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Rapid Appraisal of the ICT for Agricultural Extension Landscape in ETHIOPIA

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Rapid Appraisal of the ICT for Agricultural Extension Landscape in Ethiopia

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Contents

Executive Summary.....	1
The Present ICT Situation.....	1
Initiative Summary:.....	4
The ICT Landscape.....	5
Apparently Promising Options.....	7
Appendix A: Key Stakeholders Details.....	10
Appendix B: ICT Initiatives in Ethiopia.....	12
Appendix C: References, Articles, Reports, or Evaluations used for this Rapid Assessment	20
Appendix D: Contacts	22
Appendix E: Report Prepared by.....	24

Introduction and Caveats

This is one of three rapid appraisals prepared on the Information Communication technology (ICT) for agricultural extension landscape for Ghana, Tanzania and Ethiopia, three New Alliance countries. The appraisals were conducted primarily as “desk studies” from the US during December 2012 and early January 2013. They were conducted in order to provide potential New Alliance ICT Challenge Grant applicants with information on apparently promising uses of ICT to extend the reach and impact of agriculture extension and advisory services so that such applicants would be able to consider which organizations and services they might include in their grant application or proposed teams. They also provide an overview of each country’s ICT landscape.

An applicant may know more about the organizations and services identified or know of other organizations or services not included. “Promising” options identified in each study may or may not be so promising given the time available to prepare the studies. Further, given an evolving ICT landscape and the resources accessed for the study, the appraisals may include errors or omissions or be outdated by the time the ICT Challenge Fund Request of Applications is issued. Also one point of concern identified was that a number services listed may not be sustainable without on-going donor support; may not have been evaluated to assess their impact; nor may they be appropriately scalable to meet the goals of the New Alliance. Challenges and strategies are also subjective and may be inaccurate. In short, the appraisals are provided just as one source of information for potential grant applicants to consider.

Executive Summary

Information and communication tools such as cell phones, the internet, radio, and television can dramatically improve farmers' and intermediaries' access to information relevant for rural households, production agriculture, and agribusinesses. The tools can be used to raise awareness or to provide specific information in response to questions about agricultural technologies, markets, prices, etc. As such these tools are just a part of the extension process and are most effective if combined with established good extension practice.

For extension in general and for ICT in particular to be effective, the service has to be **client focused** and **needs driven**, providing **credible content** and a **trusted / relevant / actionable message** through a **trusted messenger**. Furthermore, access to information is just part of the formula for success. Farmers have to see sufficient evidence that they are convinced to turn the new information received into 1) a willingness to test the approach and then 2) if the test is successful, adopt. Success of an ICT tool or approach therefore also depends on **availability of required inputs**, **sufficient knowledge** to test and use those inputs appropriately, and **access to markets** for them to profitably sell their outputs.

The following report is a rapid desk review that focuses on the use of Information and communication technologies (ICT) and the current ICT landscape in Ethiopia. Up to 83% of Ethiopia's population depends on agriculture for their livelihoods, and while Ethiopia has one of the largest extension systems in the world; information is still difficult to come by for farmers. ICT in agriculture could serve as a tool for both extension agents and farmers to disseminate and acquire knowledge. However, the ICT situation in Ethiopia differs from neighboring countries due to tight government control of TV, internet, and telecommunications. Nonetheless, there are numerous agricultural ICT efforts underway and proposed for the future. The following report summarizes existing ICT projects, their prospects and their obstacles.

The Present ICT Situation

Currently, there are major policy and infrastructure barriers to the widespread use of ICT in agricultural extension in Ethiopia, although there is interest from both the government and organizations in expanding the role of ICT. To date, most agriculture ICT projects in Ethiopia have focused on marketing and market information in addition to a handful of smaller radio initiatives focusing on extension / agricultural information. In recent years however, an increasing interest in the use of videos and the internet has developed. The following project summaries highlight the major ICT projects in Ethiopia.

The **Improving Productivity and Market Success (IPMS)** of Ethiopian Farmers project has used ICT tools to promote market-oriented agricultural development since 2002. The project is implemented by the **International Livestock Research Institute (ILRI)** and the **Ethiopian Ministry of Agriculture and Rural Development (MoARD)**¹, and is funded by the Canadian International Development Agency (CIDA). The primary goal of the IPMS project is to support the efforts of MoARD's market oriented development. The project uses video, radio, TV, 'brick and mortar' resource centers, a website, and a wiki to disseminate information and reach farmers (Sehai). The IPMS project has primarily focused on the development of ten Pilot Learning Woredas (also known as Woreda Knowledge Centers or WKC) as well as outfitting select government Farmer Training Centers (FTCs) with ICT equipment. The ten pilot WKC are equipped with computers and other ICT tools such as TVs and DVD players. Videos are often shown on TVs at the centers to share knowledge with farmers. However due to poor internet connectivity the use of computers for information resources is limited.

