasts daily from 6am until 10pm, and has a mix of radio programming. Turkana Livestock Development is a locally based NGO working with over 7,000 livestock herders throughout Turkana district to improve livestock breeding and rearing practices. Livestock Partners International is an international development organization based in Washington, DC. It is currently working on the five year Livestock Improvement project in Kenya.

RESPONSIBILITIES

RADIO FURAHA

- Assign one radio producer to develop radio content with support from Turkana Livestock Development
- Develop at least four programs monthly of a minimum of five minutes each
- Broadcast a call-in radio program weekly focused on livestock issues
- Track interactions with listeners, including name, content of question/comment, and contact information

TURKANA LIVESTOCK DEVELOPMENT

- Provide technical content to Radio Furaha for at least four programs monthly
- Participate in weekly call-in radio program as a content expert
- Provide follow up technical support to herders who have called-in, as necessary

LIVESTOCK PARTNERS INTERNATIONAL

- Provide capacity development training to Radio Furaha and Turkana Livestock Development on creating engaging programs
- Provide capacity development training to Radio Furaha on managing an interactive radio program
- Ongoing technical support as requested by either party

EXPECTATIONS

All parties agree to adhere to the responsibilities as outlined above. Should any changes be required, the party that desires the change will inform the other parties immediately. All parties agree to meet once a quarter to discuss progress and challenges.

AGREED TO BY:

Name of partner: Radio Furaha
Address: 415 Lodwar-Lokichogio Rd, Lodwar, Kenya
Phone number: 054-40000
Contact person: James Muriuki
Job title: Station manager

Name of partner: Livestock Partners International
Address: Valley Road, Nairobi, Kenya
Phone number: 020-3512800
Contact person: George Odumbe
Job title: Technical lead

Name of partner: Turkana Livestock Development
Address: 85 Lodwar-Lokichogio Rd, Lodwar, Kenya
Phone number: 054-50100
Contact person: Johari Ekuwam
Job title: Activity director

HOW CAN WE PLAN TO IMPLEMENT OUR ACTIVITY?

Before implementing your activity, you may find it helpful to create a more detailed plan for carrying out your activity. One way to do this is by using the **Implementation Plan Framework** included in the worksheet section at the end of this component. It will contain much of the same information you have already compiled, but it is designed to help you outline a roadmap for your activity that can be used as a common point of reference for all of your staff and partners. Unlike some planning tools that you may be accustomed to using, this one is likely different in that it starts with the desired consequences, or the "Why?"

Using this framework you will develop an implementation plan for your interactive radio activity that focuses on outcomes, context, and beliefs, in addition to the mechanics of what, who, and how. It also builds in consideration for measuring impact directly from the start of your activity.

Before you read the rest of this toolkit, you should draft an initial implementation plan together with your project staff as a starting point. The purpose of this plan is to outline how your proposed activity will be carried out, and how it fits within your broader project objectives. If you have already identified local partners, you may want to invite them to participate in the planning process so that they are clear about what you are trying to achieve and how they will contribute to helping you achieve your overall objectives.

You will want to allot at least two hours for this activity to provide enough time for brainstorming and discussion. Make sure to use the framework from left to right. This will help to ensure that all of your decisions related to the mechanics and measurement of your activity are derived from your desired outcomes. As with the other exercises above, you are encouraged to use flipchart paper during this process so that you have enough space to write out everyone's ideas.

As you work your way through the rest of the toolkit, you are encouraged to improve and expand upon your initial draft based upon what you learn along the way. By the time you have finished using the toolkit, you should have a final implementation plan that you can use to guide your interactive radio activity.

The following pages include a sample of what a completed plan might look like. This sample is for illustrative purposes and is therefore not too detailed. Your final plan will likely be more thorough than the sample. Remember, though, that this is not meant to be a step-by-step process for how you will implement your activity, but rather an overarching framework for you and your project staff to use. Take some time to review the sample and try developing your own draft now before continuing to the next component.

IMPLEMENTATION PLAN FRAMEWORK

1. WHY? DESIRED CONSEQUENCES: IMMEDIATE, MID-TERM, AND LONG-TERM OUTCOMES & RESULTS	***What changes do we want to achieve by the time the project is over?*** ***Immediate changes/results?*** Farmers will have improved knowledge of best practices ***Mid-term changes/results?*** Farmers have experimented with adopting improved practices ***Long-term changes/results?*** Farmers experience increases in income as a result of higher yields and better quality product
2. CONTEXT? SITUATION & CHALLENGES; • BARRIERS TO OVERCOME; • ASSETS & OPPORTUNITIES	***Characteristics of the situation in which we work? Barriers to overcome?*** Many of the local radio stations are not accustomed to working with development organizations. A couple of them are skeptical of our intentions. Our staff also have limited experience working with radio as a communication medium. ***Characteristics of the target audience that we seek to help?*** They are generally open to learning about improved farming practices, but some are skeptical given misinformation they have been provided in the past. ***ICT assets already present in the community?*** Most of our target audience listens to the radio at least weekly. Although not everyone owns their own radio, they have access through neighbors and farmer associations. ***Opportunities that exist within the environment and system that we can leverage?*** Community radio stations already exist in the majority of communities that we are targeting. Assuming that most of them agree to work with us, it would be a great point of leverage.

IMPLEMENTATION PLAN FRAMEWORK

3. BELIEFS? CORE PRINCIPLES GOVERNING OUR DECISIONS & ACTIONS	***What development principles and non-negotiable values do we have to consider in how we implement our approach?*** It is important for us to include the input of our partners and beneficiaries in designing any programming. We also believe in empowering our local partners to take on responsibility for direct project implementation over time.
4. WHAT? TECHNICAL APPROACH	***Given our responses to sections 1-3, what approach will we take to best achieve our desired consequences?*** We plan to work with radio stations in two ways. First, we will help them to create scripts and radio programs for them to use on specific agricultural subjects. Second, we will help them to integrate interactivity into their programming so that listeners have an opportunity to engage with them and learn.
5. HOW? CRITICAL STRUCTURAL ELEMENTS, REQUIRED EQUIPMENT	***How will it be implemented?*** *Training and technical support* Regional technical leads and local partner NGO staff counterparts will provide technical content training to radio stations to help them develop agricultural programming. One of our technical staff members also has experience in some of the interactive options, so he can help us to support training radio stations. We may require some additional outside training for more advanced elements. *Dissemination* We will primarily work with local radio stations for dissemination, although we will also explore creating a lending library of audio programs that can be stored on MP3 players at some of our local partner offices in the field. *Required equipment* Since we plan to have our field staff create some of the programming, or at least collect interviews for inclusion in radio programs, we will need digital voice recorders. We may also need to help our partner radio stations install and configure IVR systems and phone recording devices.
6. WHO? ESSENTIAL ACTORS	***Who will be responsible for implementing this?*** Our communications team will be responsible for coordinating with local radio stations on programming, with our contracts associate responsible for managing any prerequisite agreements that we need to enter into with each station. Our technical team will work with our communications team to support stations to develop scripts and programs, with input from field staff and local partners. Justice, our technical officer with experience in using ICT tools, will be responsible for providing technical support to radio stations on interactivity and will provide them with feedback on ways that they can improve their interaction with listeners.

IMPLEMENTATION PLAN FRAMEWORK

7. ARE WE THERE YET? INDICATORS AND MEASURES OF SUCCESS, ASSESSMENT METHODS	Our primary output indicators will be the number of scripts and programs produced and aired by local radio station partners. For outcome, we will be primarily measuring change in knowledge and practice. Within three years we also expect to see an improvement in income of farmers who listened to our programs frequently as compared to those who did not. We will conduct baseline knowledge, attitudes, and practices (KAP) surveys of farmers that we are targeting through our broader work. We will repeat these surveys annually to compare any changes. Since not all of the farmers we are working with live in range of radio stations we are working with, they presumably will not have listened to our programs. All other services being equal, we will use these farmers as a control group. We will also survey farmers within broadcast range as to their listening habits to determine if there is any correlation between habits and outcomes.

Adapted from a framework originally developed by Eric Rusten at FHI 360

Developing and implementing an interactive radio activity is going to take a lot of work. Before you get started with any work, it is important that you envision what you want to achieve and determine the best way to get there. Creating an implementation plan is one tool for accomplishing this, but it will only be as good as what you put into it. You may find it helpful to create a draft implementation plan before exploring local partnerships. If that is the case and if no one on your project staff has any prior experience working with radio or developing effective programming, you will likely want to consider consulting with someone who does have that experience to provide you with input and feedback on your plan. Although this toolkit will hopefully provide you with enough information to understand all of the necessary elements for implementing an interactive radio activity, it cannot replace hands-on experience.

The scope of your plans will obviously also determine how much support you may need to actualize them. If you only plan to help radio stations leverage ICT tools to increase their interactivity, it will require much less input and resources than developing a widespread participatory radio campaign from scratch.

CRITICAL SUCCESS FACTORS

- Select the most appropriate ICT option.
- Know your target audience.
- Find radio station partners that are suited to help you achieve your objectives.
- Develop a well-thought-out plan.

NOTES

2

WORKSHEETS

ICT Option Assessment Tool

ICT Infrastructure Questionnaire

Radio Station Survey Worksheet

Implementation Plan Framework

ICT OPTION ASSESSMENT TOOL

OBJECTIVE:

ASSESSMENT CRITERIA	ICT OPTION					
	Basic mobile phone (voice + text)	**Radio / Podcasts**	**Smart phones / tablets**	**Video**	**Web**	**Other:**
Strengths of each option						
Weaknesses of each option						
Current staff capacity						
Potential costs						
Is this an appropriate option? Why?						

Adapted from a table originally developed by Mark Bell and Judith Payne for the USAID-funded MEAS project (2011), which can be found online at: http://measict.weebly.com/extension-and-ict-options.html.

ICT INFRASTRUCTURE QUESTIONNAIRE

QUESTIONS	OPTIONS	ADDITIONAL DETAILS / INFORMATION
What types of computers are being used? • How many computers do you have? • How many are currently operating? • How old are they? • How do you primarily use this device? (play games, word processing, accounting, etc.)	• Desktop • Laptop • Netbook • Thin client • Low-cost PC – Classmate, XO, etc. • Tablet – iPad, Samsung Galaxy, etc. • PDA • eReader – Kindle, Nook, etc.	
What operating system is being used?	• Windows XP, ME, Vista, 7, etc. • Mac OS • Linux – Ubuntu, Red Hat, CentOS, SUSE, etc.	
What type of internet connection is being used? • How fast is your connection? • Do you have any bandwidth restrictions? • Is your connection set up for a single user or multiple users? • How many computers are connected to the internet? • How do you primarily use the internet (social media, news, educational resources, etc.)?	• Dial-up • ISDN • DSL/ADSL • Cable • WiFi/WiMax • Cellular (GPRS, EDGE, EVDO, G3, etc.) • Satellite – VSAT	

CONTINUED →

ICT INFRASTRUCTURE QUESTIONNAIRE

QUESTIONS	OPTIONS	ADDITIONAL DETAILS / INFORMATION
What type of mobile phone do you use/have access to? • When did you buy it? • Is it pre-paid or post-paid? • If it is pre-paid, how frequently do you change SIM cards? • Does it cost you to receive SMS messages? • How do you primarily use this device (inbound/outbound calls, SMS, etc.)? • Do you receive agricultural information on this device? If so, explain:	• Basic phone • Feature phone • Smart phone	
If you have a smart phone, what operating system does it have? *(Note: the user may not know the answer to this question, so the enumerator will need to know how to check)*	• iPhone • Android • BlackBerry • Windows Mobile • Symbian • Other	
What is your primary source of electricity? • How reliable is your electricity source? (i.e., How frequent are blackouts? How many hours can you use it before power runs out?)	• Public utility • Generator • Solar • Other	

CONTINUED →

ICT INFRASTRUCTURE QUESTIONNAIRE

QUESTIONS	OPTIONS	ADDITIONAL DETAILS / INFORMATION
If you own a radio, what type is it? • How it is normally powered? (battery, solar, crank) • How do you primarily use this device (news, entertainment, educational shows, etc.)? • Do you receive agricultural information on this device? If so, explain: • If not, do you have access to a radio? Where? How often?	• AM/FM • Shortwave • Satellite	
If you own a TV, what type of connection do you have? • How do you primarily use this device (news, entertainment, educational shows, etc.)? • Do you receive agricultural information on this device? If so, explain:	• Broadcast • Cable • Satellite • None (used only with video player)	
If you own a video player, what format can it play? • How do you primarily use this device (watch movies, educational videos, etc.)? • Do you receive agricultural information on this device? If so, explain:	• DVD • VCD • VHS	

CONTINUED →

ICT INFRASTRUCTURE QUESTIONNAIRE

QUESTIONS	OPTIONS	ADDITIONAL DETAILS / INFORMATION
If you own an MP3 player, what type of display does it have? • How do you primarily use this device (listen to music, educational programs, etc.)? • Do you receive agricultural information on this device? If so, explain:	• Screenless • Small screen (1–2 lines of text) • Standard screen (monochrome or color?)	
Do you own/use a gaming system? If so, what type? • How often do you use it?	• Playstation (1, 2, or 3) • Xbox or Xbox 360 • Nintendo (Wii, GameCube, N64, SNES, NES) • Handheld (Nintendo DS, Sony PSP, etc.) • Other	
Other: *(This is for additional information that you may want to collect specific to your project.)*		

RADIO STATION SURVEY WORKSHEET

STATION NAME: _____

ADDRESS: _____

PHONE NUMBER: _____

CONTACT PERSON: _____

BROADCAST RANGE: _____

AUDIENCE PROFILE	
Gender ratio	
Average age	
Profession	
Socioeconomic status	
PROGRAMMING PROFILE	
Broadcast hours	
Radio formats used	
Most popular program	
Agricultural programs (as a % of all programs)	
Average length of agricultural programs	
Source of programs	
Cost of airtime	

Reported by:

_____ _____

Name ***Date***

IMPLEMENTATION PLAN FRAMEWORK

1. WHY? DESIRED CONSEQUENCES: IMMEDIATE, MID-TERM AND LONG-TERM OUTCOMES & RESULTS	***What changes do we want to achieve by the time the project is over?*** ***Immediate changes/results?*** ***Mid-term changes/results?*** ***Long-term changes/results?***
2. CONTEXT? SITUATION & CHALLENGES; • BARRIERS TO OVERCOME; • ASSETS & OPPORTUNITIES	***Characteristics of the situation in which we work? Barriers to overcome?*** ***Characteristics of the target audience that we seek to help?*** ***ICT assets already present in the community?*** ***Opportunities that exist within the environment and system that we can leverage?***
3. BELIEFS? CORE PRINCIPLES GOVERNING OUR DECISIONS & ACTIONS	***What development principles and non-negotiable values do we have to consider in how we implement our approach?***
4. WHAT? TECHNICAL APPROACH	***Given our responses to sections 1-3, what approach will we take to best achieve our desired consequences?***
5. HOW? CRITICAL STRUCTURAL ELEMENTS, REQUIRED EQUIPMENT	***How will it be implemented?*** *Training and technical support* *Dissemination* *Required equipment*
6. WHO? ESSENTIAL ACTORS	***Who will be responsible for implementing this?***
7. ARE WE THERE YET? INDICATORS AND MEASURES OF SUCCESS, ASSESSMENT METHODS	

Adapted from a framework originally developed by Eric Rusten at FHI 360

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HOW CAN WE CREATE OUR OWN AGRICULTURAL RADIO PROGRAMMING?

This component will help you to identify how to create your own agricultural radio programming. It aims to help you create compelling scripts for original content and adapt other types of content for the radio that meet a baseline quality standard. In addition, it includes technical tips for effectively recording and editing your radio segments. Finally, it includes suggested techniques for lowering barriers to entry so that your team is more likely to produce its own content for radio, including simple ways to provide incentives.

COMPONENT GOALS

BY THE TIME YOU HAVE FINISHED THIS COMPONENT YOU WILL HAVE:

- ✓ *Identified baseline quality standards for your radio programs.*
- ✓ *Thought about who will be involved producing your radio programs.*
- ✓ *Understood the basics of every step of the radio program production process.*

THERE IS A REASON why radio often loses out to television in the battle for audience. Radio relies on only one of our senses to communicate its message, whereas television and video targets both our auditory and visual senses. Since both the eyes and ears are engaged, it is often easier to convey a message—or at least provide for two different types of sensory distraction. You can convey the emotion of an actor on video using both visual cues (such as facial expressions) and audio cues (such as tone of voice). If the audience does not pick up on one of the cues, they may still pick up on the other thereby understanding the emotion being portrayed. As radio does not have this luxury, it makes it all the more difficult to develop radio programming that engages and captivates your audience. This is because you have to use audio not only to convey your message, but also to help your audience imagine the corresponding visuals in their minds.

As with all things, it will take patience and practice to create compelling radio programming. Wherever possible, it is preferable to have your local radio station partners develop their own programming. This may be with the support of a local NGO partner or your project staff. Although your project staff may contribute to the development of content, it is important that your partner radio stations are able to develop the capacity to ultimately develop effective agricultural programming on their own.

Before you begin developing your own radio-ready scripts or recording programming, however, it is important that your team—including staff from partners who will be involved in content development—define what baseline quality standards will be used. Having well-defined standards will help to make sure that everyone on your team is clear about what is expected in any final product. A good starting point for establishing your

baseline standard is to define what your radio programming should sound like to achieve your objectives. This is best done keeping in mind specific criteria, such as:

With your team, determine which criteria are most appropriate to your situation. You may decide to use the criteria listed above, or add or remove criteria. As part of this exercise, consider playing a couple of good and bad examples of the type of programming you are interested in to get people thinking. Each member of your team will likely have different levels of experience with your desired criteria. For instance, staff from your radio station partners will have a better idea of what realistic expectations for audio quality should be, whereas they may be less familiar with what the criteria for effective learning outcomes should be.

Use the **Baseline Quality Standard Worksheet** to write down each of your criteria types. A soft copy of this template is included on the accompanying CD in case you need to make any changes. Alternatively, you can recreate the worksheet directly onto flipchart paper. Discuss with your team what their expectations are for achieving a baseline in each

area. In other words, what is the minimum quality threshold a program would need to meet in order for you to share it with farmers? A sample, completed worksheet is included below as a reference.

SAMPLE AUDIO BASELINE QUALITY WORKSHEET

CRITERIA	BASELINE STANDARD
Audio Quality (How clear was the audio? How are sound effects and music used? How is the vocal clarity of the subjects?)	All of the audio is completely audible with no distracting background noise. Sound effects and music are used in moderation and when appropriate. All of the subjects speak clearly, and in tones appropriate to the emotions being conveyed.
Story Structure (Does the audio flow? Does it have a beginning, middle, and end?)	The story has a beginning, middle, and an end. The flow between different cuts is natural and not abrupt. The pace of the program is not too rushed, nor too drawn out.
Message Clarity (Is it clear what message the program is trying to convey?)	It is clear what the objectives of the program are. Message is not abstract or confusing.
Engagement (Did the program capture your attention? Did it engage your thinking?)	If the program was listened to by a group of ten farmers, at least eight of them would be visibly engaged in actively listening to it. It effectively enables the listener to visualize what is taking place.
Learning Outcome (How well does the program achieve its desired learning objectives?)	The program provides enough information to enable a listener to reasonably understand your intended learning objectives. This may be demonstrated either by action taken or knowledge gained after listening to your program.

It is possible that once your team begins actually creating their own radio programming that some of your baseline standards will change. You may find that certain assumptions you had about what would be engaging, for example, do not fully apply to your audience. It is better to recognize this and make adjustments, than to continue using baseline standards that are not enabling you to achieve your objectives. Revisit these occasionally and make updates as necessary.

This process will also enable you to determine what it is possible for your team to do, who will be responsible, and what outside support might be necessary. During this process, you should also try to identify what barriers exist to enabling your local radio station partners to meet these baseline quality standards on their own. They may be very qualified in some areas, but less familiar with others. This will help you to determine what training and technical support you will need to provide them. In some cases you may have the capacity in-house or through a local NGO partner to provide the support they need. If not, you will need to find appropriate external support to help with this capacity development.

WHO SHOULD BE RESPONSIBLE FOR DEVELOPING OUR RADIO PROGRAMS?

For most projects, your staff's experience with radio will primarily have been as a consumer, and not a producer. Producing content for radio is different from writing print material or storyboarding a video. It may come easier to some than others, but regardless, it will take dedication and hard work. Ideally, your local radio station partners will take the lead in the development of all radio programs with technical input from your project or local NGO partners. If you do have someone on your project staff with prior experience either writing radio scripts, recording for radio, or editing, they will likely be a valuable asset to your activity. Even if they are not available to be directly involved, make sure that they can serve as a mentor to your day-to-day radio team.

The size of the team you will need will depend on what your plans are for radio and what capacity your radio station partners have. Obviously, the requirements from your project staff will depend on the capacity of staff at the radio stations you will be working with. At a very minimum, you should have at least one staff person who can serve as a technical content contributor and provide feedback on program ideas. The staff at the radio stations you are working with may not have a background in agriculture, so

you will want to support them to ensure that they are producing accurate content. The person(s) who provides this support could be part of your project team or a staff member from one of your local partners.

Since your radio station partners might not have the capacity to collect audio from the field, you may also need to have project staff or local partners assist with this. Whoever is responsible for recording audio in the field should know how to use the equipment to record good quality audio and be skilled at conducting interviews for radio. The number of people you will need to help record audio will depend on the geographic scope of your work. If you are planning to capture audio in a limited geographic area or only when your team is out on pre-arranged field visits, then you may only need one or two people for this. If, on the other hand, you would like to capture audio from a broader geographic area you will need to train a larger number of individuals to help with this. The exact numbers will depend on the scope of your plans, how frequently you will need content, and how much area can be realistically covered by one person. Ideally, any individuals you are training to collect audio from the field should work for local partners that would be likely to continue contributing to your radio station partner even after your project ends.