Farm Radio International (FRI) has a long history in Ethiopia and is still one of the key ICT players there. FRI develops scripts for agricultural programs that are distributed to participating broadcasters and also trains radio journalists in the use of technology for radio production. A 2012 evaluation of their Participatory Agricultural Radio Series (PARS) pilot project to improve beekeeping, part of the IPMS initiative, showed that 90% of the people in the target area regularly listened to the radio, and 98% of those who were aware of the PARS radio program listened to it (Mihretab 2012). This demonstrates the potential reach of radio for agricultural extension. FRI continues to reach farmers in Ethiopia, having recently completed the first part of a participatory radio program (PRP) on improving teff production in four regions – Amhara, Tigray, Oromiya and SNNPR² – in partnership with the Ethiopian Agricultural Transformation Agency and local radio stations in the four regions.

The project combines radio with interactive voice response (IVR) through **Freedom Fone**, a free open source telephony platform for mobile phone-based information systems. This interactive audio software helps to ensure the participation of farmers in the PRPs regardless of their literacy levels. FRI is currently preparing for the second phase of the teff campaign in the same four regions and will begin another radio program this year on quality protein maize, combining the use of IVR and mobile phones with radio, and also organizing listener groups (Nadew).

The **Ministry of Agriculture and Rural Development (MoARD)** uses television, radio, and the internet to communicate information to the public (Sahai). According to the mission statement given on the MoARD's website, the main focus of the Ministry is to promote agricultural

¹ The Ministry of Agriculture and the Ministry of Rural Development were merged in 2004 under government proclamation No. 300/2004. In some documents, it is simply referred to as the Ministry of Agriculture.

² The Southern Nations, Nationalities and Peoples' Region

investment, provide information on land leases for investors, and monitor quality control for crops and livestock.

The **Farmer Training Center (FTC)** program is an initiative of the MoARD Agricultural Extension Department. The Ethiopian national extension system is the third largest in the world (after China and India) and is housed under the Ministry of Agriculture (UNDP 2012). Close to 8,500 FTCs have been developed, each housing three extension agents who work with local farmers by means of trainings, site visit and general extension support. Although ICT is not a key aspect of the FTC plan, the government document outlining the role of FTCs stipulates that rural radio should support traditional extension efforts (MoARD AED 2009).

The **Ethiopian Agricultural Portal**, a project of the MoARD and the aforementioned IPMS project, provides an online database of information on major Ethiopian agricultural outputs. It includes links to articles on production, marketing, and capacity building for major crops, livestock, and forest products. The target audience of the portal includes extension staff, universities, researchers, private businesses, NGOs, and government - i.e., it is aimed at intermediaries, not farmers directly. Documents are available in English, Amharic, and several other local languages. In addition, the portal is designed to be interactive, so stakeholders can upload new results and information.

WoredaNet is major government initiative connecting local government offices to the internet and each other. Although this program does not focus on agriculture, its potential role in agricultural development is discussed in the following section: The ICT Landscape.

The **ICT Center of Excellence at Addis Ababa University** was developed in 2010 as a resource for ICT development in Ethiopia with the goal of addressing national socio-economic development in a number of sectors including agriculture. Their departments include research, development, education, training, consulting and outreach. While they are still new to the field of ICT in agriculture, they are involved in localization and voice-driven applications with plans to reach out to rural areas. They also partner with other Ethiopian universities to support research on ICT in development and are poised to be a key actor in ICT and agriculture (Mebrahtu).

Digital Green, an Indian NGO, is expanding their participatory video production services for extension education to Ethiopia. On December 10, 2012 Digital Green signed a contract with **iDE Ethiopia** to expand their operations and have been carrying out trainings with government and iDE Ethiopia extension staff (Digital Green FB; Gandhi).

Several other non-profit organizations are involved in ICT in Ethiopia. **Sasakawa Africa Fund for Extension Education (SAFE)**, in partnership with **Winrock International**, is currently involved in the Strengthening Agricultural Extension Delivery Service in Ethiopia project to improve internet accessibility for front-line agricultural extension workers (Worku). They are also training agriculture extension workers in the use of tools for photography and video making. Winrock International's Farmer-to-Farmer Program for Food Security also focuses on the innovative use of media and ICT to

improve agricultural productivity. **Prolinnova Ethiopia** is also involved in participatory video making as part of their work with farmer innovation development for agriculture (Sehai).

The **Ethiopian Livestock Market Information System (ET LMIS)** is a collaborative project involving the **Global Livestock Collaborative Research Support Program (GL-CRSP)**, Texas A&M University and Mercy Corps, with funding from USAID. ET LMIS utilizes SMS, email, radio and their website to provide prices for livestock across Ethiopia. Their service is targeted at herders and traders looking to either acquire more livestock or sell their own. The ET LMIS project also examines trends in grain marketing in order to predict potential food shortages.

Although not focused on extension or improving production practices, the **Ethiopian Commodity Exchange (ECX)** has developed a very successful system of disseminating market price information to merchants and traders across the country. Currently ECX uses its website to display real time price information for coffee, sesame, haricot beans, maize and corn. In addition to its website, prices are presented on electronic price tickers in 21 locations across the country. Prices are also regularly broadcast on radio and TV and published in newspapers. Finally, ECX offers IVR for call-in market information (ECX Website). In 2013, ECX plans to unveil SMS price support. Although ECX currently does not provide information for growers or processors, it could serve as a model for reliably disseminating information throughout Ethiopia.

The aforementioned initiatives are for the most part in their early stages, but are expected to expand alongside Ethiopia’s growing ICT infrastructure. In comparison to neighboring countries like Kenya and Tanzania, there are relatively few agriculture-focused ICT initiatives in Ethiopia. Despite government and international recognition of the beneficial role that ICT can have on agricultural development, its application is limited by Ethiopia’s ICT and energy infrastructure, as will be described in the following ICT Landscape section.

Initiative Summary:

Table 1: Type of Information and Communication Tools used by various organizations or projects in Ethiopia to provide agricultural extension services

Cell	Farm Radio International’s use of Freedom Fone IVR Ethiopian Commodity Exchange (ECX) - Proposed
Radio	Farm Radio International (FRI) Improving Productivity and Market Success (IPMS) Ethiopian Commodity Exchange (ECX)
Video	Improving Productivity and Market Success (IPMS) Digital Green Prolinnova Sasakawa Africa Fund for Extension Education (SAFE)
Internet / omputers	Improving Productivity and Market Success (IPMS) Ethiopian Livestock Market Information System Sasakawa Africa Fund for Extension Education (SAFE) Ethiopian Agricultural Portal

Table 2: Type of agricultural extension SERVICE / Content provided through ICT by various organizations or projects in Ethiopia

Crop Production	Farm Radio International (FRI) (e.g., teff)
Animal Husbandry	Farm Radio International (FRI) (e.g., bee keeping)
Markets	Ethiopian Commodity Exchange Ethiopian Livestock Market Information System

Table 3: Institutional websites

Ministry of Agriculture	www.moa.gov.et
ICT Center of Excellence, Addis Ababa University	www.ictcoe.org.et
Ethiopian Agricultural Portal	www.eap.gov.et
Ethiopian Agricultural Transformation Agency	www.ata.gov.et
Ethiopian Ministry of Communication and Information Technology	www.mcit.gov.et
Ethiopian ICT Development Agency (EICTDA)	www.eictda.gov.et , info@ictadethiopia.org

Please also refer to Appendix B for more detail on the organization of current ICT for Agricultural extension projects and initiatives.

The ICT Landscape

Ethiopia was a latecomer to the global telecommunications boom: its first internet connection was not until 1997 (Yacob 2006). Over the past decade the Ethiopian government has made considerable investments in ICT, including one of the largest government telecom contracts in sub-Saharan Africa (SSA) with the Chinese ZTE Corporation at \$1.5 billion dollars (ERA 2009). Nevertheless, Ethiopia's ICT landscape remains quite small in comparison to the rest of SSA. According to the International Telecommunications Union, Ethiopia ranked 150th out of 155 countries in the 2010-11 ICT Development Index (ITU 2012). Ethiopia's general lack of ICT infrastructure is attributed to four primary factors:

1. Widespread political, social and economic instability during much of the 1980s and 90s.
2. Ethiopic script was not digitized until 2000, and officially adopted in 2002 (Yacob 2006).
3. Government monopolies on all telecommunications in the country (Adam 2010).
4. Power grid reaches less than 1% of the rural population (Siftung Solarenergie).

Ethiopia currently has the 2nd lowest number of mobile phone users in SSA after Eritrea (Asenso-Okyere and Mekonnen 2012). Mobile phone service remains limited to urban areas and their immediate environs (Verizon Wireless 2013); however the Ministry of Communication reports that 64% of the country's area receives mobile service (Walta Info 2012). The only mobile phone provider in Ethiopia is the government owned company Ethio Telecom.