In some instances, you may decide to produce final products that you can share directly with radio stations or through other media. While this may sometimes be necessary, it is important to consider the sustainability of such an approach. If your project staff is solely responsible for program production, then once the project ends your radio station partners will no longer have content. Also, since it is likely that your project staff are not trained in radio, programs that they produce may end up sounding less authentic than those produced by radio station staff. That said, if you do plan to contribute edited audio segments or programs to your partners, you will need to have at least one or two people who are trained in audio editing.

If you are working with more than one radio station, you will also want someone on your project team who is responsible for facilitating those relationships. This person should be aware of all of the programs that are being developed by each station so that they can identify possible areas of collaboration. This can be a sensitive issue, since stations may want to have complete control over their content. In cases where stations are interested in collaborating with each other and sharing content, however, this staff person can play a crucial role in facilitating those interactions.

It is also recommended that you try to have at least one staff person who is trained in each step in the radio program production process. This way, your staff person will be able to accurately communicate with partners about technical elements of the process and also provide any technical assistance that may be necessary.

You should encourage your radio station partners to have at least two staff who will be responsible for developing agricultural programs. Having more than one person who is familiar with developing radio programming for farmers is beneficial for three main reasons. First, they will be able to test ideas on each other, which will likely result in a better end product. Second, they can split their time worked on each radio program so that they can continue with their other job responsibilities. Finally, if one of these individuals leaves the radio station for another opportunity, they station will not need to worry about all of their capacity in this area disappearing.

This component of the toolkit will provide your project staff with the foundational knowledge necessary for each of these steps, so that they are familiar with what is required to produce engaging radio programs. Understanding all of the options will make it a lot easier to work with local radio stations to develop programs that achieve your common objectives. If your staff are interested in learning about any of the steps covered below in more detail, some additional hands-on training may be necessary.

In the event that your staff or local partners plan to create content to share with radio stations, you may want to ask them to start small, creating fifteen-second radio spots, for example. As they get better, challenge them to create longer spots or to experiment with additional techniques. It is advisable that they work with your radio station partners on this so they are able to tap into their technical expertise, as well as ensure that whatever they are producing is consistent with the station's needs. You may also consider looking for local radio associations or international organizations with expertise in radio that may be able to provide your team with any additional technical assistance and training required.

CONTENT ACCURACY

You should also choose members of your interactive radio team to check the accuracy of the content in each script. Although your project staff and local NGO partner staff will likely have a background in agriculture, they will not be experts on every topic you plan to feature. Moreover, it is possible that staff at your partner radio stations have no background in agriculture at all.

The first step is to identify who can help with fact checking content. If you do not already have topical area experts on staff, you will want to identify external experts or resources that you can use for this process. An easy way to organize this is to draw up a list of experts including their name, topic area expertise, and contact information. A basic template for this list, entitled **Topical Area Expert Contact List,** has been included at the end of this component for your use.

Determine a process with each of these experts in advance to define how they will be contacted and what is expected of them in terms of information and response time. If you are working with external experts, you should also determine whether you will need to provide them with any compensation for their time. The list of experts may include local-, regional-, and national-level experts.

You will also need to decide who will be responsible for contacting these experts. In most cases it is probably easiest to have the radio stations contact the experts directly. You could also consider introducing a two-tiered system where stations contact your project staff or local NGO partner staff first for fact checking. If there are still questions at that point, the issue is sent to an external expert for input. Whatever system you establish, make sure that it will be sustainable beyond the life of your project. If the project ends and all of a sudden the stations lose access to content expertise, then their program accuracy will probably very quickly decline.

The contact list template also has a section for 'additional details.' This is where you can enter notes that may be of use to your team, such as 'needs at least two weeks to respond to requests,' 'requires payment,' or 'not available more than once per month.'

Consider also developing a checklist with your team to use to facilitate fact checking each of your scripts, such as:

- ✓ Research topic of proposed radio script
- ✓ Consult with topical area expert to confirm the accuracy of the process you plan to highlight
- ✓ Develop script based on this input
- ✓ Share script with topical expert, field officers, and/or local partners for their feedback
- ✓ Edit script as necessary based on feedback

WHO SHOULD BE FEATURED IN OUR RADIO PROGRAMS?

In addition to determining what staff will be responsible for the production of programming, your team will need to decide who will be featured in your radio programs. This will ultimately depend on the content and radio format of each program you will be creating. Your programs may include your own staff or topical area experts who conduct interviews or share their own experiences.

While having technical experts is important, it is also extremely important to engage farmers in all stages of your radio program production process. Since farmers are your target audience, farmers should also be at the center of your programming. In many cases, farmers may also be more likely to trust other farmers like themselves who have similar experiences. They may have already heard about a practice or technology that your program is promoting, but often will want to hear from a farmer who has already made the switch. Your programs should include stories from farmers, including challenges they faced beforehand, how the change in practice or technology helped, and what downsides other farmers should be aware of.

Not only can this be empowering for the farmers, but it can also be a valuable way of increasing local engagement with your activity. It may also increase the chances of sustaining your activity beyond your project, since farmers who participated in the process will likely feel a sense of ownership over the content and its validity. In fact, research conducted by Farm Radio International under the African Farm Radio Research Initiative found that

farmers who were "engaged in the design and development of farm radio programming were almost 50 per cent more likely to take up agricultural practices deemed to improve their food security than passive listeners."[1]

Last, in many countries radio programs—especially those produced at the national level—have traditionally provided more of a voice to experts, government officials, and other white collar professionals. The power of radio, and in particular interactive radio, is that it allows farmers to be heard. By including farmers at the center of your programs, you are helping to give them this voice, while at the same time achieving your objectives.

When selecting participants, make sure though that you use a diverse cast of subjects across your different programs, looking at gender, background, expertise, social status, and so on. Over time, this will help to ensure that your pool of programs appeals to a more diverse audience. Be sure to check the local reputations of anyone you plan to include in your programs. If an individual you include in your program has a poor reputation among your target audience, they may be less likely to listen to the message even if it could be useful to them.

1 Perkins, K., Ward, D., & Leclair, M. "Participatory Radio Campaigns and food security: How radio can help farmers make informed decisions." (Farm Radio International, 2011) [Accessed on 6/26/12 at: http://www.farmradio.org/pubs/farmradio-prcreport2011.pdf]

It is also important to make sure that whoever you have selected has a good voice for radio. Since radio relies entirely on audio, this is crucial. You may find a very knowledgeable expert or successful farmer who just is not the right fit for radio. Expressing one's emotions without relying on facial expressions or hand gestures can be difficult for many. Someone who has difficultly conveying emotion vocally, speaks in a monotone voice, or has a speech pattern or accent that is difficult to follow should not be used for radio unless you have time to effectively coach them. One way of getting around this, especially if their perspective would add to the value of your program, is to consider having someone else paraphrase what they've said so that you can still use the essence of the content.

CONSENT FORMS

When approaching someone to ask for their participation, explain exactly how the audio you are recording will be used and why you are asking them to participate. This is particularly important when approaching farmers, who may not have had any past experience being recorded. Make sure that they know how widely you are planning to broadcast the program as well.

You should consider creating a consent form that you can ask all individuals who you are recording to sign—or their parents, in the case of minors. Consent form text can be fairly basic, such as:

> *"I agree to allow [insert name] and/or its partners to copyright and use the audio they have recorded of my voice for radio broadcast. I understand that this audio may be used without restriction. I understand that I will not receive payment or other compensation for use of this material."*

Another approach that has been used is to record consent via audio instead of using written release forms. You can do this by recording a member of your staff explaining why you are recording them speak and how it will be used. If you choose to use audio consent, make sure that you save all of your audio consent clips both on your computer and backed up on an external device or online.

WHAT IS REQUIRED TO CREATE EFFECTIVE RADIO PROGRAMMING?

As mentioned earlier, this toolkit aims to provide you with the foundational knowledge necessary to create your own effective radio programming. It is not, however, a comprehensive guide to radio production. This section is divided up into the technical elements of pre-produced programs, which includes developing content, recording audio, and editing a final product.

Perhaps the most important pre-requisite to creating this effective programming, however, is working effectively with quality radio station partners. If your objectives are aligned and you collaborate well, your programs will likely see the benefit. If, on the other hand, you have different objectives and difficultly collaborating, the programs that are produced will likely fall short of what they are trying to achieve.

If you want to learn more about radio production, quality technical training manuals and curricula on radio content creation that you can consult for more details or specific activities include:

FARM RADIO INTERNATIONAL

Farm Radio International (http://www.farmradio.org/english/partners/resources/creating-content.asp)

B-SIDE

B-Side Radio (http://www.bsideradio.org/?cat=47)

FAO Rural Radio
(http://www.fao.org/sd/ruralradio/en/24519/index.html)

The Association of Independents in Radio's Radio College
(http://airmedia.org/PageInfo.php?PageID=3)

How to Write a Radio Serial Drama for Social Development:
A Script Writer's Manual
(http://pdf.usaid.gov/pdf_docs/PNACG699.pdf)

Spot On Malaria: Facilitator's Manual for Workshops on Adapting, Developing and Producing Effective Radio Spots
(http://pdf.usaid.gov/pdf_docs/PNADH342.pdf)

CONTENT

Before you begin creating any radio programming, your team needs to decide upon the type of content that you plan to disseminate over the radio. Common content areas for agricultural radio programming include:

- Agronomic information, including best practices, improved techniques, and success stories
- Market price information
- Weather information

Of those three content areas, agronomic information is the most likely to need to be scripted and planned in advance. This is because the learning outcome from agronomic information programs is primarily going to be a change in practice or behavior, whereas market price and weather information programs are primarily aimed at providing actionable information to farmers. Market price and weather information are also

almost exclusively presented in a news format by an announcer, whereas agronomic information can be presented using a variety of different formats.

The following sections of this component will be most useful for projects that are planning to develop programs with an agronomic information focus. That said, there are elements of the content development process that are also useful for market price and weather information programs. Even if your primary focus is agronomic information, you may also want to consider providing market price and/or weather information at the start or end of your program as an additional way to capture your audience.

If you are planning to work with radio stations to provide market price or weather information, you should develop the systems through which that information will be shared with the station. Stations need to be able to know that they will receive information on a reliable schedule so that they can plan their announcements accordingly.

If you are interested in learning more about the potential opportunities and challenges with using radio to provide market price information, check out Farm Radio International's report entitled, *Marketing on the airwaves: Marketing information service (MIS) and radio online* at bit.ly/farmradiomis.

SCRIPT WRITING

Scripts are the backbone of any radio program. A well-written script will make it much easier for your team to record an engaging radio program. Before you start to write any scripts though, your team should develop the general messaging for each program that you plan to produce. This will enable you to create a basic blueprint for each program that you can share with your team, partners, and any other stakeholders in advance of creating your script. It is important to capture these ideas in writing so that they can be shared.

One such way to do so is by using what is called a creative brief, such as the one below. A creative brief is a tool that guides you through several questions about your proposed radio program to help outline your messaging and objectives. It can be used to propose completely new content or to help outline your plans for adapting content. The primary benefit of using a creative brief is that it will help you to clarify who your target audience is, what your learning objectives are, and what your general program idea is before you begin working on your script. This will end up

saving you time in the long run since you will likely be more focused on the end goal of each program before you start your script, as opposed to figuring this out along the way. You can use the **Creative Brief Template** at the end of this component and on the accompanying CD to help with this process.

SAMPLE CREATIVE BRIEF

PROPOSED TOPIC: Appropriate use of personal protective equipment

PROPOSED DURATION: Three Minutes

PREPARED BY: Kinoti Kaberia

1. TARGET AUDIENCE – Who do you want to reach with your radio program? Be specific.

Primarily smallholder farmers in the Rift Valley who are not currently using PPEs or who are using them ineffectively.

2. LEARNING OBJECTIVES – What do you want your target audience to learn or do after they hear this radio program?

After listening to this radio program, farmers will understand the importance of using personal protective equipment and know where to go for additional information on how to use and where to purchase PPE.

3. PROGRAM SUMMARY – What will the program be about? What type of format will it use? Who will be featured? What will the general tone be?

The program will use a feature format to tell the story of a woman whose son became ill from improper use of PPE. It will include interviews with her re-enacting what happened, along with expert commentary about why PPEs are important and how to use them. The tone will be serious, but will end on a humorous note with a story from the woman about how using PPEs have led to her family finally enjoying her cooking since they no longer get sick from pesticide contamination of their food.

4. OPPORTUNITIES – When and where can this program be used?

This program should be broadcast through our local radio partners in the Rift Valley right before and during planting season to encourage the use of PPEs. It can also be played during field days right before we begin sessions.

5. RATIONALE – How would this type of program achieve your learning objectives?

Our project is already providing training to farmers on how to use PPEs in this region. This radio program will reinforce that messaging with farmers in a way that they can relate with, making it more likely for them to use PPEs appropriately.

Adapted from *Spot On Malaria: A Guide to Adapting, Creating and Producing Effective Radio Spots*, written by Cate Cowan and Lonna Shafritz, (Washington, DC: CHANGE Project, 2005)

Each time you finish developing a creative brief, share it and get feedback on it from any relevant stakeholders or partners. In some cases, your radio station partners might develop creative briefs on their own to share with your project team for technical input. Your project staff may also develop their own creative briefs to pitch to radio stations. These briefs are meant to be rough sketches of the proposed program. It is important to not get too bogged down in the minutia of your creative brief or you will never get to the point of script writing. Certainly do make adjustments to your creative brief based on feedback, but once you have agreed on the overall messaging and objectives you can save the thorough edit for the final script itself.

HELPFUL TIP

While writing your script, periodically read it aloud to make sure that the dialogue sounds natural.

Once you have finalized your creative brief you can begin the process of developing it into a complete script. As stated earlier, writing for radio is unlike any other type of writing because we are writing words that are meant to be read aloud. That is to say, we are writing for the ear and not for the eye, which is our usual target for most writing. The same applies whether you are writing your script from scratch or adapting other material for radio.

If your team does not have the time or capacity to write scripts from scratch, you may want to adapt relevant, ready-made scripts for your audience. There are several organizations that offer a good selection of agricultural radio scripts and resources available online. Even if you do plan to write your own scripts, you will likely still find these sites good sources of inspiration and ideas.

- **AGFAX**
  (http://www.agfax.net/index.php)
- **CTA'S RURAL RADIO PACKS**
  (http://ruralradio.cta.int/index.html)
- **FARM RADIO INTERNATIONAL**
  (http://www.farmradio.org/english/radio-scripts/)

When developing scripts, you should consider following the "Seven Cs of Effective Communication." This tool is used by radio broadcasters and other communications professionals to create more effective communications. Below is an adaptation of the Seven Cs as used by Farm Radio International:

COMMAND ATTENTION: Your program should command the attention of your listeners by using formats, topics, and information that will appeal to them. It should also be fresh and relevant to your audience so that it piques their interest. It should also enable listeners to imagine the scenes, so that they feel as if they have been transported into the program.

CATER TO THE HEART AND HEAD: Connect to your audience on both an intellectual and emotional levels. Your listeners should understand why the content you are presenting is important, but also feel something after they listen. By emotionally connecting with your listeners, you will likely increase their ability for remembering the intellectual pitch you are making.

CLARIFY YOUR MESSAGE: Unlike written content, which can be read and re-read to understand, your audience will likely not have a chance to immediately replay your program—although there are some tools for doing this that we will talk about later. For this reason it is very important that your message is clear enough to be understood from just one listen. There are a few different ways that you can do this:

- **Be natural** – Write in the same way that you would speak. Avoid being overly formal.
- **Repeat key messages** – You should repeat your key messages at least twice, if not three times, during your radio program to ensure they are picked up on by your listeners.

- **Be direct and concise** – Use the active voice and clearly link your subject to your verb.

✗ **Bad** – Broad beans and maize are the main crops grown by farmers in this village.

✓ **Good** — Farmers in this village mainly grow broad beans and maize.

✗ **Bad** – Maria Lon, who is the leader of the Chimoio farmers association, says the harvest was good this year.

✓ **Good** — Chimoio farmers association leader Maria Lon says the harvest was good this year.

- **Help the listener visualize** – Your audience cannot see what is happening, so make sure to help them visualize each scene. You can do this by adding sound effects (such as birds chirping to represent being outdoors) or mentioning actions in your dialogue (such as having one character say "Emanuel, why did you run here?" to let us know he ran).

COMMUNICATE A BENEFIT: Given the small margins they work with, many smallholder farmers are risk averse unless they see clear benefit of change. Make sure that your script demonstrates tangible benefit from whatever you are trying to promote either through real-life testimonials or realistic dramatizations.

CREATE TRUST: Try to use individuals who are already known and trusted—or hold known and trusted positions—by your target audience. Communicating an accurate message that leads to concrete benefits is another way to build audience trust over time. Conversely, it is very easy to lose the trust of your audience by providing them with inaccurate information. Make sure that you always fact check your script for accuracy before finalizing it.

CALL TO ACTION: Your program should not only make people want to listen, but it should also encourage them to take some action consistent with your learning objective. By the end of the program they should know where to go for additional information or how to try something on their own.

CONVEY A CONSISTENT MESSAGE: This refers to your messaging over time. Make sure that you are not presenting confusing or contradictory messages in your different scripts. In other words, do not promote the use of chemical pesticides in one script and then praise the benefits of organic farming in other. Also make sure that your messaging is consistent with the mandate of your local radio station partners.

In addition to these general rules, you will need to consider several other factors when writing your script, most of which will depend on the channels you are planning to use. If you are broadcasting on the radio, your program will either be announced or produced. Announced refers to content that is read live on the air by the station's DJ or announcer, while produced refers to pre-recorded programs that are played by the radio station. Each radio station will have its own protocol for how they prefer to broadcast.

CONTRIBUTING YOUR OWN SCRIPTS

As mentioned earlier, it is preferable to have staff at each station be responsible for developing scripts to ensure long-term sustainability. In some instances—particularly early on in your partnership—your project staff may play a larger role in developing scripts.

If your project staff plan to develop script ideas to share with local radio stations, you should make sure to use whatever script format the station uses to eliminate any potential confusion. This could entail simply providing a brief script to be read on-air by the announcer, or it could include directions for including actualities (or sound bites), which are recorded audio clips that should be played at a specific point in the program.

You will also need to consider how long your proposed program will be. This will depend on the amount of air time available to you at each radio station. The shortest option is often referred to as a spot. These are most commonly used for public service announcements and other types of awareness messages, and typically run from between fifteen seconds and one minute. Slightly longer than that is a micro-program, which tend to last between one and three minutes. Beyond that, you have standard length radio programs, which for most agricultural programs can run anywhere between three and fifteen minutes.

A NOTE ON TIMING

Most people speak about three words per second, so keep that in mind when writing your scripts. Counting out your words can be a good way to assess the likely duration of your script.

FORMATS

Each of the types of programs mentioned above may be self-contained with a beginning, middle, and end included in the program or part of a series. A series includes multiple programs that are linked across a common theme and broadcast over multiple days, weeks, or months. A number of stations also use a magazine format to package their programming. This format includes several different programs centered on a general theme within an established time slot. Although lengths of magazine shows vary, they tend to be between fifteen minutes and one hour.

If you are working with multiple radio stations it is possible that some of them will have different preferences as to what type of radio programming they are interested in. Keep this in mind if your project staff plan to develop scripts for them. You may need to split a single program into a series or create two versions of the same program with different lengths to meet the needs of your partner stations.

Finally, your team will want to determine which type of radio format to structure your script around. When we refer to radio format here we are basically referring to what type of program you will use. There are a variety of different formats, each of which can be used to convey your message.

Deciding on which format is best for your program will depend on three things: your partner radio station, your target audience and your learning objectives. Different learning objectives may lend themselves to one style

over another. The most important thing to consider is what formats are compatible with the radio stations you are working with, along with what has the best likelihood of engaging your audience and communicating your message.

Below are eight of the most common radio formats that you will likely consider for your scripts:

- **SKITS** include the use of a variety of different storytelling genres to convey a message, such as drama, soap operas, comedy, mystery, and so on. They can be either a reenactment of an actual event or a fictional representation. This type of format is often extremely popular, although writing a script for an engaging skit is generally more difficult than other formats.
- **INTERVIEWS** are a question and answer format used between a radio announcer and guest. These can be done either live at the radio station, remotely via phone, or pre-recorded at another location. Questions for the announcer should be scripted in advance, including potential follow-up questions, depending on the responses of the guest.
- **PANELS** are facilitated discussions led by an announcer and a panel of guests. These can be done live at the radio station or pre-recorded elsewhere. It is not advisable to conduct a panel remotely via phone since panelists will not be able to read visual cues from each other, which can lead to awkward pauses and people speaking over each other. Scripting for a panel is similar to that for interviews.
- **DOCUMENTARIES** provide a nonfictional, real-life account of a topic. These can often be powerful devices for communicating the real impact of something, especially on topics to which your audience can relate. Documentaries cannot be fully scripted in advance, although you can prepare scripts for narration and guiding questions to be used by your interviewer.

- **INFOTAINMENT** presents factual information in a way that aims to be entertaining. It is best understood as incorporating the entertaining elements of skits together with the factual—and often more serious—content of a documentary or news show. Infotainment programs can be fully scripted in advance, although striking the right balance between information and entertainment requires some practice.
- **GAME SHOWS** provide listeners with the chance to compete to win prizes. On radio, they are normally built around a quiz or puzzle. They can be done live at the radio station or remotely via phone, either live or on delay—such as asking listeners to SMS their responses to a question on one day and then announcing the winner the following day.
- **REALITY SHOWS** are fairly new to radio, despite their ubiquity on television. One example is Farm Radio International's pilot program called FarmQuest, which will showcase six to eight young people competing to win 'best new farm'. Their stories will be recorded and broadcast as a serial radio program, and listeners will vote by mobile phone to select the show's winner. These cannot really be scripted in advance, but you will still want to weave the content you record into a cohesive story.
- **STRAIGHT TALK** entails an announcer—it is generally just one person, but can be more than one announcer—speaking directly to the audience, often in freeform on a topic or series of topics. It is very difficult to script straight talk, although you can provide announcers with general themes or points that you would like to be made.

Script templates vary, but they generally all include information such as title, duration, writer, and dialogue or other audio. They also include cues for your actors and audio editors. Cues should always be written inside of parentheses and in capital letters to distinguish them from dialogue. It is also helpful to double space your script to make it easier to read. If your program will be played on the radio, make sure to also include a suggested introduction for the radio announcer to read before playing it.

A **Radio Script Template** is included in the worksheet section of this component. This is provided as an illustrative example of what to expect, although ultimately your team's scripts should end up following whatever format is used by each radio station partner. It is also important to stress that sometimes less is more when it comes to scripts. Often times people who are reading a script word for word end up sounding unrealistic. You may find that rather than having a detailed script, a clearly written out storyboard that provides guidance on structure and the general gist of dialogue, but allows for natural conversation is preferable. Even if your team decides to use a detailed script, remember that scripts are to be taken as guidelines to keep the program focused and accurate. The dialogue in them can, and should, be modified by those reading them to sound natural.

A sample script might look something like this:

SAMPLE RADIO SCRIPT

TITLE: Isabel's brush with tragedy

LEARNING OBJECTIVE: Listeners will know how to properly apply pesticides using personal protective equipment

DURATION: 3'30"

WRITTEN BY: Enrique Massa

SUGGESTED INTRODUCTION
Up next is the latest segment from True Farm Stories. You won't want to miss this one. Poor Isabel has had a rough life, but finally things are about to get better. Or are they? Remember to send us your thoughts and questions by SMS to 39555 while you listen. We will be reading out and responding to questions after the story is over.
SFX
AMBIENT SOUNDS FROM A FARM, FOLLOWED BY SOUND OF SPRAYING PESTICIDE

MUSIC

TRADITIONAL SONG (10 SECONDS THEN FADE UNDER SFX)

NARRATIVE

NARRATOR: The following is a true story about a woman named Isabel. For many years she has struggled to make enough money on her small plot to support her family. In recent years her crops have been plagued by beetles. This year is going to be different though. This was the first year she has been able to purchase pesticides for her crops and she is excited about what will surely be a good year.

ISABEL: I'm glad that I bought pesticide this year. This year should be a good harvest.

TOMMY: (FROM AFAR) Mom, I'm back from school. Can I have a snack?

ISABEL: Of course, Tommy. Come over here, you can have some of this bread. Let me tear you off a piece.

SFX: SOUND OF ISABEL SETTING DOWN SPRAYER. TEARING BREAD.

TOMMY: Thanks, Mom. When will dinner be ready?

ISABEL: Let me finish up spraying our field first. Then I will come set dinner.

TOMMY: Okay, mom. I will wait for you at home. Bye!

SFX: SOUND OF SPRAYING PESTICIDE

NARRATOR: What started out as a happy moment for Isabel will soon turn scary as she returns home to find Tommy lying on the bed clutching his stomach.

ISABEL: (FRANTIC) Tommy! Are you okay? What is wrong?

TOMMY: (WEAKENED VOICE) I'm not sure mom. I have a terrible pain in my stomach.

ISABEL: (SHOUTING) Maria! Tommy is sick. Please get help! Hurry!!

NARRATOR: Poor little Tommy. Things did not need to turn out this way, if only Isabel had correctly applied her pesticides. Dr. Festus Mitchell from Extension University has seen it all too often, but he tells us the solution is easier than you may think.

Audio Insert Name: EXPERT INTERVIEW
IN WORDS: What most people do not…
OUT WORDS: … it's that simple.
DURATION: 0'45"
[continued…]

You may want to consider creating a few demo creative briefs or scripts using different formats to convey the same message when you are first starting out. Share these demos with a small, but representative, sample of your target audience to gauge their impressions. You can also use a pre-test to check whether or not your message is connecting with your audience. Pre-tests are a great way to check the potential effectiveness of your ideas before you spend too much time and money fully developing them. They can be conducted through a structured focus group (see the CD for a guide to facilitating focus groups) or less formally during visits or events by sharing them with farmers with whom you work. You should also determine who will be responsible for this if your radio station partners do not have the capacity to carry out pre-tests on their own.

SAMPLE PRE-TEST QUESTIONS:

For comparing radio formats

- ✓ What type of radio programming do you normally listen to?
- ✓ Of the formats presented, which do you think you would enjoy most? Why?
- ✓ Of the formats presented, which are you least likely to listen to? Why?
- ✓ Are there any formats that you would definitely not listen to? Why?

SAMPLE PRE-TEST QUESTIONS CONTINUED:

For checking message effectiveness

- ✓ Which parts did you enjoy? Why?
- ✓ Was there anything that you did not like? What? Why?
- ✓ What did you learn from this brief/script?
- ✓ What do you think the main message of this brief/script is?
- ✓ How would you improve this brief/script?
- ✓ Do you have any questions about this brief/script?

Doing pre-tests, even if informally, will help you to have a better understanding of what your audience likes and the clarity of your messaging. This will save you from producing a complete program only to find out that it does not connect with or is not understood by your audience. Based on their feedback, you can make revisions to your creative briefs or scripts so that they are better aligned with your audience's needs. Of course, a pre-test is no guarantee that your target audience will like your final product, but it will certainly increase the odds.

SUGGESTIONS FOR LOWERING THE BARRIERS TO ENTRY

Some of your partner radio stations may not have experience developing agricultural programming, while your project staff may have no experience in script writing at all. You may consider introducing small incentives, such as a monthly 'most popular script' or 'best peer-reviewed script' award to recognize the work of staff at your partner stations or any project staff who have contributed to script development. This could be as a simple as providing winners with a certificate or small prize.

Finally, when creating your scripts, it is important to remember to not make them overly formulaic. If all of your programs follow the exact same format and have the exact same story structure, you will likely lose the interest of your audience over time. Most people will find it difficult to stay engaged in radio programming that is completely interchangeable. Some variety will keep help to keep your audience engaged and will be increase the likelihood that you achieve your learning objectives.

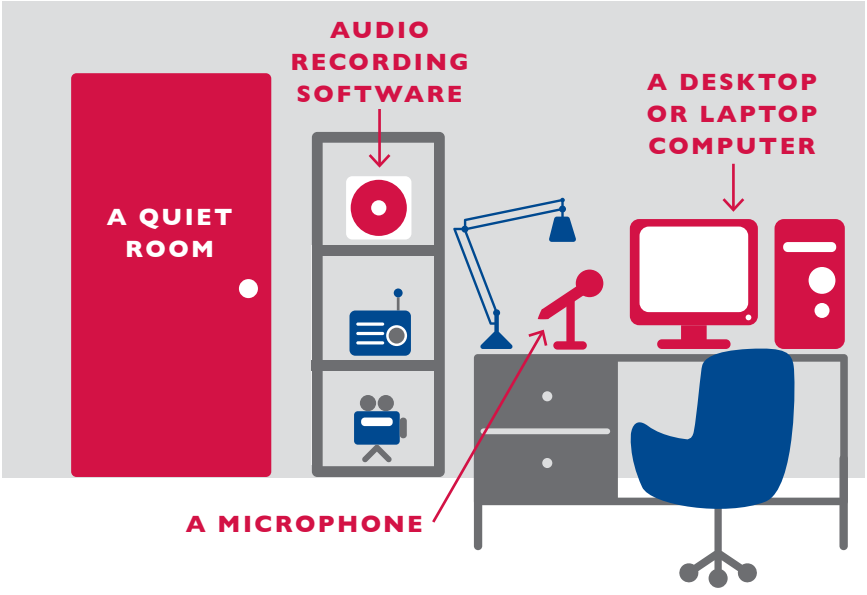
RECORDING

Recording audio for your radio program can be broken out into two types of recordings: studio and field. Studio recordings are audio that you record directly into a computer in either a studio or a quiet office. Field recordings are those that you record while you are out in the field using an audio recording device. The process by which you will record either in the studio or in the field is different, although they both rely on similar principles.

Studio recording

In almost all instances, any audio that is recorded in the studio should be done by your radio station partners at their facilities. If for some reason you need to record audio elsewhere, such as in your office or that of a local partner NGO, you will need to have an appropriate setup. Do not worry if you do not have access to a professional setup, as you can set up your own do-it-yourself recording studio on a modest budget. To get started, you will need the following:

- A quiet room
- A desktop or laptop computer
- A microphone
- Audio recording software



TIPS FOR REDUCING NOISE

- Stuff cloth under the door to create a seal.
- Apply weather stripping to your window and door frames.
- Hang up heavy curtains over the windows.
- Seal any cracks or holes in your walls.
- Place a carpet on the floor.
- Turn off other appliances (such as air conditioning).
- Place your microphone away from your computer so it does not pick up noise from the computer.

Probably the most difficult of these items to find is going to be a quiet room. You will likely be working in an office with other colleagues and also have sounds from the street finding their way into your office. First, try to identify a room that you can use that is least exposed to outside sound. This could be an internal room without windows or a room that is located on a quieter side of the building. Last, but not least, make sure that your colleagues are aware whenever you plan to record so that they can make a concerted effort to be quieter than normal and to try to avoid doing anything in the space around your recording room.

Since audio recording is not particularly resource heavy, you should be able to use most of the desktop or laptop computers you already have in your office. Many computers already have an embedded sound card on their motherboard. While this type of on-board sound can be sufficient, you may want to invest in installing a separate, higher quality sound card. When purchasing a sound card, look for a sound card with a 192kHz sampling rate, 24-bit resolution, and a signal to noise ratio (SNR) of at least 95dB. If you are unsure if your computer's sound card is of sufficient quality, record a sample and share it with the radio stations you plan to work with. They will be able to tell you if your recording meets their minimum sound quality standards.

POP FILTER

You will also want to invest in a good quality microphone for your recording. Since you will be recording the voice of your subjects, you will most likely want to purchase a unidirectional microphone. Unidirectional microphones primarily record sound directly in front of them, and will reduce the level of background noise picked up. If you will be having more than one person record audio at a time, consider buying a desktop microphone. This type of microphone sits on your desk and can be shared more easily than a headset microphone, which is worn on one's head. You should also consider purchasing a pop filter (or pop shield). This device is placed in front of your microphone to help reduce the popping noise that often occurs when recording spoken sound. If you cannot find an affordable pop filter locally, you can create your own using an embroidery hoop and nylon stockings.

Last, you'll need audio recording software. Adobe Precision is a high-quality audio recording and editing program that retails for around US$325. If you want to test it out before purchasing it, Adobe offers free trials versions online at http://www.adobe.com/cfusion/tdrc/index.cfm?product=audition. An alternative to Adobe Precision is a free, open-source program called Audacity. It has all of the functionality that you will need to record and edit audio and is fairly intuitive to use. It can be downloaded at http://audacity.sourceforge.net/. On the accompanying CD, you will also find a guide covering the basics of audio recording and editing in Audacity. The website wikiHow also offers a guide on How to Get Higher Audio Quality when Using Audacity, which is worth checking out before you get started. It can be accessed online at http://www.wikihow.com/Get-Higher-Audio-Quality-when-Using-Audacity.

If you do decide to purchase a sound card, TopTenREVIEWS provides a good breakdown of the top ten rated consumer sound cards on their website at: http://sound-cards-review.toptenreviews.com.

If you plan to record interviews over the phone, you will also need to invest in a telephone recording device. There are a couple of low-cost ways that this can be done. One way to do this is by using a telephone to PC adapter that connects into both your landline headset and your computer to record the conversation. There are also cheaper alternatives that include an earbud and microphone. These plug directly into your digital recording device or computer and pick up both your audio and that of the person on the phone. When using a telephone recording device, always make sure to do a test call first to make sure that it is functioning properly. The last thing you want is to have completed an interview only to find that none of it was recorded.

Field recording

Recording in the field is a great way to collect stories from farmers and other practitioners. These recordings will often sound more authentic than studio recordings, because they will include actual ambient sounds from wherever you are recording. For your field recordings, you will need to have an audio recording device. Since you will be editing the audio on your computer, we recommend using a digital recording device. These can be found as standalone devices or integrated into other devices (such as

PHOTO CREDIT: DEVELOPMENT SUPPORT CENTRE INDIA

MP3 players or mobile phones). If you plan to be doing a lot of recording outside, you should also consider purchasing a windscreen for your audio recorder to help reduce wind sound.

When recording out in the field, it is always a good idea to fully charge the batteries on your device in advance. Also, if your device has removable batteries, consider purchasing a backup set of batteries that you have bring with you fully charged as well.

If you are planning to interview someone in the field, remember to take the following steps to ensure that your subject is prepared and that you are able to capture useful content:

- Let the interviewee know in advance when you will be arriving and what to expect.
- Prepare your questions in advance and share them with at least one colleague to ensure that they are clear.
- Structure your questions in a way that allows for an open-ended, but guided response.

For example, if you want to find out what a farmer thinks about the impact of genetically modified organisms (GMOs) on small-scale agriculture, phrase the question in a specific way that would guide the farmer to respond on that point. Rather than asking "What are your feelings about GMOs?", ask "What impact do you think GMOs will have on small-scale agriculture?" The second question guides the farmer to respond to the specific topic you are interested in, whereas the first question could result in their responding to any number of issues associated with GMOs. It is also important to avoid asking leading questions, such as "GMOs have the potential to transform small-scale agriculture, don't you agree?" If there is a chance that the farmer might not be familiar with whatever it is you are asking them about, ask them beforehand what that term means to them. This is important because if they do not fully understand the question you are asking them they will not be able to respond in a way that captures their actual feelings.

KEEPING TRACK

When recording in the field, you may find it easier to create new audio clips for each question and answer. You can then use a notepad to write out a few words about each audio clip. This will make it easier for you to manage your audio clips once you are back in the office.

Also, make sure that you identify a location for the interview that is comfortable and has limited amounts of background noise. There is no problem with recording some background noise, but if there is too much noise it can distract from what is being said. By selecting a comfortable location for the interview, you can also increase the likelihood that the person you are interviewing is focused on the questions you are asking.

You will not be able to plan all of the interviews you conduct though. For instance, you may be out in the field for other purposes and discover an interesting story that you would like to record. If that is the case, try your best to develop specific questions on the spot. Use follow-up questions as well to guide the person you are interviewing to talk more about the topic you are most interested in. You can also tell them explicitly what you are interested in learning more about and encouraging them to speak primarily about that.

Being out in the field is also a great time for collecting sound effects and other ambient noises that you will use for your final programs. Always make sure to record for longer than you think you will need. It is better to have too much than to have too little and be forced to loop your sounds. Keep a database of all of your sound effects and ambient noises using an easy-to-understand naming convention so that you do not have to record new versions of the same sound each time. There are also a number of online databases that offer free or cheap sound effects and ambient noises. Just search around.

SUGGESTIONS FOR LOWERING THE BARRIERS TO ENTRY

All of your radio station partners will already have sufficient experience recording audio. If your project or local NGO partner staff will be recording audio segments on behalf of your partner stations, however, they will likely need some support. Provide staff with appropriate training on how to use the equipment and engage with interviewees. The more experience your team has with recording audio both in the studio and in the field, the more comfortable they will become—and the better-quality they will be able to produce. You may also consider creating video tutorials on the different elements of the recording process that your team can use as an illustrative guide. Finally, as with script writing, consider exploring ways to promote positive competition and recognition for high-quality work.

EDITING

Editing audio can be a time consuming process, but digital recordings and computer editing software make the process much easier than it was in the days of the tape. These advances have made it possible to produce audio recordings without weeks or months of training. Rather than discussing any particular editing software here, this section will focus on specific steps that you can take to make sure that you understand the process. For the most part though, the production team at your partner stations should be responsible for any final editing. That said, there may be instances where your project or local NGO partner staff will need to edit audio segments that they record, such as farmer interviews.

Logging Clips

The first step to editing is logging your recordings. Since you have likely recorded much more audio than you will end up using, logging all of your clips will make it much easier to edit a final product. The benefit of working with digital recordings is that you can rename each file based on a logical system. In radio parlance, each of these clips or sound bites is called an actuality. You should be familiar with this term, although for this toolkit we will use the term 'clip' to refer to individual digital audio files. Logging your clips will make it much easier for whoever will be editing the final product to navigate your raw material.

To begin logging your recordings, you will need to listen to each of your clips. This can be a tedious and boring activity, but it is a crucial part of the process. You can use the **Audio Logging Worksheet** to keep track of which clips you think you plan to use. There is no need to log clips that you know you will not use. The adjacent page has a short example of what that might look like.

CLIP NAME	DESCRIPTION	TIME CODE (START/END)
Narration1.wav	Intro narration	00:15 – 00:38
ExpertInterview1.wav	Interview with Dr. Mitchell explaining dangers of improperly applied pesticides	02:22 – 02:41
FarmNoises1.wav	Sounds of plowing, chickens in the background	00:19 – 00:35

This worksheet has three columns. The first column is where you input the file name of each clip. The next column you should use to type a description of the clip. This should include enough information so that you are able to easily identify the content of the clip when editing. The final column is for the start and end time of the portion of the clip you plan to use listed in minutes:seconds. If the person logging your audio is different from the person who will be editing it, you may also want to include 'in words' and 'out words' here. These are the first few words to start and end the portion of the clip you plan to use.

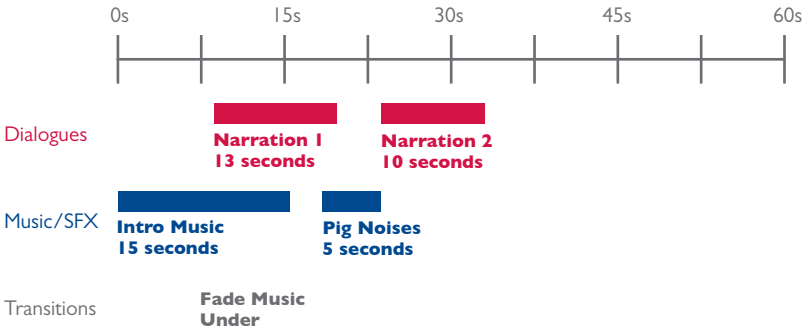
Try not to use any clip that is longer than 30 seconds unless it is extraordinarily engaging. Otherwise, if you plan to use more than 30 seconds from a given clip, break up the audio with other clips, such as narration or sound effects to keep your audience engaged. It is important to reiterate here that you should also be mindful of the tone of the dialogue in each clip you are selecting. Do not select clips based on content alone. If the tone of the dialogue is boring or the audio is unclear, it is better to discard it and find a better clip—or re-record it, if possible.

Rough Edit

Once you have finished this process of logging and identifying the clips you will use, you can begin to lay out your selected clips onto a timeline. This step of the editing process is known as the rough edit. There are two ways to carry out this step. This first is to do a paper edit, which means that you write out the order of each clip and transition instructions. The other option is to use your editing program to manipulate and edit your clips directly.

The benefits of doing a paper edit first are that it can be done in a group so that your entire team is able to provide input. The best way to do this is to write the name and length of each clip on index cards so that you can tape them to the flipchart paper. You may also find it helpful to be able to manipulate and move clips around with your hands rather than moving everything around on the computer. That said, you can also do your rough edit directly on your computer if you are working alone or if you find it easier.

If you decide to do a paper edit, the easiest way is to lay out flipchart paper or use a whiteboard to write out your timeline. A basic paper edit might look something like this:



Once you have laid out your timeline, you can lay out the index cards for each of your audio clips directly onto the timeline. You will find that this process is very similar to what editing looks like in your editing software. At this point you should also make note of any audio that you are missing that you would like to add so that you can record the extra material.

Tight Edit

After you have finished your rough edit, you can begin the process of tightening up your edit by making additional adjustments to your audio and transitions. The tight edit should be done directly in your audio editing program, so you will want to transfer the results of your paper edit into your editing program before starting. This is also your opportunity to make any changes to the volume levels of your clips to ensure that the volume is even throughout the program. Always make sure to save your project when editing. This will allow you to go back to your radio program at a later point to make additional edits. In addition, it will also save you the frustration of losing all of your work if your computer freezes or crashes. Like all computer programs, make sure that you save your project often while you are working on it. In addition to the basic tutorial on audio editing with Audacity provided on the accompanying CD, video and text tutorials for using all of the most common audio editing programs can be found online.

Mastering

The final step of the audio editing process is to master your audio. This step is taken after you have finished your tight edit and are ready to finalize your radio program. Before you master your audio, make sure to listen to it from start to finish a couple of times to confirm that you are satisfied with it. If you notice anything that you are not satisfied with, go back and make the appropriate adjustments. Once you are satisfied, you can export your

A NOTE ON AUDIO

You may be tempted to use popular music in your radio program. If you plan to use any music, first make sure that you have the rights to use it or that the music is freely available for use without a copyright. For more information on legal sources of music visit Creative Commons online at: http://creativecommons.org/legalmusicforvideos.

CRITICAL SUCCESS FACTORS

- Establish baseline quality standards.
- Select the right people to do the work.
- Clearly define partner responsibilities.
- Consider sustainability from the outset.
- Create farmer-centric programs that are relevant and engaging.

final radio program into an audio file. Your editing software will give you the choice of exporting the final into a variety of different formats, such as WAV, MP3, M4A, and others. It is very important that you export your radio program into whatever format is preferred by the radio stations you are working with or on any other devices you will be using to disseminate your program. It is best to know this in advance, but the good news is that as long as you have saved your project, you can always re-export your audio file into a different file format.

Once you have finished mastering your radio program, you may also consider creating a transcript of the final version. Having a final transcript of the program will make it easier to translate and adapt your programs into other languages. Since this will take time, only create final transcripts if you have plans for using them.