In 2011, Ethiopia had 17 mobile subscriptions per 100 people, in comparison to neighboring countries Kenya and Tanzania, which had 65 and 56 mobile subscriptions respectively per 100 people (World Bank WDI 2012). In contrast to subscriptions, mobile phone ownership is considerably higher³ – many people in rural areas own cell phones as a status symbol and a way to listen to music, even if service is unavailable (Caitlin Barale, personal communication). Therefore, once mobile service becomes more widespread, mobile phone subscriptions could increase quickly.

However, the country has already shown impressive growth considering that in 2008 it had only two mobile subscriptions per 100 people. By 2011 Ethiopia had a total of over 14 million mobile users (World Bank WDI 2012). In contrast, fixed telephone lines remain quite low at 1.7 million subscriptions, or 1.2 per 100 people (Adam 2010). The fixed line market is also a government monopoly controlled by Ethio Telecom.

With respect to the internet, Ethiopia has only one internet user per 100 people while the corresponding figure for Kenya is 28 (World Bank WDI 2012). With 27,000 subscriptions nationally, broadband access is extremely limited, leaving dial-up as the primary method of connecting to the internet. A notable internet success, however, is the government's WoredaNet initiative that connected 611+ Woreda (district) government offices through satellite or terrestrial linkages (Tehone 2008). Furthermore, the government is currently working on the final phase of a national fiber optic backbone, completing a 10,000 km network of optic cable throughout the country (Adam 2010). Finally, according to the Minister of Communication, Debretsion Gebremichael, the wireless internet network (CDMA and EVDO) reaches 75% of Ethiopia's geographic area (Walta Info 2012).

Despite the rapid growth of Ethiopia's ICT sector over the past decade, issues of quality outweigh the expansion of access. While the government has made a substantial investment in expanding telecommunications services across the country, many users have seen a decline in the quality of services resulting in limited coverage, intermittent service, and power shortages affecting all ICT services (Adam 2010). For example, in September/October 2012 the Ethiopian Agricultural Portal (www.eap.gov.et/) server required a new generator and went offline for several weeks (IPMS 2012). The website continues to experience intermittent failures, as does that of the Ethiopian ICT Development Agency (www.eictda.gov.et/).

Broadcast media reach a much broader audience than internet and mobile phones. This can be attributed to better infrastructure and the fact that only 42.7% of Ethiopian adults are literate (CIA World Factbook - Ethiopia 2012), which limits the efficacy of SMS or internet based extension communication. Radio broadcasts reach about 90% of the country's area while TV reaches about 10% (Adam 2010). The government deregulated radio and has issued private licenses, making radio the most competitive ICT. Approximately 12.5% of households own a TV set and 50% of households can access

³ Official figures comparing mobile phone unit ownership to the number of mobile subscriptions are unavailable. Many people in rural areas who own cell phones may not have a subscription for service.

radios (Adam 2010). There are nine government broadcast agencies in Ethiopia that provide programming in over 20 languages. This is supported by five commercial radio stations, each with local branches, as well as 16 community radio stations (Ethiopian Broadcasting Authority 2009).

In summary, the ICT landscape in Ethiopia is in its infancy, hampered by a widespread lack of technology literacy (UNDP Ethiopia 2012). Furthermore, internet, landlines and mobile phone technologies are limited by government monopolies and strict regulations. Finally, the lack of electricity in rural areas further inhibits the introduction of ICT in Ethiopian agriculture. Thus, any ICT agricultural endeavor should consider the available infrastructure, technological ability, and literacy rates of target users. The deregulation of radio, however, has allowed for substantial penetration across the country, reaching a wide audience and likely making it one of the most appropriate avenues for ICT agricultural initiatives.

Apparently Promising Options

Current ICT agriculture efforts in Ethiopia are largely limited to radio broadcast networks, which use low cost technologies and can reach farmers in rural areas. Radio is the most open ICT technology with government, commercial and community run stations throughout the country in numerous languages. Other ICT devices such as computers, telephones, internet, and television are currently less dynamic for use in agriculture primarily due to government regulation and the lack of reliable electricity. Therefore, radio has the greatest reach in terms of geographic area and number of listeners, while mobile phones and internet will likely play a greater role with the future expansion of their infrastructure.

Table 4 examines identified challenges to ICT agriculture initiatives and Table 5 presents a brief summary of the apparently promising options for the use of ICT in agricultural extension in Ethiopia. It is important that any future ICT agriculture endeavor seriously consider the issue of power supply, as the national grid provides electricity to less than 1% of the rural population (Stiftung Solarenergie).