SUGGESTIONS FOR LOWERING THE BARRIERS TO ENTRY

Your radio station partners will almost certainly have an expert on staff who can edit audio to create a final pre-produced program. Should your project staff decide to edit audio for purposes other than radio, such as to record a podcast to share with colleagues, it will take them some practice. To facilitate their growth, encourage them to watch training videos available online or challenge your team to create their own training screencasts for other colleagues using free programs like Jing (http://www.techsmith.com/jing.html).

NOTES

3

WORKSHEETS

BASELINE QUALITY STANDARD WORKSHEET

CRITERIA	BASELINE STANDARD
Audio Quality (How clear was the audio? How are sound effects and music used? How is the vocal clarity of the subjects?)	
Story Structure (Does the audio flow? Does it have a beginning, middle, and end?)	
Message Clarity (Is it clear what message the program is trying to convey?)	
Engagement (Did the program capture your attention? Did it engage your thinking?)	
Learning Outcome (How well does the program achieve its desired learning objectives?)	

TOPICAL AREA EXPERT CONTACT LIST TEMPLATE

NAME	AREA OF EXPERTISE	CONTACT INFORMATION	ADDITIONAL DETAILS
John Smith	Animal Husbandry	01-4535081 (mobile) Jsmith56@yahoo.com	Only available with 2 weeks advance notice

EXAMPLE

CREATIVE BRIEF TEMPLATE

PROPOSED TOPIC: _____

PROPOSED DURATION: _____

PREPARED BY: _____

1. TARGET AUDIENCE – Who do you want to reach with your radio program? Be specific.

2. LEARNING OBJECTIVES – What do you want your target audience to learn or do after they hear this radio program?

3. PROGRAM SUMMARY – What will the program be about? What type of format will it use? Who will be featured? What will the general tone be?

4. OPPORTUNITIES – When and where can this program be used?

5. RATIONALE – How would this type of program achieve your learning objectives?

Adapted from *Spot On Malaria: A Guide to Adapting, Creating and Producing Effective Radio Spots*, written by Cate Cowan and Lonna Shafritz, (Washington, DC: CHANGE Project, 2005)

RADIO SCRIPT TEMPLATE

TITLE: _____

LEARNING OBJECTIVE: _____

_____

_____

DURATION: _____

WRITTEN BY: _____

SUGGESTED INTRODUCTION

This is where you add any suggested introduction you would like the radio announcer to say before playing your segment.

MUSIC

Use this tag for any music

SFX

Use this tag for any sound effects

NARRATIVE

The following section should be used when you are inserting pre-recorded audio:

Audio Insert Name: This is the name of the audio clip you are inserting

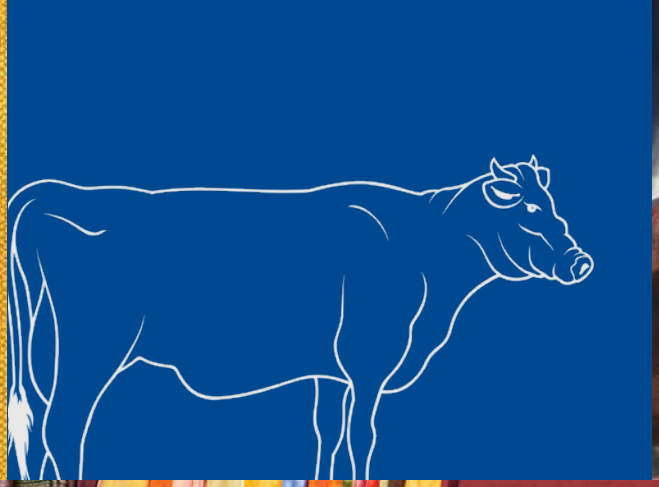
IN WORDS: These are the first few words that the clip begins with

OUT WORDS: These are the last few words that the clip ends with

DURATION: This is the duration of the clip, which is usually written as min'sec". For example, a one minute and twenty second clip would be written 1'20".

AUDIO LOGGING WORKSHEET

CLIP NAME	DESCRIPTION	TIME CODE (START/END)



4

WHAT ARE THE DIFFERENT APPROACHES THAT CAN BE USED TO MAKE OUR RADIO PROGRAMMING INTERACTIVE?

There are a number of different ways that you can build interactivity into your radio programming. This component highlights the most promising approaches that are currently available, what is needed to integrate them into your programming, and how to effectively implement them. In addition, it includes suggestions for other ways that you can disseminate your radio programming without relying on radio airwaves.

COMPONENT GOALS

BY THE TIME YOU HAVE FINISHED THIS COMPONENT YOU WILL:

- ✓ *Understand what role your staff can play in supporting effective interaction.*
- ✓ *Have selected the interactive method(s) you will use.*
- ✓ *Have developed a plan to implement those methods.*

DESPITE BEING TRADITIONALLY SEEN as more of a one-way media source, increases in mobile phone penetration across Africa and advances in other technologies have made it much easier to turn radio into an interactive media outlet. Interactivity here refers to interactions between the listener and the radio station, the listener and development organizations, and listeners with each other. Although the tendency may be to think primarily in terms of increasing listener interaction with the radio station, it is important to look at the other types of interactivity as well. This is because each type of interaction has the potential to facilitate learning and support change differently.

When thinking about the potential for interactivity, think about the benefits that can be had by all parties involved. Radio stations may gain increased listener loyalty, listeners may benefit from increased learning, and your project may benefit from gaining a better understanding of farmers' needs. Ideally, the interactive methods that you use will be crafted in a way that captures all of these benefits.

There is no one best approach to interacting with your audience. To begin to decide on how to best interact with your target audience, you need to develop a clear picture of who they are. This can be done using the questionnaire you developed in **Component 2** to help you create a profile of your audience. Whether or not your target audience have access to mobile phones or are literate will be significant determining factors for you in deciding what type of interactivity you want to use.

Research on rice farmers' access to rural radio in Benin found that half of the farmers rarely or never listened to radio programming on agriculture. The reason stated by the vast majority of these respondents was that those programs are broadcast during times that were not convenient for them.

You should also keep in mind when and how people are listening to the radio. For instance, research on rice farmers' access to rural radio in Benin found that half of the farmers rarely or never listened to radio programming on agriculture. The reason stated by the vast majority of these respondents was that those programs are broadcast during times that were not convenient for them.[1] Of course, you may be somewhat limited in choice of time slots depending on the radio stations you are working with. They may not want to give up a prime slot for agricultural programming. This is worthwhile knowing as well. If only half of your target audience have access to radios during the live broadcast time, you will want to consider additional ways to share those programs with them.

Women who listen alone are **1.6 times** more likely to call in to radio stations than women who listen in a group.

How people are listening to radio can also be helpful to you as you decide how you plan to interact with them. Research by the Search for Common Ground in Sierra Leone, Liberia, and Guinea, for example, found that women in those countries often listen to radio with friends and family, but that women who listen alone are 1.6 times more likely to call in to radio stations than women who listen in a group.[2] This data suggests that if most of your audience listens to the radio in groups that you may need to be more creative about how you interact with them to encourage active participation.

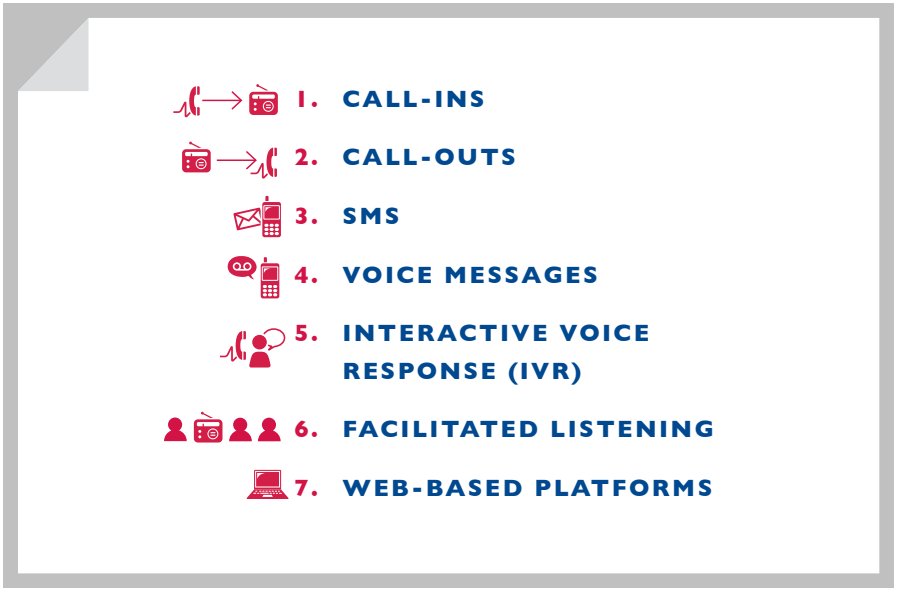
1 Zossou, E., Vodouhe, D.S., Van Mele, P. and Lebailly, P. Linking farmers' access to rural radio, gender and livelihoods: case study of rice processors in Benin (2012). [Accessed on 7/9/12 at: http://www.agroinsight.com/downloads/Articles-Agricultural-Extension/2012_AE2_Linking-farmers-access-to-rural-radio-gender-and-livelihood-Zossou-et-al-2012.pdf]

2 Fortune, F., Chungong, C., and Kessinger, A. Community Radio, Gender & ICTs in West Africa: How women are engaging with community radio through mobile phone technologies (July 2011). [Accessed on 7/9/12 at: http://www.radiopeaceafrica.org/assets/texts/pdf/2012-Community-Radio-Gender-ICT_SFCG.pdf]

It is important to also consider whether women have equal access to radios as men in the communities you are targeting. The same Search for Common Ground study also noted that "while radio reach and listenership [among women] is increasing, men are still more likely to listen."[3] Studies have shown, however, that when women are provided equal access to resources, it benefits overall household productivity.[4] Implementers of USAID-funded projects should also consult the USAID Gender Equality and Female Empowerment Policy, which was released in March 2012, for further guidance on gender inclusive programming.[5]

HOW CAN WE MAKE OUR RADIO PROGRAMMING INTERACTIVE?

Once you have an understanding of the profile of your target audience, you can determine what the most appropriate ways to interact with them may be. This section looks at seven of the most common methods of interaction.



3 Ibid., p. 6.

4 See reports from the International Food Policy Research Institute entitled, "Women: The Key to Food Security" and from the OECD entitled, "Women's Economic Empowerment," which can be accessed online at: http://www.ifpri.org/sites/default/files/pubs/pubs/ib/ib3.pdf and http://www.oecd.org/dataoecd/50/60/47561694.pdf, respectively.

5 The full policy can be found online at: http://usaid.gov/our_work/policy_planning_and_learning/documents/GenderEqualityPolicy.pdf

You can use the **Interactive Method Selection Worksheet** at the end of this component to help you to determine which method or methods are most likely to reach your target audience, and whether you have the capacity (both time and money) to use each method. This worksheet is an adaptation of the **ICT Option Assessment Tool** found in **Component 2**.

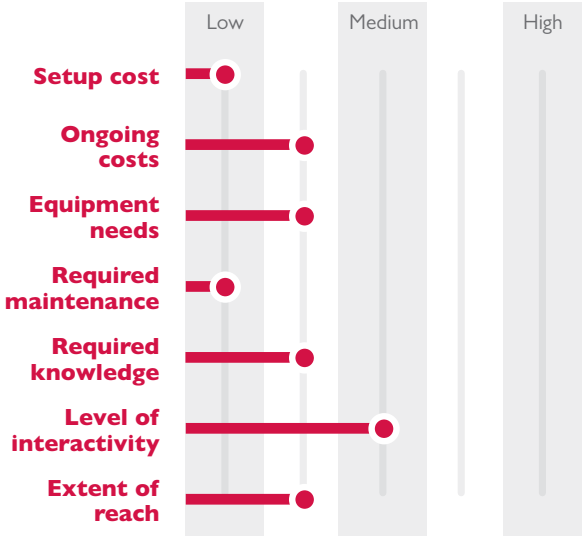
The most sustainable types of interactivity will be those managed by your radio station partners. Once your project begins to manage interaction, you create a giant barrier to long-term sustainability. That is not to say that your project staff should not interact with your beneficiaries, but the lead should be taken by the radio stations. The process of deciding on which interactive methods to use, therefore, should be done in conjunction with your radio station partners. Your role is to inform them of what is possible, to help them set it up, and to support them, but the ongoing implementation should be with them.

The following is a description of each of the methods and how they can be used to interact with farmers. Specific information on the hardware requirements and estimated costs for some of the options listed here can be found in **Component 6.** Each method also includes a visual matrix that provides a snapshot of some of requirements and interactive potential of each one. The matrix presents a general overview of this information based on typical conditions of smallholder farmers in sub-Saharan Africa. It is not an exact science, as variations in local capacity, costs, and hardware availability exist both between and within countries across the region. For example, you may work in communities with a high internet penetration, whereas this matrix assumes low access to internet by smallholder farmers. Despite that, it should provide you with a comparative look at the requirements and benefits of each option.

Check out Farm Radio International's study entitled *The New Age of Radio: How ICTs are changing rural radio in Africa* for detailed assessments from the field of many of these options, online at: bit.ly/farmradioict.

Many of the interactivity features below are framed with a focus on interaction around agronomic information programming. Interaction need not only be limited to agronomic information programs though. You can also use many of these methods to collect market price and/or weather information from trusted sources from within your target area, which can then be broadcast on the air. There has also been some experimentation done linking buyers and sellers together via mobile phone, which you could incorporate into market price programming to enable listeners to advertise offerings on the program and negotiate deals. One of the major challenges that you will face with creating the platform by which buyers and sellers can communicate, however, is a lack of trust. Unless you are willing to serve as a broker to guarantee payment and delivery, in many cases both buyer and seller may be hesitant to seal an agreement without first meeting in person.

CALL-INS



Overview: Call-in programs are probably the most well-known example of radio interactivity. They involve listeners calling into the radio station directly. Most call-ins are received on-air by the announcer either in real-time or with a slight delay, although they can also be done by playing recorded messages from listeners on the air. Call-ins can be structured to allow listeners to share their opinions or experiences on specific subjects or ask experts questions.

CASE STUDY

WHY APPROPRIATE TECHNOLOGY MATTERS

The Kenya Agricultural Commodity Exchange Limited (KACE) developed a weekly 15 minute radio broadcast called Soko Hewani that advertised commodity requests and offers on the Kenya Broadcasting Corporation. Listeners interested in bidding would call a short code that linked to KACE's market call center. Although KACE had to pay for radio airtime, they anticipated being able to offset these costs through revenue share they received from the mobile network operator for calls placed to the short code, and through commissions from optional brokerage services they provided. The broadcasts were so successful that the number of listeners calling in frequently jammed their phone system. This led to frustrated callers who could not get through, and a loss of revenue to KACE. As a result, KACE has had to temporarily suspend the program until they can find an appropriate and cost-effective solution that meets their call-in demand.

Best used: Call-ins work well to provide audience feedback or questions during interviews with experts, panel discussions, or straight talk segments. Game shows structured around call-ins can also be a great way to engage with your audience. It is also possible to use this method at the end of a pre-recorded segment, such as a skit or a documentary, to solicit audience reactions or questions. This will give listeners a chance to dig deeper into the topic and share their own experiences. You can also use call-ins to collect localized market price and weather information from field agents or other trusted sources.

Interactivity: Primarily between select listeners and radio stations. It is also possible to use call-ins as a way for listeners to interact with your organization or local development partners, although this is most practically done by receiving and responding to recorded messages in conjunction with the radio station.

Requirements: At a minimum, the radio station will need a phone on which to receive calls. Some stations simply use a mobile phone on speakerphone held up to their microphone for this. Although this is certainly the cheapest option, it is not ideal for a couple of reasons. First, the sound quality will not be great. Second, and perhaps more importantly, if you only have one phone line, callers will likely need to call back dozens of times before getting through, which could discourage participation.

For a clearer audio setup, you will need to connect the phone into the mixer, usually by way of computer. To overcome the challenge of only having one line, you may want to consider a second backup line that you also connect into your system, although you will need to make sure to have enough audio inputs on your computer and mixer to handle this.

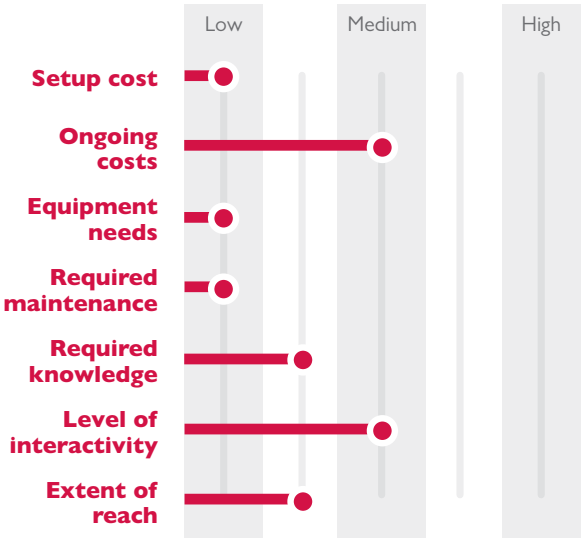
You can also connect multiple SIM cards into your computer using a GSM Gateway, such as the 2N External Routing Machine. Another option is the GRINS radio automation system developed by Gram Vaani in India, which has integrated telephony that enables users to connect up to four SIM cards to manage phone calls both live and through recorded messages. All of this gets a bit complicated, so you will want to make sure to work with a trained technician to set up a phone system appropriate to your needs.

Other considerations: Call-in programs tend to put the burden of cost on the listener, who will need to use their own airtime to call-in. Some of your listeners may not have the money to cover this cost, and therefore will lose out on the potential interactivity. Where possible, you may want to consider setting up a toll-free number for callers to use. This can be paid for by your organization or the radio station, or in some cases you may even be able to enter into an agreement with mobile operators to provide a line free of charge.

Also keep in mind that call-in segments need to be well managed. Ideally, someone at the radio station should pre-screen callers to make sure that

they know to turn off their radio in the background and to ensure that they are calling about something relevant to the subject being discussed. Hearing farmers like themselves call in to a radio program can be a great way to capture the attention of your audience, although it is also easy to lose the attention of your listeners with irrelevant or overly long calls.

CALL-OUTS



Overview: Call-out programs are similar to call-ins, except that in this case the radio station places calls to listeners instead of asking listeners to call in directly. Call-outs can also be used to reach out to experts for either on-air commentary or to pre-record segments. In addition, your organization or your partners may also provide the phone numbers of farmers with specific questions or stories that were shared during field visits that you would like to share with a broader audience.

Best used: Call-outs are an effective way to interact with your audience in a way that is more controlled than call-ins. If you have already identified farmers with questions relevant to a panel discussion or interview that is being broadcast, call-outs can be used to bring those farmers on-air. This method can also be used to solicit audience comments or questions on pre-recorded programs, although you will want to make sure that the individuals you call were listening to the broadcast, are available, and have something constructive to add. Using the call-out method to interview farmers in advance is also a much more cost-effective way of gathering content than traveling to interview them in person.

Interactivity: The majority of the interaction with call-outs is between the radio station and the individuals who are called. Since radio station staff will not be as connected to farmers as organizations that work directly with farmers, call-outs will likely be more diverse when done in collaboration with those organizations, thereby creating a triangle of interaction among farmers, the radio stations, and your organization or its partners.

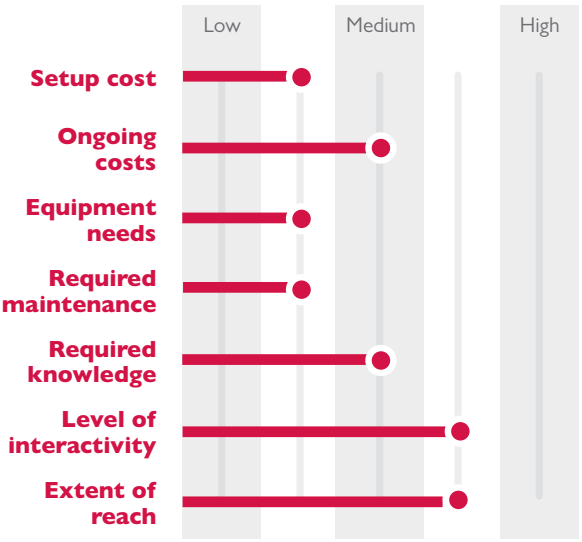
Requirements: The technical requirements for call-outs are pretty much the same as for call-ins, although you will not need to be concerned with having multiple phone lines.

Other considerations: From a logistical standpoint, you will need to coordinate with the individuals you are going to call in advance to make sure that they will be available and in a location with a decent mobile phone signal. Informing people in advance will enable them to prepare for the call and—with the possible exception of prank calling shows—always make for better conversation than cold calls.

You should also try to identify individuals who have something to share that is relevant to your audience and program. The benefit of call-outs over call-ins is that you can identify and prepare callers in advance so that their questions or comments are tailored to the overall learning objectives of your programming. Work together with your partners and the radio

stations to build up a database of farmers and experts that can be called. Building a robust database will help to make your pool of callers more diverse and representative of your audience. Inviting your audience to subscribe to your caller database by SMS or at promo events is another good way to add to this database.

SMS



Overview: A growing number of radio stations are starting to use SMS messages to interact with their listeners. Listeners can send in SMSs to the station at any point throughout the program. Depending on the capacity of the station, responses may be sent back to listeners by SMS or a selection of messages may be read aloud on the air and responded to. SMS can also be used to poll your audience on a variety of topics or to send out reminders to your listeners before your program airs.

CASE STUDY

USING SMS TO REINFORCE RADIO MESSAGES

In Malawi, Land O'Lakes International Development has teamed up with Esoko to reach over 2,000 farmers in the rice, cassava and small livestock value chains. Farmers receive reminders via SMS to tune-in to farmer-led weekly radio broadcasts on best farming practices. After a broadcast ends, farmers also receive a recap of the show's most valuable tips through SMS.

Best used: SMS can be a great way to poll your audience members on their opinions and knowledge of content, to identify new content they would like to see covered, or to vote on specific elements of your programming. As long as it is not cost prohibitive, sending out SMS reminders of programs to registered listeners can be an effective tool for increasing listenership. Farm Radio International has found that SMS alerts sent to listeners 30 minutes before broadcast can increase listenership by up to 20 percent. They can also be used to solicit brief feedback and questions from listeners related to your program, and benefit from the fact that all messages will generally be received, as opposed to call-ins where most callers will likely receive a busy signal when trying to call. You can also use SMS to send out episode highlights and to reinforce your messaging after programs air. Last, for market price and weather information programs, SMS can be used to receive updates and push out information.

Interactivity: Most radio stations that use SMS do so to interact directly with their listeners. That said, if your organization wants to interact with listeners directly about a program that you have helped to develop, you can always include a number for them to send SMSs to. If the program is broadcast after your office hours have ended, just make sure that listeners know the timeframe within which you will respond to them.

Mobile chat platforms, such as Mxit, also present opportunities to facilitate listener to listener interaction. Although they are not SMS-based, they allow for similar one-to-one text messaging, along with group chats on web-enabled feature phones. If any of these platforms are popular among your target audience, the group chat features could be worth exploring to support audience interaction with each other during your broadcasts.

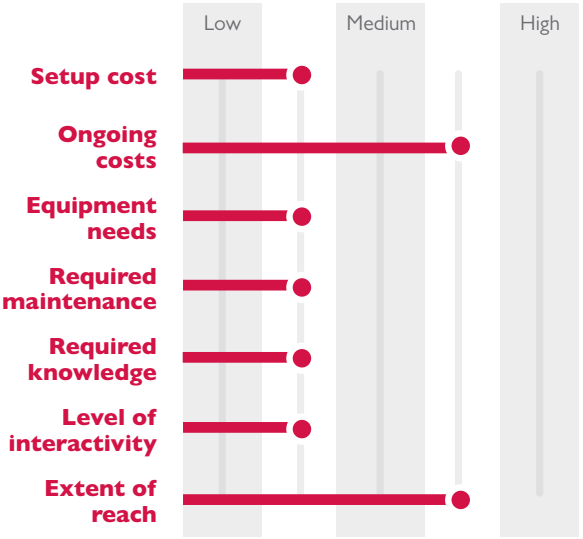
Requirements: The most basic point of entry is simply a mobile phone. If you want to manage messages and contacts, create polls, and send SMS announcements to a large group of people, you will want to

consider a more sophisticated platform such as FrontlineSMS, GRINS, or others. Hardware requirements may vary slightly depending on the platform you select, but generally you will need at least a computer and a mobile phone or GSM modem. FrontlineSMS is also in the process of piloting a version of their platform that will be more appropriately tailored to the needs of community radio stations. To facilitate interaction with listeners, you may want to also set up a SMS shortcode. This way they do not have to remember a full phone number. Check with your local mobile network operator to see what options are available in your country.

Other considerations: There are three major considerations that you should keep in mind if you plan to use SMS to interact with your audience. The first is the cost both to the listener and the radio station or your organization. Some farmers may not have enough money to afford sending SMSs to you. On the other hand, if you are going to be responding to and communicating with listeners by SMS the costs will add up on your end as well. If this becomes an issue for you, you may want to consider grouping together common questions and respond to them all at once over the air instead of individually via SMS. If you are using SMS to send announcements, you can also reduce your costs by sending messages to a portion of your contact database and asking them at the end of the SMS to share it with others.

The second consideration is the literacy levels of your target audience. Since SMS is a text-based medium, it is generally an ineffective way to reach illiterate or low-literate individuals. The case is often made that even illiterate farmers know a literate family member or friend, so this is a non-issue. This may be true, but rather than work off of this assumption it is advisable that you confirm whether this is the case for the majority of your listeners. The final consideration is length limitations of SMSs. Sharing a brief opinion in 160 characters is not that hard, but asking a complex agricultural question within such limitations could be prohibitive.

VOICE MESSAGES



Overview: Voice messages are recorded audio messages that you can broadcast in bulk. In most cases, the user can either call a phone number to record their message or record and send it via their computer. Using a bulk voice messaging service, you can specify your contact list and schedule a time for the message to be sent. Everyone on your contact list is called at the scheduled time, and they hear your pre-recorded message when they answer their phone.

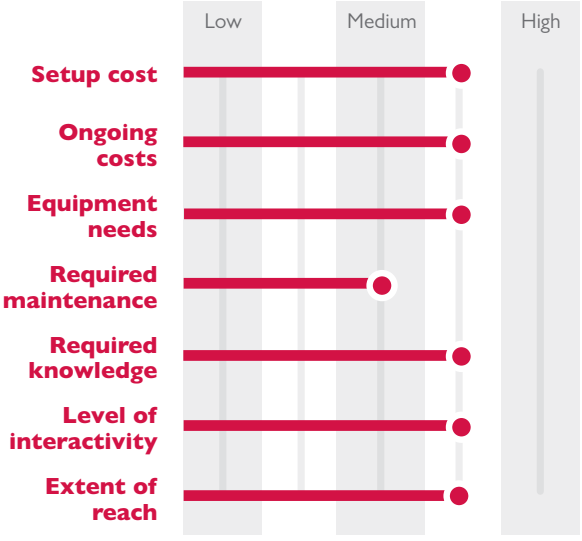
Best used: Voice messages can be used to broadcast sneak previews of an upcoming program to generate interest, or to share a couple of salient points from an already-aired program to reinforce the message. Many systems can also be set up to conduct basic surveys, such as 'Did you listen to our program on seed spacing last night? Press 1 for yes, 2 for no, and 9 to repeat this message.'

Interactivity: Generally speaking, voice messages are not highly interactive. Although they can conduct some basic polling, they are set up to be more of a broadcast mechanism than an interactive one.

Requirements: There are third-party providers that offer voice messaging services, generally based on a unit price based on the number of individuals that answer the call. Some services enable you to record your message directly over the phone, in which case all you would need is access to a phone. Other services also use web-based platforms, which require a computer and some way to record your audio into WAV or MP3 either with a microphone through your computer or separately on another audio recording device.

Other considerations: Some individuals may be less likely to answer a phone call from an unknown number. If they have never received a voice message before, they may also not be aware that it is a recording, which can lead to some initial confusion. If you are planning to use voice messages, it is helpful to inform your audience about the nature of these calls in advance so that they know to expect if an unknown number calls them. When considering third-party providers, you should also consider their pricing structure and reliability.

INTERACTIVE VOICE RESPONSE (IVR)



Overview: Interactive voice response is actually an extension of the call-in method. These systems enable callers to navigate a menu via their phone's keypad or increasingly through speech recognition. Although these systems can be confusing—or frustrating to anyone who has ever encountered one when wanting to speak to a live customer service agent—they can enable a level of continuous interaction with listeners. IVRs can be configured to receive voice messages from callers 24 hours a day whether or not a radio station or office is even open. You can also use an IVR system to play segments of your radio program on demand or to provide complementary or follow-up information.

Best used: IVR systems are best used to add an additional layer of interactivity to your radio programming outside of your regularly scheduled broadcast time. In addition to repurposing radio content that can be listened to on demand by callers, you can also create original content that is complementary to your radio programs or that engages callers with a question related to that program. For example, you may play a short clip from the program you broadcast that week and follow it with a question asking callers what they would do in that situation. If your radio program airs once a week, you should make sure to update the content on your IVR system at least as frequently. Depending on how sophisticated a system you are using, you can also use IVR to enable listeners to advertise crops they are selling and manage responses from potential buyers.

Interactivity: Most IVRs are set up to enable the operator (in this case a radio station or development organization) to interact with callers, although not always in real or near-real time. Some systems, such as Awaaz. De from India, also enable callers to interact with each other using a navigable, voice bulletin board.

Requirements: Many IVR systems require a computer and internet connectivity to connect to a remote system. If you do not have internet access, Freedom Fone offers a standalone system, although it does require a dedicated computer and a GSM device to connect to a mobile network. If you are running a standalone system, you will need to be somewhere

with reliable electricity to keep the system continuously available. More details on the technical features and costs of these devices can be found in **Component 6**.

Other considerations: Since many people in your target audience may have never experienced an IVR system, you will likely need to run an education campaign explaining to them how it works. At the very least, you should explain that the voice they hear is a recording, what features you will have available, and how the navigation works (i.e., it can only respond to specific commands). This can be done in person while your staff are out in the field, demonstrated by video, and/or explained by radio announcers on the air.

You will also need to consider who is going to be responsible for managing the system. This includes listening to, categorizing, and responding to all voicemails that are received, updating content, technical troubleshooting, and evaluating call records as part of your broader monitoring and evaluation activities, if necessary. It is important to respond to the vast majority of calls that are received, otherwise people will likely stop calling in. Most IVRs will allow you to push out recorded messages in response to callers, so categorizing similar voicemails will help you to send out one relevant response to multiple callers.

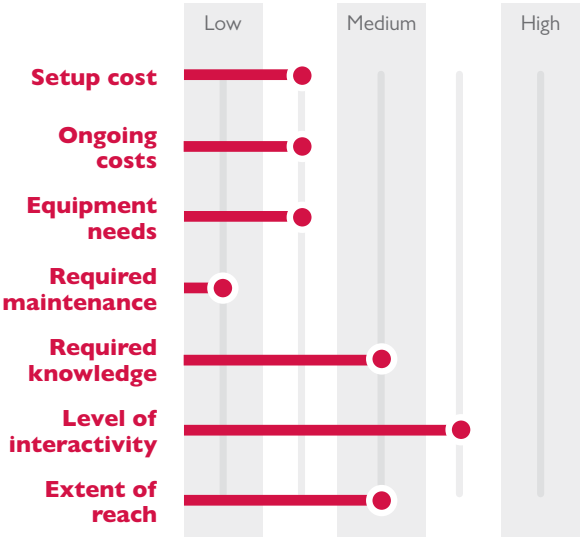
Most callers will listen on average for

120 seconds.

You will also need to make sure that you have fresh and relevant content on your system if you want to encourage repeat use. Farm Radio International has found from experience that most callers will listen on average for 120 seconds. This is much shorter than they would tune in on the radio, so you will need to repurpose any content from your radio program that you plan on using to meet this shorter format.

Although your project staff may help with the initial management of the system, over time you should try to transition full management to the station. Since managing and maintaining an IVR system may be new to your partner stations, you will likely need to provide them with technical assistance on how to effectively do this.

FACILITATED LISTENING



Overview: Facilitated listening can come in many forms, but basically all involve some sort of in-person intermediary. Three of the most common examples are listening groups, radio agents, and interactive radio instruction (IRI). Listening groups are groups of people who generally meet on a set schedule to listen to a radio program. They tend to be facilitated by a group leader and include discussion and questions after the program finishes. More informal listening groups also exist and tend to involve friends and family listening to a program together.

Radio agents are individuals with recordable radios or MP3 players who charge a small fee to anyone who wants to listen to a radio program on demand. These enterprises are normally established with the support of a development organization, who may provide equipment and content to the agents free of charge or for a fee. By using a rechargeable radio with MP3 recorder, agents can decide what programs they want to

record without any ongoing input. If your project works directly in the communities you are targeting on a regular basis, you can also record material in advance and share it with the radio agents via MP3 player. Although in the latter scenario, control over content is with your office and not with each radio agent. Radio agents may also facilitate listening groups and/or allow people to listen to radio programs individually on demand.

Finally, interactive radio instruction has been used for more than 30 years in primary and secondary schools. Content for IRI is developed to support teachers in low-resource environments to more effectively engage students. Unlike the other two examples above, IRI programs provide prompts to teachers and students for specific actions throughout the program. Although traditionally used in schools, the general structure of IRI programming could be used as an additional tool for extension agents during field days or community visits.

To learn more about IRI, check out the World Bank's toolkit *Improving Educational Quality through Interactive Radio Instruction*, available online at: http://bit.ly/NhGrhf.

Best used: The prevalence of facilitated listening will depend on the demographic of your audience and radio ownership rates. You may find that in communities with high radio ownership rates that people prefer to listen to programs in the comfort of their own homes. Despite this, if you have the capacity you should explore helping to establish or supporting existing facilitated listening groups in the communities where you are working.

Interactivity: Facilitated listening predominantly fosters interaction among listeners. You can also work with the listening groups or radio agents in your target area to build in interactivity with your field staff. For example, your staff can contact listening group leaders or radio agents after their scheduled sessions to answer any questions that may have arisen while they were listening to the program or to schedule follow-up field visits with specific farmers who expressed interest in learning more about a practice.

In Mali, Farm Radio International has also reported that Radio Fanaka is using call-outs to facilitate engagement with listening groups. At the end of each broadcast, they call out to each listening group in their broadcast area individually and give members five to ten minutes to share comments or questions on the program they just heard. This is an innovative approach at linking listening groups into a broader community via the radio.

Requirements: If you plan to help set up listening groups or radio agents, you may need to provide them with or help them to purchase any equipment they may need, such as recordable radios, solar chargers, MP3 players, and so on.

Other considerations: When done well, facilitated listening groups can also increase the likelihood that farmers will learn about and adopt new practices. You may, therefore, also want to provide training to group leaders and radio agents on effective facilitation skills along with providing them ongoing technical support.

Research from Farm Radio International conducted in five African countries has suggested that individuals who listen to radio programs with community groups recall more content and have higher adoption rates than those who listen at home or in unstructured groups with neighbors.[6] This is similar to findings related to the benefits of facilitated learning with other ICT tools as compared to independent learning.

Granted, not all facilitation is equal, and if done poorly, facilitation may actually drive people away. Consider the following benefits of working with facilitated listening groups though:

- Facilitators can answer farmers' questions or refer them to an extension agent if anything is unclear or if they are interested in learning more.

NO ACCESS TO RADIO? NO PROBLEM.

If some of your beneficiaries do not have access to radios during the times when your program airs, consider the following:

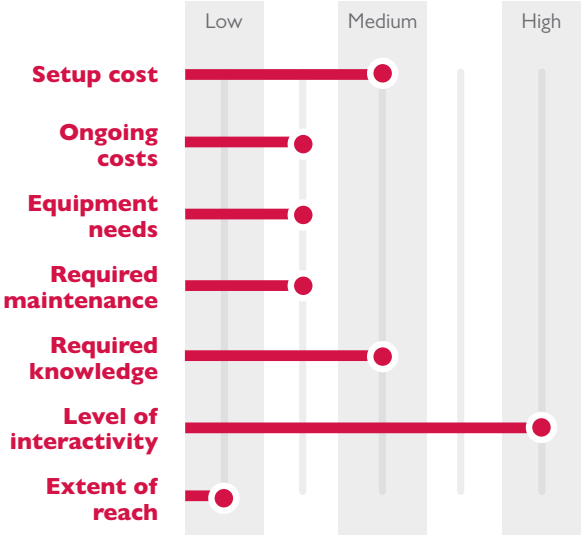
- Create an MP3 player lending library hosted by your local offices or community groups.
- Work with radio agents to record programs using recordable radios.
- Push out short radio segments via recorded messages sent to their mobile phones.
- Set up an IVR system with recorded segments that callers can listen to on demand.

6 Perkins, K., Ward, D., and Leclair, M. Participatory Radio Campaigns and Food Security: How radio can help farmers make informed decisions (Farm Radio International, 2011). [Accessed on 7/11/12 at: bit.ly/farmradioprc]

- Facilitators can provoke discussion on specific elements of the radio program, increasing the likelihood that farmers will think critically about what they have just heard and therefore remember it more clearly.
- Facilitators can track attendance, questions asked, and practices tried and adopted by farmers.
- Facilitators can encourage farmers to share with and learn from each other.
- Facilitators can serve as a point of contact to collect and share farmer feedback with you on what they liked or disliked about your radio programs.

Later on in this component we will discuss some ideas for how you can prepare listening group leaders and radio agents to become effective facilitators and not just passive providers of radio content.

WEB-BASED PLATFORMS



Overview: Most of your target audience at this point likely does not have access to the internet, so this type of interactivity is probably not going to be as relevant as the other methods mentioned above. That said, given the rapid expansion of mobile internet across Africa web-based interactivity may be an effective way to interact with a small subset of your audience, particularly youth. Live streaming or posting pre-recorded programs online can be a great way to make your programs available well beyond their air date. In addition, there are a number of social features that can be integrated alongside your program on the web to enable sharing, comments, and polls.

Best used: Live streaming only really makes sense if you know that you have a significant untapped audience who would listen online instead of on the radio. If it is not cost-prohibitive for your project, you may want to consider sharing recorded radio segments online even if most of your audience does not have internet access. By placing them online, you enable listeners with access to the internet to tune in at any time to learn and share their own ideas and questions. Also, by having your content online you increase the likelihood of other practitioners outside of the broadcast range of your partner stations hearing your programming, thus potentially opening up new opportunities for collaboration and sharing.

Interactivity: Depending on how active a listening community you have online, this method can lead to high interaction between listeners and content managers. Unfortunately, it is not as simple as just posting radio content online. For starters, your radio station partners will need to have access to the internet. You will also need to make sure to use platform that is already popular or be prepared to do some heavy advertising to generate interest. You can also interact directly with listeners who have access to the internet via email, assuming you have the time to respond to them individually.

Requirements: To live stream audio, you will need a reliable internet connection and a server to host your streaming audio. To share pre-recorded content online, you will need an internet connection as well to upload content, but that does not need to be at the radio station. You can

transport the audio files on a USB flash drive and upload them anywhere with an internet connection. Before you make any decision on the best web platform to use, find out what platforms other radio stations in your country are using.

Other considerations: The primary considerations you will have to make for web-based interactivity is whether it is worth the budget and staff time relative to the potential number of listeners you would be able to engage. Even if you decide not to share audio online, you might want to consider using the web—particularly social media—to promote upcoming programs, pose questions during broadcasts, and reinforce messages after the fact. Whatever you decide in terms of web-based platforms, you will need to determine who will be responsible for the management of this content and interactions. Ideally this should be the radio station, although it can also be managed by a local partner if they are invested in helping for the long run. Even though penetration rates are still low in Africa compared to the rest of the world, there are still over 40 million Facebook users and almost 140 million internet users on the continent.[7]

REINFORCED MESSAGING

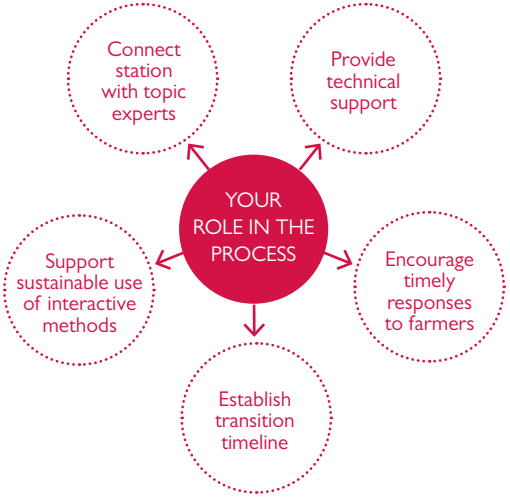
Although each of these methods has been highlighted individually, it is always important to consider how you can use multiple methods to enhance opportunities for interaction and learning. Multiple methods can be used to reinforce your messaging more effectively than a singular method. In addition to using the direct interaction methods mentioned above, you should also consider using secondary methods besides radio to communicate and reinforce your messaging.

Secondary methods that can be directly handled by the farmers (such as mobile video, SMS, flyers, or tip sheets) may be particularly helpful as references that farmers can use while they are trying out a practice on their own in the field. As your radio station partners might not have the capacity to develop and use these secondary methods on their own, your project and local NGO partner staff can play a role in reinforcing the messaging of programs through these means.

The research of Hermann Ebbinghaus and others has shown that spaced repetition of information is critical to increasing the likelihood of establishing and recalling long-term memories. If you have the capacity and resources, you might want to test the effectiveness of different primary and secondary methods by deploying them with a random selection of farmers who have listened to your radio programs to test whether their recall of information is higher than farmers who were only exposed to the primary method or those farmers who had no interaction at all. Of course, recall alone does not translate to adoption or impact, but it is an important part of the equation.

7 Internet Usage Statistics for Africa as of Q4 2011 [Accessed on 7/11/12 at: http://www.internetworldstats.com/stats1.htm]

WHAT IS OUR ROLE IN THE PROCESS?



Since you will likely want any method you choose to be sustained by your partner radio stations beyond the life of the project, it is important to consider what your role will be from the outset. In some cases, the stations you work with will already be interacting with their listeners, whereas for some this might be unchartered territory. Ultimately your role should be to support the radio stations to implement and sustain these methods over time.

In many cases, the announcers at your partner radio stations might not be agricultural experts and will find it challenging to interact with their audience in a substantive way. Even if they do have a background in agriculture, they will not be an expert on all subjects that callers might be interested in. It is important, therefore, to help them to establish contacts with topical area experts and a process by which they assign and respond to all technical inquiries. If you are working with any local agricultural organizations, you should consider linking them in to the process as well to play an ongoing role with providing topical area expertise.

Your partner radio stations may also need technical support to effectively use the interactive methods you are planning to implement. If this is the case, you should assess exactly what type of support they need to manage and maintain the method(s) they are using, and then determine how you will provide them that support. If their capacity is extremely low to begin with it can be tempting to fully manage the implementation of the method for them. While it is okay to play a large role at first, you should make sure that the station assigns at least one person on their staff who will be responsible for working with you. Work with that person to determine what training and support they need. It is also helpful to establish a transition timeline with the station—or any locally based partners who will be supporting them—with concrete steps to move all technical responsibility and oversight to their station over time. This can be incorporated into your **Interactive Method Planning Worksheet** that we will talk about later in this component.

It is extremely important that your partner stations have enough support to respond accurately in their interactions with farmers and to properly manage the interactive methods they are using. For most radio stations, their primary objective is not agricultural extension or outreach. Therefore, it will likely be the responsibility of your team or local agricultural organization partner to provide them with the support they need. Without this support, they may not have the capacity to provide accurate agricultural programming. If they do respond to farmers with inaccurate information, the credibility of the station's programming as a whole could be damaged. On the other hand, if they fail to respond to farmers within a reasonable amount of time, those farmers may feel slighted and stop listening to your programming. For the same reason, if your partner stations are not able to properly manage the technologies they are using to interact with farmers, it could have a negative effect as well.

SUPPORTING FACILITATED LISTENING

If you plan to use facilitated listening, your organization can also play a role in helping to establish groups and to train group leaders. When setting up listening groups, it is recommended to work with existing groups, such as farmer associations, cooperatives, or women's groups, rather than attempting to form your own groups. This will make coordination easier, since you will be working with an established entity. If it is not possible to work with existing groups, and if there is ample local interest, you can facilitate the establishment of listening groups in your target communities. The best way to do this is to determine where farmers already commonly congregate in the community. When setting up your own groups, be sure to explain to the farmers you invite to participate why you are trying to set up a group and what the benefits will be to them from participating.

The process of setting up independent listening groups will require additional groundwork on your part. To make the process easier, consider working with community leaders or farmer representatives to identify interested farmers. You may also want to use flyers and community broadcast outlets to advertise. It is best to enlist farmers who are interested in participating over an extended period of time. This will result in more useful data collection regarding individual farmer change. Otherwise, if farmers come and go at random intervals, it may be more difficult for you to track impact on each farmer.

Whether you are working with an established group or helping to set up a new one, you should identify one or two people from the group who are interested in leading the facilitation. This person will be responsible for helping you to collect information on participation and adoption, along with facilitating discussion among farmers once the radio program has ended. When identifying these individuals, look for someone who is:

- Trusted in the community
- Inclusive (that is, does not lecture or exclude certain individuals)
- A leader in adoption of new approaches
- Literate (if you want them to help collect information for you)
- Easily accessible (that is, has a mobile phone, in case you need to reach out to them)

In some cases groups may have self-selected their own leaders or operate more organically without any leadership. If that is the case, explain to them the ways that having someone responsible for facilitating discussion can be useful and how that person will serve as a point of contact with your team for ongoing support.

Before each program airs, you should also develop discussion questions that you can share with the group facilitators to help guide them. These can be sent out to the facilitators the day before the program airs via SMS or you can provide paper facilitation guides for several radio programs at once weeks in advance. A print copy may look something like the sample on the following page.

If you plan to work with radio agents, in addition to training them on good facilitation techniques you may also need to train them on how to use and maintain any equipment you provide them. You may also find it helpful to provide them with training on how to establish their new enterprise, including information on basic business accounting, advertising, and price determination. Small entrepreneurs can sometimes mistake cash flow for profit. Make sure that the radio agents you work with know the difference, and that they also separate their business finances from their personal finances so that can more easily keep track of them.

SAMPLE DISCUSSION QUESTIONS

PROGRAM TITLE: Dehulling your soybeans for replanting

AIR DATE: August 5th, 2012, at 8pm on Radio Mwanza

FACILITATION QUESTIONS: This program focuses on the proper way to dehull soybeans that you plan to replant. Many farmers use a stick to dehull the soybeans. This is fine if they plan to sell the beans for consumption or use them for animal feed. If you want to save the seeds for planting next season, this technique could damage the seed. Instead, you should use a dehulling machine or dry them in the sun.

1. When should you use the technique mentioned in this program?

2. What has your experience been with the impact of beating seeds on their future germination?

3. What challenges do you see having with the new technique that was presented in this program?

4. Has anyone ever tried this new technique? If so, what was your experience like?

Also, help them to build into their pricing the recovery and maintenance costs for any equipment they are using. They may not know what the costs of maintenance might be or how to account for those future costs in their current pricing, so you will need to provide them with input here.

WHICH INTERACTIVE METHODS ARE MOST APPROPRIATE FOR OUR SITUATION?

Determining which interactive methods are most appropriate for your situation depends on a number of factors, including your partner needs and capacity, who your audience is, and what objectives you are trying to achieve. Like you did with the **ICT Option Assessment** in **Component 2**, gather your team and other stakeholders together to discuss the strengths, weaknesses, and capacity needs of the different options. If you are unable to gather everyone together at the same time, consider finding time to speak with your stakeholders individually. This can be done either through informal conversations, or through more structured exchanges, such as focus groups or surveys.

There is no need to consider all of the options highlighted above. Only consider those that would be realistic methods to pursue. For example, if none of the farmers in your target audience have access to the internet, you might want to forgo considering web-based methods for the time being. Once you have decided which options are worth considering, write them down in the columns at the top of the worksheet.

Consider the following questions as part of this process:

FOR PROJECT AND RADIO STATION STAFF

- How and where are we currently interacting with farmers?
- Are the radio stations we are partnering with interested in pursuing any of these options?
- How much time does our project staff have available to implement or support interaction?

- Do radio station and/or local partner staff have the technical capacity to implement each option? If not, what will it take to prepare them?
- What are the general types of costs that will be necessary for each option?
- Are any of these clearly outside of our project's available budget or those of our partners?
- What will it take to support our radio station partners to implement each of these methods?

FOR FARMERS

- How often to do you currently listen to radio?
- What types of radio programs do you prefer most?
- What types of radio programs would you like to hear more of?
- Where do you tend to listen to the radio? At home? With neighbors? With a listening group?
- Do you have access to a mobile phone?
- Of the following options [insert options you are considering], how likely do you think you are to participate in each one? Why?

Through this process, you should be able to narrow down the interactive methods that seem most appropriate to your situation. Once you have decided upon the method(s) you will use, consider who will be responsible for overseeing their implementation. Some methods might be done by your partner radio stations with minimal to zero support, while others may require more substantial input on your part.

CONTINUUM OF SUPPORT NEEDS

You can use the **Interactive Method Planning Worksheet** at the end of this component to map out your overall plan for each radio station you will be working with. This should include the exact steps to set up and maintain the interactive methods you plan to use, the timeline for each step, who will be responsible, and what, if any, materials are required. You may also find it easier to use a different worksheet for each interactive method you are planning to use, although you can also combine them on the same worksheet if desired. If your radio station partners do not have the capacity to implement a preferred method on their own, make sure that you include capacity-building steps and follow-up in your plan as well. The sample planning worksheet provided on the next page can serve as a guide.

SAMPLE INTERACTIVE METHOD PLANNING WORKSHEET

RADIO STATION: Radio Bopulu

INTERACTIVE METHOD(S): Interactive voice response

SECONDARY METHOD(S): Flyers promoting how to use it, integration with SMS

(E.G., FLYERS, TIP SHEETS) and on-air call-out responses during radio program

FREQUENCY: Ongoing, but promoted weekly during program

REQUIRED STEPS	TIMELINE	PERSON(S) RESPONSIBLE	MATERIAL NEEDED
Set up IVR system	May 5	Project team	Cables, SIM cards, GSM device
Provide training on maintenance of system	May 5 – May 10, and ongoing as needed	Project team	Training materials and operating manual
Train farmers on what the system is and how to use it	May 1 – June 15	Project team	Demonstration videos, print materials
Promote the IVR system on the radio	Starting May 10th, ongoing	Radio station	Short script for announcers to read
Launch of IVR system	May 15th	Radio station with support from project team	
Update IVR content	Weekly	Radio station	
Categorizing and responding to voicemails	Within 48 hours of receipt	Radio station with input from project team for technical responses	
Review calling trends	Monthly	Radio station with initial support from project team	
Gather feedback from farmers on their use of the system	After 90 days, and then twice a year	Radio station with initial support from project team	Questionnaires
Make improvements to system based on feedback	Within 30 days of receiving feedback	Radio station with initial support from project team	

Once all involved parties have agreed to the action items and persons responsible in your planning worksheet, you can prepare to begin rolling out your interaction methods. Print out copies so that each partner has a copy that they can keep in their office as a reference. It is important to revisit this worksheet periodically and to have status check meetings with all involved parties. This will help you to assess whether any changes need to be made or if you need to provide any additional technical support to your radio station partners.

CRITICAL SUCCESS FACTORS

- Appropriate method(s) for interacting with your audience is selected.
- Partners are provided with necessary and appropriate technical support.
- Facilitated listening groups are encouraged to increase recall and adoption.
- Messaging is reinforced through other mediums.

NOTES

4

WORKSHEETS

Interactive Method Selection Worksheet

Interactive Method Planning Worksheet

INTERACTIVE METHOD SELECTION WORKSHEET

OBJECTIVE:

ASSESSMENT CRITERIA	OPTIONS					
	Call-Ins	**Call-Outs**	**SMS**	**IVR**	**Web-based**	**Facilitated**
Strengths of each option						
Weaknesses of each option						
Current staff capacity						
Potential costs						
Is this an appropriate option? Why?						

INTERACTIVE METHOD PLANNING WORKSHEET

RADIO STATION: _____

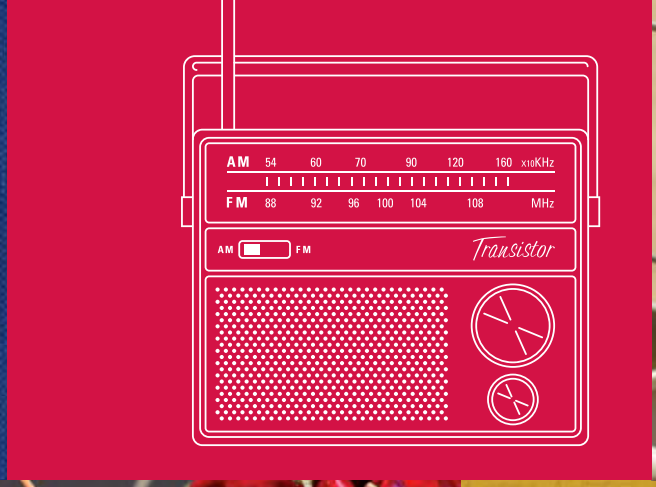
INTERACTIVE METHOD(S): _____

SECONDARY METHOD(S): _____

(E.G., FLYERS, TIP SHEETS) _____

FREQUENCY: _____

REQUIRED STEPS	TIMELINE	PERSON(S) RESPONSIBLE	MATERIAL NEEDED


AM 54 60 70 90 120 160 X10KHz
FM 88 92 96 100 104 108 MHz
AM FM
Transistor

5

HOW CAN WE TRACK THE IMPACT THAT OUR RADIO PROGRAMMING IS HAVING ON FARMERS?

Once your radio segments have been produced and broadcast, it is important to learn what, if any, impact they may be having. This component highlights various ways that you can track listenership and measure impact. It also includes suggestions for how to capture farmer feedback to better inform the creation of new content and improvements to your approach.

COMPONENT GOALS

BY THE TIME YOU HAVE FINISHED THIS COMPONENT YOU WILL:

- ✓ *Have determined what your indicators will be and how you will collect information.*
- ✓ *Know how to incorporate farmer feedback to improve your approach.*

MEASURING THE IMPACT that your radio programming is having on farmers can be challenging, because oftentimes you may not know who is actually hearing what is being broadcast. That said, there are ways that you can track this information. Most of the indicators you track to measure the impact of your work with radio you will likely already be using for your broader work with farmers. In addition to those indicators, however, you may also want to identify other indicators that you can use to determine whether radio is really achieving the impact you had anticipated relative to other ICT or traditional options. This will help you to assess not only whether radio is achieving any impact, but also if that impact is worth the investment relative to other potential options.

This component assumes that you have sufficient resources and staff capacity for conducting ongoing monitoring and evaluation. If your project has already begun, your team will have likely already developed a monitoring and evaluation plan. The purpose of this component is not to supersede that plan or the prior work of your team. Rather, it intends to provide some perspective on elements that you might want to consider for effectively monitoring and evaluating your work with radio. You may choose to add some of these elements to your overall project monitoring and evaluation plan, or simply use these indicators for internal purposes. This component is not intended to be a guide on how to conduct monitoring and evaluation activities writ large.

One of the best pathways to achieving your objectives—especially with any type of communication effort—is developing content that appeals to the needs and tastes of your target audience. This component will also look at ways that you can use farmer feedback to improve your messaging and approach.

WHAT INFORMATION SHOULD BE COLLECTED?

Generally speaking, the indicators that you will be collecting will fall into four categories: reach, recall, adoption, and circumstance. Each of these indicators will give perspective on what impact your interactive radio activity is having. Although there is an interrelation between each of these, they are able to tell us very different things about impact.

- Reach is an output, and tells you the number of people exposed to your activity. Sample indicators include: number of farmers who have heard your program and number of farmers who have interacted with your radio station partners.
- Recall is an outcome, and tells you if any changes in knowledge have occurred. Sample indicators include: percentage change in knowledge on pre- and post-tests and number of farmers who can identify the key points of a program one week later.
- Adoption is an outcome, and tells you if any changes in behavior have occurred. Sample indicators include: number of farmers who have experimented with adopting a practice and percentage of farmers who have successfully adopted a practice.
- Circumstance is an outcome, and tells you about any changes in the circumstances of your target audience. Sample indicators include: percentage increase in income and reported change in state of well-being.

Theoretically, a larger reach will potentially lead to a higher incidence of recall, which in turn will lead to increased adoption, which would then result in improved livelihoods and lasting impact. Of course, it is not that

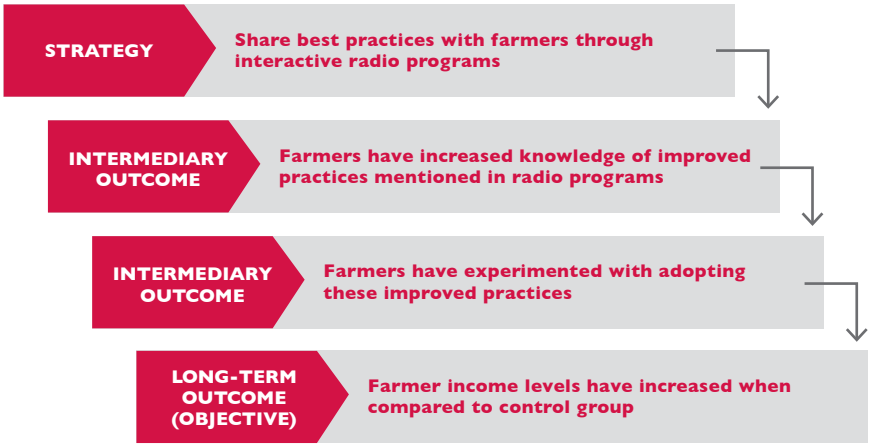
Check out Farm Radio International's *The Effect of Participatory Radio Campaigns on Agricultural Improvement Uptake: A Preliminary Case Study Assessment* for an example of an assessment study on radio impact online at: http://www.farmradio.org/english/partners/afrri/casestudy-report.pdf.

simple. A large reach and an ineffective message could lead to a lower incidence of recall than a targeted campaign with a really effective message. In the same vein, high recall of information does not always lead to higher adoption of practice. And of course, adoption of a new practice does not always lead to improved circumstances, if it is done incorrectly or if the new practice is not appropriate for that farmer. By monitoring your activity's imprint on each of these areas, however, it will be easier for you to recognize what is working and what is not so that you can make adjustments as necessary.

You may have already considered indicators related to one or more of these categories when developing your draft Implementation Plan. As you are reading through this component, think about ways that you can improve what you have already written in your draft plan to make it more specific and relevant to assessing the impact of your work with radio. Remember to keep your end result in mind when deciding upon the indicators you will use. All of your indicators should be helping you to measure whether you have been able to achieve the change you would like to see as a result of your work.

As part of the process of developing your indicators, you may find it helpful to create your own theory of change, which explicitly states your assumptions about how your work will lead to the changes you seek to produce. A theory of change will also help you to map out exactly what intermediary accomplishments you will need to meet to achieve your overall goals. One exercise that you may find useful is to create a chain linking your strategy to your objective via necessary outcomes.

For example, if your strategy is to use interactive radio to share best practices with farmers, and your objective is to increase the income levels of farmers, your theory of change might look something like this:



Think about each indicator that you think you will need to measure to assess the impact of your interactive radio activity. You may find it useful to conduct this activity with your project team, writing up each of the indicators you identify on flip chart paper or a whiteboard. At this point, do not discount any of the indicators that are identified. Once you have identified all of the possible indicators, you can then discuss as a group which ones are most relevant to your needs. Consider dividing up your indicators into the following classifications:

- **ESSENTIAL** – This indicator needs to be measured.
- **IMPORTANT** – This is an important indicator, but not essential.
- **NOT IMPORTANT** – This indicator might be interesting, but it is not important to your donor, your project team, or your beneficiaries.
- **NOT POSSIBLE** – This may include an indicator that is essential or important, but that you do not have the resources or capacity to actually measure.

At the end of this component, you will find an **Indicator Selection Worksheet** that you can use to help organize your project team's decisions. In addition to the type of indicator, the worksheet also includes sections related to how each one will be measured, who will be responsible for that measurement, and what your targets will be. Below is an excerpt of an example of a completed version of this worksheet.

INDICATOR	RELEVANCE*	HOW WILL IT BE MEASURED?	WHO WILL BE RESPONSIBLE?	WHAT ARE OUR TARGETS?
Engagement with radio stations	Important	Number of interactions made with station each month	Radio station managers	At least 25% increase in interactions per month
Knowledge of best practices	Important	Monthly surveys of farmers	Field staff	At least 75% of farmers recall best practices one month after broadcast
Number of farmers listening to every broadcast	Not important	N/A	N/A	N/A
Adoption of improved practices	Essential	Monthly surveys of farmers	Field staff	At least 30% of farmers adopt at least one practice
Increased farmer income	Essential	Annual household surveys with farmers	Field staff	Farmers see 25% improvement in income in one year
Increased income relative to non-listeners	Important, but not possible due to capacity limitations	N/A	N/A	N/A

* *Essential, Important, Not important, Not possible*

In this example, the project identified a number of different potential indicators. Some of them were considered essential, and would definitely be collected. Others were important, but not necessarily essential. In this case, the indicators deemed important would likely still be collected by the project staff if resources permit. There was also an indicator that the project would like to collect, but does not currently have the capacity for, and an indicator that they did not feel was important towards helping them measure impact relative to their desired objectives.

It can be tempting to want to collect data on lots of different types of indicators. While you certainly do want to make sure to be collecting data on indicators that are essential and, in most cases, important to measuring impact, be cautious about tracking indicators that are not related to your objectives. Data collection, input, and analysis can be time consuming. Try to make sure that you are not having staff spend their time collecting unnecessary data that you will never end up using.

If you plan on using more than one type of intervention to achieve your objectives, you should also consider doing a comparative analysis of the data you collect. This does not necessarily need to be done formally as a randomized controlled trial if you have limited resources. Even with more modest resources, you can at least compare data points on the same indicators for each type of intervention. For instance, if you are using face-to-face training in some communities, video in others, and radio in others, you can look at how farmers who are engaged by each method compare in terms of your indicators. The lack of randomization and control would disqualify your assessment from any peer reviewed journals, but it could provide you with helpful comparison in terms of general impact per method relative to cost.

HOW SHOULD THIS INFORMATION BE COLLECTED?

Since many of your listeners will be tuning in on their own, it can be difficult to know exactly who is listening to your programs and what impact it may be having on them. One of the additional benefits of interactive radio is that it enables you to communicate with at least a portion of your listeners. This makes collecting information somewhat easier than it is with listeners of one-way radio communication. It is important to recognize though, that listeners who interact with you do not necessarily constitute a representative sample of your audience. Therefore, you will need to consider a variety of ways to collect data to measure your indicators. For the purposes of this toolkit, we have divided up this section based on the type of listener: those who are in structured listening groups and independent listeners.

LISTENING GROUPS

If you are planning to work with listening groups, they can be a great way to collect information on listening habits, adoption, and knowledge. Work together with the group leader to register their members so that you have baseline information on them before you begin implementing your activity. If you are working with radio agents, you may want to ask them to also help you collect the same types of information from individuals who use their services. Below are some examples of information that you may want to consider collecting from listening group members:

- Name
- Age
- Sex
- Phone number – To help you follow up with them later
- Household income
- Amount of land farmed
- Crops planted
- Total yield
- Where crops are sold
- Specific information on techniques used that you are interested in

You may also have additional information that you would like to track. Include those as well, but remember to try to avoid collecting information that you will never use. Once you have this baseline data, you should aim to collect the same information from group members on at least an annual basis. This will enable you to track changes in circumstance of listening group members over time. This information can either be collected by the group leader or radio agent, or by a member of your own staff if you would prefer to have more control over this data.

Each time the listening group meets, you should also encourage the group leader to collect information on attendance, interest, questions, and adoption of techniques from prior programs. At the end of this component you can find a **Dissemination Record,** which is an adaption of the form used by Digital Green, an organization that works with video screening groups in India, Ethiopia, and Ghana. You may choose to ask for more or less information than is included on this form, so feel free to adapt it further to meet your needs.

More likely than not, this information will be collected using a pen and paper. If that is the case, you will want to make sure that you develop a system for collecting each of these records from group leaders and radio agents on a regular basis. This could include providing them with postage to mail them to you or arranging for your staff or local partners to pick up the forms from them individually. The sooner you receive these forms, the more likely you will be able to provide timely responses to any questions that were asked during the group session. The more responsive you are able to be, the more likely it will be that farmers will see the added benefit of participating in listening groups as opposed to listening independently.

You should also set up a database, which can be as simple as a basic spreadsheet, to compile this information. The amount of time needed for data input and analysis will depend on how many groups you are working with. It is important that your staff who will be responsible for these tasks have enough time to complete them. Otherwise, your data will just end up being a stack of papers sitting on a desk somewhere without much value for analysis. That said, there are an increasing number of mobile

data collection solutions that are worth exploring, which can cut down on both cost and time. If the listening group leaders have mobile phones, then platforms such as RapidSMS, iFormBuilder, Magpi, and others offer an attractive solution over paper-based collection.

INDEPENDENT LISTENERS

There is a good chance that the majority of your audience consists of independent listeners. You may have a sense of who some of these listeners are, but you will not necessarily know exactly who is listening when and to what. Although there is no perfect way to make sure that you are capturing data on every one of your listeners, there are steps that you can take to increase your data pool.

If you are already working with specific communities on other activities, you should consider administering a baseline survey to farmers in your target audience before you begin broadcasting any of your radio programs. The survey should capture as much information as you need to establish a starting point for each farmer in terms of their current knowledge, circumstances, and practices. Ideally, your questions should focus on topics that you plan to address during your radio programming. So, for example, if one of your objectives is that farmers will use improved seed storage techniques, your survey should include a question about their current storage technique and also a question related to their knowledge about the improved technique.

This process can be time consuming, especially if your target audience has low literacy levels, but it can be an effective way to measure aggregate impact over time. You can also capture individual change over time by having respondents include self-identifying information on their survey, such as their national ID number, so that you can link them to subsequent surveys. How frequently you conduct follow-up surveys will depend on

your resources, the length of your project, and how frequently you would like to assess change. Keep in mind though that people's memories are not always reliable. If you want to find out what people's reactions were to a specific program, it is better to ask shortly after it airs rather than months later.

In addition to surveys, you can ask the farmers in your target group to self-report on their listening habits and any actions they take as a result of listening to your radio program. One traditional way to do this is to provide farmers you are targeting in each community with journals that they can use to record this information. This will enable you to track listening habits much more effectively than a survey, which may be administered weeks or months after a program airs. Of course, this option is highly contingent on literacy levels and may not be appropriate in all situations.

At a minimum, the radio journals that you use should provide fields for farmers to record the date, time, and program that they listened to. You may also consider adding additional sections for reflection on what they heard or on any actions they took as a result of the program. Remember though that someone from your team is eventually going to have to review each of these journals and compile the information, so try to keep them as simple as possible. Try to review journals on a monthly basis, if possible. The more time that elapses between each review, the more burdensome the task of compiling data from each one.

Another option is using SMS or an IVR system to elicit input from your listeners. One way to do this is to ask listeners during the radio program to text or phone in their response to a particular question. For instance, you may ask them if they plan on using the technique mentioned in the program that was just broadcast or about any new techniques they have tried as a result of hearing them during your program. If your radio station partner is already using SMS or IVR to interact with listeners, then you will want to coordinate this with them.

The downside to this approach is that people may often only leave their first name or no name at all, so there is really no good way of determining how representative a sample you are receiving. To mitigate this, try to collect basic information from each farmer with whom your project or partner radio stations interact. This might include the same basic information mentioned in the bullet list above under listening groups. For example, each farmer might have a unique ID based on their name, mobile number, and village. By having this information in a well-organized database, you will be able to push out targeted surveys to your listeners via SMS.

In addition, any time someone interacts with the radio station, whether by SMS or phone, you will be able to match the number they called from to an individual in your database if you have their information. If not, you can contact that caller and ask them for that information so that you can register them. Doing this will also enable you to track whether there is any correlation between the number of interactions an individual has with the radio station and changes in recall, adoption, or circumstance.

In countries that do not allow for mobile number portability, you should make sure that you are not registering duplicates each time someone changes their SIM card and therefore their mobile number. The easiest way to do this is to check for entries with the same name to determine if it is a duplicate or someone new. If it is a duplicate, you can simply update their phone number in your database.

Whichever methods you plan to use should be included in your implementation plan from the beginning. Work with whoever on your team is responsible for monitoring and evaluation to make sure that you have the capacity and resources to implement your plans. You may also need to provide training to listening group leaders, radio agents, radio station staff, and your local partners on how to accurately collect any data that they will be responsible for.

If you are working with multiple radio stations, coordinating the collection of all of this information and managing a central database of listeners can be challenging. Your partner stations will not have the same incentives to collect some of the types of information that you plan to collect for your project. Since any database of listeners will likely be housed within each station, it can make sending out surveys to listeners in a wide geographic area difficult.

One solution is to encourage all of your partners to use the same database program, which in most cases your project would need to provide. This way you can synchronize each station's local database with a central database. You can also set up individual login credentials so that not everyone has access to all of the content. For instance, stations might only have access to their data, whereas your project has global access. Doing this may require that you provide training to radio station staff so that they know how to use the system properly. Thankfully, however, there are a number of affordable and relatively easy to use solutions currently available for these purposes, including those mentioned earlier in this component.

If your partners already are using their own—and different—databases and are not interested in changing, you may need to find a software developer to create an application that pulls data from each of their individual databases—whether that be through an IVR or SMS management system—into one web-based database. More likely than not, unfortunately, you may need to coordinate with stations individually to access and contact their listener database. If they do not already have listener databases, you should work with your partner stations to develop their own. Make sure to also provide them with sufficient training so that they are able to manage this database. If they do not see any value in keeping a database, you will need to come up with an alternative solution, such as encouraging a local NGO partner to manage it for them.

HOW CAN WE USE FARMER FEEDBACK TO IMPROVE OUR POTENTIAL IMPACT?

In **Component 3,** we discussed ideas for soliciting feedback from farmers before you finalize your radio programs. Once your partner stations have begun to air the agricultural programs you have developed with them, you will also find it beneficial to solicit ongoing feedback from farmers to further improve both your programs and your approach to interactivity. The process of collecting feedback, analyzing it, and taking concrete actions based on it will help your team to create an experience that is more closely aligned with the needs and interests of your beneficiaries. Doing so will likely lead to greater engagement with your audience, and through greater engagement you can increase the likelihood that your interactive radio activity will have an impact. Since your radio station partners will be taking the lead in content development, it is best to encourage them to lead the collection of farmer feedback with your guidance and technical support. Many of your partners may not have the initial staff capacity to manage the amount of feedback they receive from farmers. Your project staff, or even better, local NGO partner staff should expect to play a large role in setting up the systems for collecting, managing, analyzing and acting on feedback.

Although it can be tempting to collect feedback on an ad hoc basis, the greatest benefit from feedback will likely come through using a structured system. This is because it can often be difficult to decide what changes, if any, need to be made when feedback is received sporadically and without purpose. Through radio broadcasts, listener databases, and established relationships in the communities in which your team works, however, you should be able to solicit fairly diverse and robust feedback from your target audience.

While you are thinking about developing a system for farmer feedback, you should also work with your partner stations to consider how frequently to solicit formal feedback. In addition, keep in mind that the amount of resources and time necessary for each method varies. Some methods

will be easier to conduct more regularly, while others might require much more work on your end. This is important to consider while you are planning what your feedback system will look like. You may want to use a combination of methods to help you solicit feedback both with frequency and detail.

At the end of this component you will find a **Farmer Feedback Worksheet.** The purpose of this worksheet is to help you to plan what type of feedback you will collect from your target audience. It includes information on your target audience, how you plan to collect feedback, what questions you will ask, who will be responsible, and the frequency with which you will solicit feedback. The following sample will provide you with an idea of how you might use this worksheet.

Target Audience:	Smallholder farmers from Eastern Province		
METHOD OF COLLECTION	**QUESTIONS**	**PERSON(S) RESPONSIBLE**	**FREQUENCY**
In-person surveys and call-outs	Have you listened to [insert program name]? If yes… • What were the main points that you learned? • What did you like about this program? • Was anything unclear? If so, what? • How would you improve this program? • What are some other topics you would like to hear about in this program?	**In-person surveys:** Project field staff in each district, each targeting a minimum of 25 farmers in Chipata, Chadiza, Katete and Mambwe districts **Call-outs:** Project coordinator in district office will call at least 25 registered farmers in Nyimba to administer survey over the phone due to lack of staff on the ground in this district.	One week after air date
SMS and call-ins	What did you think about this program? Call or SMS us to let us know.	Radio announcer to ask question on the air, responses managed by project team	Immediately after airing

Your partner stations may not be able to solicit formal feedback after each program they broadcast or within each of your target communities. Even if they cannot solicit feedback all the time and from everyone, they will still likely find value from whatever feedback they do receive.

Remember though, that you do not necessarily need to make changes based on all of the feedback you hear. Rather, the feedback your partner stations receive should help to inform decisions about new programming or changes to your team's approach. It is helpful to develop a method to process and take action on feedback so that everyone on your team is clear on the process. If one of your partner stations receives a lot of feedback suggesting a particular change that you are unsure about, consider helping them to pilot test the change first. Give the pilot some time—at least a few months—and then solicit feedback again from listeners in that broadcast range. If feedback is positive, you may then consider proposing that your other radio station partners consider the change as well.

All of this is not to say that you should not welcome feedback that is received outside of your explicit calls for feedback. Try to group similar types of feedback that come in and keep an eye out for anything with high incidence. If you notice a lot of feedback on the same issue coming in, pose it as a question to a broader audience to check whether it is representative of your larger listenership or just the idea of a small, but opinionated group of listeners. Helping stations to sort and make sense of all of this feedback will be very important.

The following provides you with more information on some of methods for collecting farmer feedback that your team may want to consider employing.

CALL-INS / SMS

One of the easiest ways to solicit feedback from listeners is to invite them to call-in or send an SMS in response to a question posed to them on the air. This question could be embedded into a pre-produced radio program

or asked by the announcer after the program. To assure that you receive a larger response rate, consider turning the call for feedback into a raffle. For instance, you might say that one random caller will receive a free bag of organic fertilizer or some other prize relevant to your audience. This will encourage even some of your more passive listeners to consider calling in to respond. If you plan to use call-ins or SMS to collect feedback, you will definitely want to encourage your partner station to employ an IVR or SMS management system. The investment is well worth the time saved from manually logging phone calls or SMS responses. The downside of this method is that you can potentially receive feedback from anyone who is listening to the broadcast. This can impact the relevance of the feedback you receive. Let's say you are targeting smallholder farmers, but the majority of listeners who respond are merchants or larger farmers. You may be led to the possible false conclusion that your target audience wants to see a certain change, when in reality it might just be something that your secondary audience is interested in seeing.

CALL-OUTS

If you have already developed a listener database, call-outs or sending SMS polls to a specific group of listeners can ensure that you are getting feedback from only the people you are interested in hearing from. Some IVR systems will allow you to record a message, call your sample group, play the message to them, and give them an opportunity to respond either to multiple choice questions or through voice recordings. If the vast majority of your sample group is literate, you may prefer to send out polls via SMS. There are a number of options available for SMS polls. If you plan to use this option, do some research first on their functionality and cost to find the option that best suits the needs and capacity of your partner stations. For this type of feedback to be effective, your listener database needs to be fairly representative of your target audience.

IN-PERSON SURVEYS

Chances are that your staff or local partners will occasionally be working within the communities that you are targeting. If this is the case, you may also consider conducting in-person surveys to gather feedback and share it with your radio station partners. One of the main benefits of in-person surveys is that they allow you to reach individuals in your target audience who may not listen to your radio programs. This is a great opportunity to find out why they are not listening and to learn what you can do to more effectively engage them. The traditional way of collecting this feedback is with paper and pen, although if your staff have compatible mobile phones, tablets, or laptops you should consider using digital survey tools to ease the process. A growing number of services exist that enable you to create offline forms on these devices that can link up with a cloud-based database once the user is online. As mentioned earlier, customizable off-the-shelf mobile data collection solutions already exist. Do your own research first to find the solution most appropriate to your needs. Obviously the big downside of in-person surveys is that they can be time consuming to conduct.

FOCUS GROUPS

Another option for in-person feedback is to conduct focus groups with your target audience. Unlike surveys, which are pre-defined, focus groups allow for follow up questions to explore a response in greater detail. They also provide an opportunity to play a program or segment of a program, which allows you to ask for specific feedback on what was just heard. Of course, it is also easy for a focus group to be hijacked by a couple of very vocal respondents. You will need a trained moderator to ask clear questions, engage all participants, and limit the responses of more vocal respondents to within reason. A **Focus Group Discussion Guide** has been included on the accompanying CD as a reference for conducting your own focus groups. Your partner radio stations may not have the capacity to organize and facilitate their own focus groups, so your project staff or local NGO partners may need to conduct this on their behalf. If this is the case, make sure that the questions asked during the focus group are driven by what your partner stations are interested in learning.

OTHER OPTIONS

Although much of the feedback you receive may be more qualitative in nature, you may also want to consider building in an interactive rating system for each of your programs that air. For example, at the end of each program the station might include a message such as, "Tell us what you thought of this program. Send an SMS to 39555 with the word FARM followed by a rating of 1 to 5, with 1 being terrible and 5 being amazing." This will enable you to compare which programs are most popular with your listeners. Through this process, you may notice similar elements that exist in the popular programs that do not exist in the less popular ones. If this is the case, you may want to consider re-scripting and recording a less popular program to include those elements and see what happens.

Regardless of what type of feedback your team is collecting, you should also consider scheduling standing meetings with any staff and partners involved in your interactive radio activity to review and discuss that feedback. By holding a regularly scheduled meeting—say on a quarterly basis—your team will have an opportunity to learn from and react to this feedback, enabling them to make any changes in a timely manner. If you are working with more than one radio station, consider analyzing feedback from each one to see if you can identify any common themes. This information will likely be useful for each station to learn, and also for your project team to help you better structure the support you are providing to your partners.

Whenever your team does decide to make changes based on feedback received, encourage your partner stations to advertise those changes with listeners so that they know you heard them. For example, before a new program is played, the announcer might read a message such as, "We've heard your thoughts on what type of programming you want to hear, and I think you'll find this next program to be just what you are looking for." The exact message will vary, but the important thing is that your audience knows that you value their input and are taking action based on what they tell you. This will likely give them a more positive impression of interacting with your team and hopefully lead to greater loyalty to tune in. Increased interaction and loyalty from your listeners are not sufficient to achieve your objectives on their own, but they will likely improve your odds.

CRITICAL SUCCESS FACTORS

- Establish indicators that measure outcomes and impact, not just outputs.
- Select collection techniques that will reach a representative sample of your target audience.
- Build capacity of partner radio stations to manage farmer feedback.
- Systematically solicit farmer feedback and use it to make improvements.

NOTES

5

WORKSHEETS

INDICATOR SELECTION WORKSHEET

INDICATOR	RELEVANCE*	HOW WILL IT BE MEASURED?	WHO WILL BE RESPONSIBLE?	WHAT ARE OUR TARGETS?

** Essential, Important, Not important, Not possible*

DISSEMINATION RECORD

DATE: _____ **START TIME:** _____ **END TIME:** _____

VIDEO TITLE: _____

VILLAGE: _____

LOCATION OF SCREENING: _____

NAME OF GROUP: _____

FACILITATOR'S NAME: _____

S/N	GIVEN NAME	SURNAME (OR FATHER'S GIVEN NAME)	M/F	ATTENDANCE	INTERESTED*	QUESTIONS & COMMENTS (LIST BELOW)	EXPRESSED ADOPTIONS (VIDEO TITLE, DATE, AREA)	PARTICIPANT SIGNATURE
1								
2								
3								
4								
5								
6								
7								

*** EXPRESSED INTEREST IN TECHNIQUES SHOWN? (YES/NO)**

CONTINUED →

S/N	GIVEN NAME	SURNAME (OR FATHER'S GIVEN NAME)	M/F	ATTENDANCE	INTERESTED*	QUESTIONS & COMMENTS (LIST BELOW)	EXPRESSED ADOPTIONS (VIDEO TITLE, DATE, AREA)	PARTICIPANT SIGNATURE
8								
9								
10								
11								
12								
13								
14								

*** EXPRESSED INTEREST IN TECHNIQUES SHOWN? (YES/NO)**

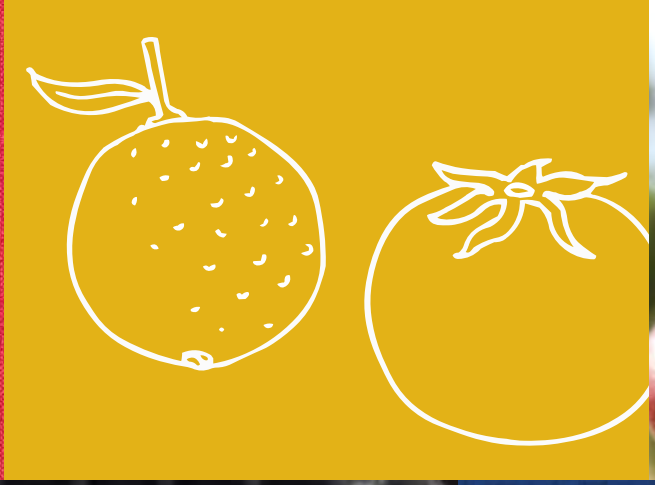
Facilitator Comments:

Facilitator's Signature

This form has been modified from the version that is used by Digital Green.

FARMER FEEDBACK WORKSHEET

METHOD OF COLLECTION	QUESTIONS	PERSON(S) RESPONSIBLE	FREQUENCY



6

WHAT ARE THE TECHNICAL CONSIDERATIONS WE NEED TO KEEP IN MIND?

There are a number of technical choices that need to be made before you can begin creating your own radio programming. This component includes overviews of the different types of low-cost audio recording devices, their strengths, weaknesses, and examples of situations for which they may be most appropriate. It also covers devices that support interactivity, peripheral devices, audio editing software, and other important technical choices. This section will not make recommendations for the best devices. Instead, it aims to inform you of likely technical considerations, so that you can assess what is most appropriate for your situation.

COMPONENT GOALS

BY THE TIME YOU HAVE FINISHED THIS COMPONENT YOU WILL:

- ✓ *Determine which devices, accessories, and software you will use for your interactive radio activity.*

ONCE YOU HAVE DECIDED upon the general approach you plan to take, you will need to decide on which technical options you will use to help you implement your plan. As you have been working through the toolkit, you likely have a sense of what you will need to implement your plan. This component is designed to give you more information on the technical considerations for each of those items. Some of these options you may be deciding on to purchase for your own team, while others you may simply be helping your partners to decide on. We have broken this component into four different types of options:

1. Audio recording devices
2. Interactive devices
3. Peripheral devices
4. Software

The information contained in this section of the toolkit was accurate at the time of publication, although given the rapid development of technology some of the content may be outdated by the time you are reading it. Before making any final purchase decision, you should do your own research into each technology, including consumer opinions and any new models that have been released. A number of online resources exist to help you with this research. One of the most comprehensive sites is CNET (http://reviews.cnet.com), which includes expert and consumer reviews on both hardware and software.

At the end of this component, we have included a **Cost Calculation Worksheet** that you can use to keep track of your total estimated cost of equipment, accessories, and software. If you are planning to purchase equipment for your radio station partners, you will also want to include these in your calculations.

The total cost of hardware and software will likely constitute only a small percentage of the total costs of implementing your interactive radio activity.

Even so, it is important to keep track of what you anticipate those costs to be to make sure that they are within with your overall budget. You can use this worksheet to help you develop a rough estimate for what your costs are likely to include.

The worksheet is divided into five columns:

- **ITEM** – This is the name or type of device, accessory, or software you plan to use.
- **DISTRIBUTION** – This is the scope of distribution for each device, and would include the geographic areas you are planning to use each device in. For example, if you plan to distribute digital voice recorders to several locations, you can track that here.
- **NUMBER NEEDED** – This is the total number of items needed to implement your activity.
- **PRICE PER UNIT** – This is the price for a single unit of each item.
- **TOTAL PRICE** – This is the number of items needed multiplied by the price per unit.

After you have listed all of the items that you anticipate purchasing to implement your activity, you can add up the total price of each item to find out what your anticipated overall cost will be. For multi-year projects, make sure to also consider replacement costs for each item. The life expectancy of each device will depend on a number of factors, including the environment in which you are using it, the quality of the device, and the likelihood of theft.

Your organization may already use a set formula for determining replacement rates for equipment. If not, try to use past experience with similar devices along with consumer research to assess average life span. Generally, most electronic devices will need to be replaced at least every three years, although some devices will need to be replaced sooner.

Through its experience in Africa, for instance, Farm Radio International has found that the MP3 players/recorders that they use in the field need to be replaced every year.

If an item is not locally available, you should also consider the cost of shipping and tariffs if you plan to purchase it elsewhere. In addition, you will need to think about whether it is possible to repair the device locally. A brand in the country of your home office that is cheaper than another brand might not be the cheapest option in the long run if it is not locally available. Once you add the cost of shipping, tariffs, and lack of local repair options, it could actually be more expensive than a similar locally available brand that has a higher price. This is of particular importance if you plan to purchase anything for your local partners. If they will be unable to replace or repair a device on their own, then it will very quickly become an irrelevant piece of technology.

Ideally, you would work with your local partners to purchase on their own any additional equipment or software that they need. Should it be necessary to make any purchases on their behalf, you will want to develop a clear plan with them that includes who will be responsible for maintenance, and how they will pay for any repairs, upgrades or replacements over time. If this is the first time the radio station is using a type of hardware or software, they may not know what it will cost them to replace or how long it might last. You may need to help them with this process. You can use the **Equipment Tracking Worksheet** at the end of this component together with any partners you will be procuring equipment for to help them keep track of each item's age, operational status, and other relevant information.

All price estimates below are based on retail prices in the United States and are accurate as of July 2012. Prices and availability may vary in each country.

AUDIO RECORDING DEVICES

The type of audio recording device you will need will depend on how you plan to record audio. Generally speaking, you will either be recording out in the field, through the phone, or in the studio. The first two types of recordings will require specific audio recording devices, whereas recording in a studio can be done with only a computer, a good microphone, and the right software. Deciding on what type of setup you need will depend on how you plan to collect audio. In this section we will look at options for each method of audio recording.

IN THE FIELD

Your primary option for recording audio in the field is a digital voice recorder (also sometimes called an audio recorder or MP3 recorder). Nowadays, most recorders are portable, handheld devices that run on batteries and can save audio that you record into a digital format, such as a WAV or MP3.

THINGS TO CONSIDER

When considering which recorder to purchase, you will want to consider at least the following:

Memory. Some recorders have a built-in internal memory, while others use removable SD memory. Recorders that use SD memory will give you greater flexibility because if you fill up a memory card while in the field, you can always exchange it for an empty one. If the recorder only has internal memory, you will need to connect it to a computer to clear up room first.

Battery life. The average battery life for a device depends on typical usage, and what type of battery it uses. Some recorders have built-in batteries. Ideally, you should look for a recorder that has a removable battery. That way you can always have a backup battery charged and ready to use if the battery dies.

CONTINUED →

THINGS TO CONSIDER (CONTINUED)

Audio quality. Audio quality is measured through a combination of sample rate and bit depth, which are expressed in terms such as 96kHz/24-bit. Without going into too much detail, the larger these numbers are, the higher quality audio you will be recording. In reality though, your average listener will likely not notice any difference between 24-bit and 16-bit or 96kHz and 48kHz. What you will notice, however, is file size. A file recorded in 96kHz/24-bit will be about triple the size of one recorded in 48kHz/16-bit. This is all to say that you should not necessarily feel the need to purchase a recorder with a high sample rate and bit depth.

Microphone quality. What will likely impact the quality of sound much more than the audio recording capacity of the recorder is the microphone quality. Some recorders have adjustable microphones that you can move, while others are fixed. Models may also have more than one microphone on board to allow for multidirectional recording. You will also see models that have condenser microphones, which generally record at a higher quality than standard (or dynamic) microphones, although they are more likely to break given their sensitivity. Last, you should check to see if the device has a microphone input jack. This will enable you to plug in an external microphone if you desire that flexibility.

Durability. The durability of each device varies, and some are certainly designed to withstand more than others. You will want to check consumer and expert reviews for the actual durability of any device you are considering. Also check with colleagues to see if they have had any experience with a given device in the field.

CONTINUED →

THINGS TO CONSIDER (CONTINUED)

Multifunctionality. You may find that some devices you are already using, such as mobile phones or MP3 players, also have digital recorders built in. In its work with community radio stations in Africa, for example, Farm Radio International uses the Sansa Clip+ MP3 player because of its low-cost, compact size, and decent quality. As long as multifunction devices meet your minimum needs, you may want to consider using them instead of a standalone audio recorder to reduce costs and the number of devices that staff need to carry around.

ESTIMATED PRICE RANGE

Prices for standalone audio recorders can range from $40 to $500, although you can find models that will likely more than suit your needs on the lower end of this spectrum. In the $30 to $60 range, you can also find several different MP3 players with built-in microphones that may be sufficient for your purposes.

FOR MORE INFORMATION

There are lots of resources online, although B&H has a fairly helpful buyer's guide to handheld digital audio recorders available at: http://bhpho.to/wbyaO

THROUGH THE PHONE

If you plan to record interviews with farmers or experts in advance over the phone, you will need to consider your setup for doing so. Although you can always place your phone on speakerphone and record audio that way, for a small investment you can purchase a phone recorder that will greatly improve the audio quality of your recording. As mentioned in **Component 3**, there are general two low-cost options: phone recorders that plug directly into your phone or those that are external dual microphones. There are also much more sophisticated devices, such as digital telephone hybrids, that allow for cleaner sound than lower cost options. For live broadcasts of interviews, you can also configure the radio station's mixer to receive audio from the phone.

THINGS TO CONSIDER

When considering which recorder to purchase, you will want to consider at least the following:

Compatibility. You will want to make sure that any phone recorder you plan to purchase is compatible with the phone you will be using. Phone recorders that plug directly into landlines are different than those that plug directly into mobile phones.

Additional hardware. Most of the mobile phone recorders are standalone devices with built-in or SD memory, so all you need is the recorder and cables to connect to your phone, which should be included. For some landline recorders, however, you may need to connect them into a computer to record the audio. In addition, if you plan to use a digital hybrid you will need to connect the device into your mixer for live broadcasts or a computer for recording.

CONTINUED→

THINGS TO CONSIDER (CONTINUED)

Audio quality. Generally speaking, phone recorders that connect directly into your phone will record better quality audio than those that rely on external microphones to pick up sound. Placing the call to or from a landline will also generally result in better quality audio than calls placed to or from mobile phones. Mobile phones can also sometimes create electromagnetic interference, which you've probably noticed if you have ever had a mobile phone close to a computer.

Multifunctionality. Some digital voice recorders also include functionality for tapping into mobile phones to record calls. It may be worthwhile exploring devices that can do both if you plan to record audio both out in the field and over the phone.

ESTIMATED PRICE RANGE

The lowest cost option is probably the Olympus TP-7 telephone pick up, which is a dual external microphone device that costs around $15. The Mini Recorder Control from Radio Shack is another cheap option for recording landline phones at around $25. Standalone phone recorders range from around $50 to $150, while digital telephone hybrids can cost from $450 and up.

FOR MORE INFORMATION

Atlantic Public Radio's website Transom.org has a fairly informative, although slightly dated, article on recording phone calls for interviews that includes audio samples from each recording device. The article is available online at: http://transom.org/?p=1165

If you are going to be working with local radio stations, they will almost certainly already have the appropriate setup for recording interviews in the studio. There may be instances, however, where you want to record an interview or audio from your own office. If you have a digital voice recorder, you can always use that to record your interview in the office. That said, you can also record the interview directly into your computer if you do not have a digital voice recorder available or want to use a better quality setup.

THINGS TO CONSIDER

If you plan to record interviews or audio from your office, you will want to consider at least the following:

Computer. When recording audio directly into your computer, you want to make sure that you are using a computer that runs smoothly without any latency—or lag as it is common called. Close any programs that are running except for the software you will use to record the audio. If the computer you are using records clearly without any jumps or delay, then it should be fine. Otherwise, you can try limiting the number of programs that run at start up by typing 'msconfig' into the 'Run' field in the Windows start menu and disabling all of the items listed under the Startup tab. Any essential programs will override this disabling, so do not worry. Restart your computer. If it is still too slow, you will likely need to find another computer to use.

CONTINUED →

THINGS TO CONSIDER (CONTINUED)

Sound card. As mentioned in **Component 3**, if you plan to do a lot of recording on the computer you will want to invest in a good quality sound card. A sound card with a 192kHz sampling rate, 24 bit resolution, and a signal to noise ratio (SNR) of at least 95 dB should be more than sufficient for your needs. Also look for a sound card with more than one microphone input jack, so that you record from more than one microphone simultaneously.

Microphones. Having at least two microphones will make it much easier to conduct an interview, otherwise you will need to sit huddled around a microphone or pass the microphone back and forth. Most computer-ready microphones will either have a USB plug or a 3.5mm audio input plug. If you want to use a higher quality microphone with an XLR or ¼" input plug, you will either need a plug adapter or a USB audio interface to connect them to your computer. As mentioned earlier, you will also want to consider what type of microphone to purchase. More information on microphones is provided later in the component. Perhaps the best way to figure out what type of microphone is best for you, however, is to check out reviews of—and if possible, test—a few different microphones that fall within your price range.

Pop filters. These are placed in front of the microphone to help reduce the 'popping' sound that occurs when the person speaking is close to the microphone. You can buy these or you can make your own with an embroidery hoop and nylon stockings. Search online for 'DIY pop filters' to find several different do-it-yourself designs.

CONTINUED →

ESTIMATED PRICE RANGE

Since there are a number of different factors to setting up a computer recording studio, prices will vary based on your needs. Decent sound cards generally range from $75 to $175. Reasonable quality USB dynamic microphones can be found for as low as $30, while higher quality studio condenser microphones can sometimes be found for as low as $60. If you want to use a USB audio interface, expect to pay at least $80. The other alternative for using an XLR or ¼" microphone is to use an adapter. A decent XLR-to-USB microphone adapter will cost you about $40 to $60. Finally, a decent pop filter will cost about $15 or around $2 if you build your own.

FOR MORE INFORMATION

In the event that you need to help one of your radio station partners improve their recording facilities, Transom.org has a fairly comprehensive guide to setting up a small recording studio at: http://transom.org/?p=23904

INTERACTIVE DEVICES

As discussed in **Component 4,** interactivity can come in many forms. This section will focus primarily on the types of devices that you may need to purchase to facilitate that interaction. It will not talk about mobile phones, since you are likely not going to be purchasing mobile phones for individuals in your target audience. What this section will cover is devices needed to set up your own interactive voice response system and also devices that enable users to record radio programming for playback.

INTERACTIVE VOICE RESPONSE (IVR)

Choosing the right IVR solution for your needs can be complicated. Although these systems have been used by companies for many years now, there are a growing number of options that are explicitly designed to target the needs of development organizations.

PHOTO CREDIT: DEVELOPMENT SUPPORT CENTRE | INDIA

THINGS TO CONSIDER

If you plan to set up your own IVR system, you will want to consider at least the following:

Hosting location. Some IVR systems are hosted in the cloud, which means that you will need internet access in order to manage the system. The benefit of these systems is that they do not require any extra equipment on your end besides a computer and it will operate continuously even during periods when you do not have access to electricity. Other IVR systems are hosted locally, giving you complete control over their management. The benefit of these systems is that they do not require internet access to operate, although they do require a reliable power supply and staff qualified to manage the hardware. If your radio station partner has neither reliable access to electricity or internet, then you may want to consider hosting the IVR system off-site for them or not using IVR at all.

Additional hardware. If you plan to host your IVR system locally, you will need to have a dedicated computer to run the system and a GSM or UMTS gateway to route calls into the system using mobile phone SIM cards. Some local systems may also require their own hardware to manage the calls and to interact with your computer or mixer. You may also want to purchase a UPS backup device if your area is prone to power outages.

CONTINUED →

THINGS TO CONSIDER (CONTINUED)

Functionality. The functionality of IVR systems varies. You will want to make sure that any system you plan to use meets the functionality requirements you have. Some providers may be willing to add on a function that you want, so make sure to ask even if you do not see it offered.

ESTIMATED PRICE RANGE

The price range for an IVR system really depends on the functionality you need and how you plan to host it. Check with several providers first for price quotes. The price of a GSM or UMTS gateway can range from as low as $700 up to $2,000 or more, while UPS backup devices range from as low as $50 up to $400 or more. The exact price of each of these devices will depend upon your specific needs. Also, remember to consider the ongoing cost of mobile phone minutes if you will be calling out to farmers.

FOR MORE INFORMATION

Three IVR systems at the forefront of working with community radio and local development organizations are: Freedom Fone (http://www.freedomfone.org), Awaaz.De (http://awaaz.de/), and Gram Vaani (http://www.gramvaani.org/). There are other providers of IVR systems beyond these, so make sure to look around for the system that best suits your needs. 2N Telecommunications (http://www.2n.cz/en/) sells a range of gateway devices, including those mentioned in earlier components of the toolkit. Contact them directly for current pricing.

RECORDABLE RADIOS

If you are working with radio agents, or even listening groups, recordable radios can be a great way for them to record your program to play back to farmers upon demand. This will save you the time and resources of having to distribute recordings of your program after the fact via MP3 player.

PHOTO CREDIT: LIFELINE ENERGY

THINGS TO CONSIDER

If you plan to purchase recordable radios, you will want to consider at least the following:

Power source. Many of the models on the market are battery powered and require either disposable batteries or mains electricity (i.e., electricity through a power outlet). If the radios will be used off the grid, you will likely want to consider models that can operate from other sources of power. The Lifeplayer MP3 by Lifeline Energy, for example, has solar and wind-up chargers built into it, as well as ability to charge off of mains or a car battery.

Memory. Like digital voice recorders, most recordable radios have one of two types of memory: internal or SD memory. With internal memory, you cannot swap out memory cards once they get full and will have to erase recordings to make room for new ones. Radios that use SD memory allow the user to swap out SD memory cards, cost permitting, so they could actually catalog every show they record on SD cards and insert them into the radio for playback on demand. If you want to push out special content to your audience that did not air on the radio, you can also pre-load it on an SD memory card and mail it to the radio agents or listening group leaders.

CONTINUED →

THINGS TO CONSIDER (CONTINUED)

Local availability. This really applies to all of the devices mentioned in this component, but particularly so with the recordable radios since the end user will be one of your beneficiaries and not project or partner staff. Ideally, you want to make sure that whatever device you recommend can be purchased or repaired locally. Otherwise, once your project ends the radio agents and listening groups will have no way to sustain their activities with a recordable radio if it breaks.

Durability. Since these radios will likely be passed around and used out in the open, you will want to look for models that are durable. Dust and moisture are two of the most common reasons why electronic equipment malfunctions, and these radios will likely see a fair share of both. As with digital voice recorders, check consumer and expert reviews to research the true durability of the models you are considering.

ESTIMATED PRICE RANGE

The base price of the Lifeplayer MP3 is currently $80. Prices for consumer models vary by other brands, but you can expect to pay in the range of $100 to $250 per unit, depending on the make and model.

FOR MORE INFORMATION

Additional information on the Lifeplayer can be found in **Component I**. Kaito, Grundig, and Degen are a few brands that also produce consumer models of recordable radios. Finally, Literacy Bridge also has plans to include an FM receiver into future Talking Book models, although at this time it is unclear when those devices will be available.

PERIPHERAL DEVICES

MICROPHONES

If you are planning to record in the studio—or even as a supplement to your digital voice recorder—you will need to select the most appropriate microphone for your needs. There are a number of factors to consider when determining the right type of microphone to purchase, including:

- Type of microphone (dynamic, condenser, ribbon)
- Polar pattern (cardioid, shotgun, omnidirectional, figure 8)
- Diaphragm size (large, medium, small)
- Orientation (desktop, headset, handheld, lapel)

Dynamic microphones are what most people would recognize as standard microphones. They provide decent sound quality and are fairly durable. Condenser microphones, on the other hand, are more sensitive than dynamic microphones but record much better sound quality. Condenser microphones also require a power supply called phantom power.

The polar pattern is the direction from which the microphone records audio. Cardioids record in a heart shaped pattern directly in front of the microphone. Shotguns are much more directional and focused on audio coming from the direction toward which the microphone is pointed. Omnidirectional microphones pick up audio from all directions, while figure 8s pick up audio equally from the front and back, but not from the sides. There are other polar patterns besides these, but these are the most common types that you will encounter.

What is phantom power and how do I get it?

Phantom power is a 48 volt power source needed to operate a condenser microphone. You can get it through a phantom power supply unit, a mixer, or a preamplifier. Not all mixers or preamplifiers provide phantom power, so check first. If you are using a USB condenser microphone it will be powered through the USB port.

When recording your video, make sure that you turn off any mobile phones in the immediate vicinity. This will reduce your chances of recording any electrical interference with your audio.

Diaphragm size refers to the width of the microphone capsule. Unless you are a trained sound engineer, chances are that you will not notice the difference in audio quality between diaphragm sizes. For spoken word, though, larger diaphragms tend to be preferred by most studios.

Finally, you will need to decide on the orientation of your microphone. Some microphones are designed to rest on a desk or tabletop, others can be mounted to a tripod. If you are recording into a computer, you can also use a headset microphone, although these are more difficult to share with multiple speakers if you only have one audio input jack on your computer. Handheld microphones are often preferred when interviewing subjects out in the field, although some people prefer lapel microphones that clip onto the individual's shirt.

The best solution for you will depend on how you plan to use the microphone. If you are working in a studio or the office, a desktop or mounted condenser microphone with a large diaphragm and cardioids polar pattern is likely going to be your best option. If you want to capture an interview in the field without holding your digital voice recorder close to the speaker, you might use an omnidirectional lapel microphone that they can clip onto their lapel to capture audio.

HEADPHONES

If you would like to monitor the audio that you are recording in real time, you will also want to purchase a pair of headphones. Many digital voice recorders have an audio output jack that you can plug your headphones into. This will enable you to hear the audio as it is being captured by the recorder. If your recorder does not allow for real-time monitoring, a pair of headphones is still useful for playing back what you have recorded to check if you need to do a second take. For between $30 and $50 you should be able to find a pair of headphones that is suitable for your needs.

TRIPODS

If you are planning to record out in the field, you may want to consider purchasing a mini tripod to mount your digital voice recorder more securely on the table, rather than having to hold it the whole time. Not all voice recorders have a tripod mount, so check in advance before buying one. If you are using a mounted microphone in the studio, you will also need to purchase a tripod to hold the microphone. A mini tripod can be purchased for as little as $2, whereas larger tripods for the studio can cost between $30 and $50.

SD MEMORY CARDS

If you are using a recording device or radio that uses SD memory, you will need to purchase SD memory cards. Many models use microSD, which are a smaller version of an SD card. Most microSD cards also come with a standard SD card adapter so that you can use it with any device that takes either microSD or standard SD memory. Prices of SD memory cards continue to fall. You can currently find a 32GB card for about $20 to $30 and a 64GB card for $60 to $70.

RECHARGEABLE BATTERIES

If you are planning to use a device that uses alkaline batteries, you should consider purchasing rechargeable batteries. They have less environmental impact than disposable batteries and will likely save you money over time. When searching for rechargeable batteries, look for the milliamps hour (or mAh). The higher the mAh, the longer the battery will last when charged. Prices vary based on brand and mAh, so shop around first.

OFF-THE-GRID CHARGERS

If you will be recording audio for extended periods of time in a place that does not have dependable access to electricity and your device does not use disposable batteries, you may want to consider an off-the-grid charger. The most common solutions are either solar-powered charger or wind-up chargers. A solar charger with enough electrical output to power a digital voice recorder will cost you about $100 to $150, while a wind-up (or hand crank) charger costs between $15 and $30. Obviously, you will need to be somewhere with strong sunlight to get the most benefit from a solar charger. Not all chargers provide the same level of output, so make sure to do your research first before buying.[1]

SOFTWARE

To implement your interactive radio activity, your project or your partners will likely consider using three different types of software: audio recording and editing software, SMS management software, and IVR management software. Whether you use any of these types of software will depend on how involved you will be with radio program production and the type of interactivity you plan to use.

AUDIO RECORDING AND EDITING

To record and edit audio through a computer, you will need audio recording and editing software. There are a number of options available that you can purchase, although before investing any money in editing software you might want to consider using a free, open-source program to see if it meets your needs. One of the most popular, free audio editing programs available is called Audacity, which allows you to both record and edit audio. It is fairly easy to use with a little practice and will likely have all of the functionality that you require.

1 For more information on off-the-grid energy, read *Off-the-Grid Energy Solutions for Smallholder Farmers in Africa* online at: https://communities.usaidallnet.gov/ictforag/node/324.

A basic guide to recording and editing audio with Audacity has been provided on the accompanying CD. There are also lots of tutorials available on the Audacity website, as well as user-created video tutorials that can be found online on sites like YouTube and Vimeo. You can download Audacity free online at: http://audacity.sourceforge.net/.

SMS MANAGEMENT

If you are planning to interact with your listeners via SMS, you will want to consider using SMS management software to help you easily push out messages in bulk and to organize messages you receive. To send messages through your computer, you will need to be connected to the internet or to a mobile phone network through a compatible mobile phone or GSM modem. Sending messages through the internet is generally much cheaper than by mobile phone.

The most popular free program for managing SMS interaction is FrontlineSMS, which can be downloaded for free at: http://www.frontlinesms.com.

There are other options available as well, so you will want to look at a few different options to decide which one is best for your purposes. Features vary by program, but most of them at least include features for sending bulk messages, automatically replying to incoming messages, and visualizing responses to polls.

IVR MANAGEMENT

All of the IVR solutions mentioned earlier in this component have their own locally run or cloud-based software that are used with their systems. There are also a number of other providers of IVR systems that sell IVR management software that you can install and manage on your own. The downside of some these systems is that they are built primarily to be used

CRITICAL SUCCESS FACTORS

- Items purchased are based on what is most likely to help achieve your objectives.
- Total cost (including necessary support and training) is reasonable and within your budget.
- Items purchased are suitable to the local context, including environmental conditions, technical compatibility, availability of local repair, and user capacity.
- Local partners have the capacity to repair, upgrade, and replace items purchased for them.

to help businesses route incoming calls, and may not have all of the features that you need for your purposes. They are also generally built to work with landlines, so they may not be compatible with mobile phone systems.

All of that notwithstanding, it still may be worth looking into a couple of IVR management programs in addition to those highlighted in this component. It is possible that one of these solutions meets your technical requirements—or can be adapted by the developer to meet your requirements—at a cost that is reasonable. Since IVR systems can be a bit complex to set up and manage, you should also make sure that whatever provider you use offers technical support for free or at a reasonable cost.

NOTES

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WORKSHEETS

Cost Calculation Worksheet

Equipment Tracking Worksheet

COST CALCULATION WORKSHEET

ITEM	DISTRIBUTION	# NEEDED	PRICE PER UNIT	TOTAL PRICE
TOTAL COST OF ALL DEVICES/ACCESSORIES/SOFTWARE NEEDED TO IMPLEMENT ACTIVITY				

EQUIPMENT TRACKING WORKSHEET

ITEM	PURCHASE DATE	QUANTITY	OPERATIONAL CONDITION (good, fair, poor, not working)	OTHER RELEVANT INFORMATION

This worksheet has been adapted from the *Computer System Sustainability Toolkit: A Practical Guide for Schools* by Eric Rusten, FHI 360, 2010.