Table 4: Identified challenges to ICT agriculture initiatives.

Current challenges	Strategies to consider
Literacy <ul style="list-style-type: none"> ● National literacy rate is 43% ● Regional and local languages vary in script and some do not have an alphabet 	<ul style="list-style-type: none"> ● Provide alternative of voice message when using mobile phones ● Favor graphics and videos over text when developing internet tools ● Focus on radio
Language barriers <ul style="list-style-type: none"> ● Numerous regional and local languages 	<ul style="list-style-type: none"> ● Translations into local languages ● Focus efforts on specific regions
Computer and mobile phone “literacy” <ul style="list-style-type: none"> ● Little or no mobile service in rural areas ● Farmers are not familiar with use of phone capabilities ● Low access to computers and electricity 	<ul style="list-style-type: none"> ● Train users in basic technology skills including computers and mobile phones ● Consider an intermediary approach to assist end users ● Invest in ICT-supporting infrastructure

Current challenges	Strategies to consider
in rural areas	
Telecom market sector <ul style="list-style-type: none"> Regulation by government hampers ICT endeavors 	<ul style="list-style-type: none"> Introduce competition Lobby government policy
Project sustainability <ul style="list-style-type: none"> Efforts seem to be entirely donor-funded, some public (tax) funding from Ethiopian government 	<ul style="list-style-type: none"> Private-public partnerships Participatory involvement Increased licensing More user-driven participatory radio
Trustworthiness, credibility, and relevance of information	<ul style="list-style-type: none"> Provide needs-driven information Use current sources of information preferred by farmers, e.g., extension agents, radio and other farmers Work with Farmer Training Centers (FTCs) and Universities
Electricity access <ul style="list-style-type: none"> Unreliable and unavailable to most rural communities 	<ul style="list-style-type: none"> Consider micro-grid options Increase availability and reliability of electricity Connect FTCs with Woreda govt. centers that may have power or generators
Internet access <ul style="list-style-type: none"> High cost, low bandwidth Rural setting inhibits terrestrial connections 10,000 km of fiber optic backbone throughout country Dial up is predominant connection 	<ul style="list-style-type: none"> Expand WoredaNet to FTCs Develop an intermediary approach with access to internet (farmer/ public computer access similar to Woreda Knowledge Centers)
Lack of access to market information in rural areas	<ul style="list-style-type: none"> Expand existing market price intelligence information services like ECX and ET LMIS
Technical knowledge	<ul style="list-style-type: none"> Continue development of Farmer Training Centers and extension training Improve linkages between extension specialists and agricultural Universities to provide locally relevant information

Table 5: Most Promising Opportunities for ICT Agriculture Initiatives.

Most Promising	For what (alternative application)?	Why Promising	Framing condition	Example Projects (See Appendix B)
Radio	<ul style="list-style-type: none"> Scale-up farmer radio programs to larger geographical area Connect radio to cell 	<ul style="list-style-type: none"> Many people currently have access to and listen to radio Literacy not required Local control of radio 	<ul style="list-style-type: none"> Trustworthy sources Farmer Involvement Journalist training on new ICTs and participatory 	-Farm Radio International

Most Promising	For what (alternative application)?	Why Promising	Framing condition	Example Projects (See Appendix B)
	phone/IVR for farmer involvement	production	methods	
Video	<ul style="list-style-type: none"> -Participatory video production -Dissemination of recorded FTC and WKC trainings -Farmer to farmer exchange across regions 	<ul style="list-style-type: none"> -Can be recorded and disseminated on disc -Avoids poor telecom connectivity -Literacy is not required by user -Several existing projects use video technology 	<ul style="list-style-type: none"> -Video player equipment and electricity is required -Must be in local languages -Address real farmer needs and interests 	<ul style="list-style-type: none"> -Digital Green -WKC system of sharing DVD recordings of workshops between centers -Prolinnova -SAFE
Mobile Phone	<ul style="list-style-type: none"> -Respond to radio programs with questions - Access crop information and extension advice 	<ul style="list-style-type: none"> -Expanding cell phone use in country -Texting is now possible in some regional languages 	<ul style="list-style-type: none"> -Increase mobile network coverage especially in rural areas -Increase technology literacy: SMS is not widely used 	<ul style="list-style-type: none"> -Freedom Fone and IVR use in FRI programs
WoredaNet	<ul style="list-style-type: none"> -Connect FTCs to existing Woreda government offices that have internet access -Give extension agents access to web resources (Ethiopian Agriculture Portal) -Platform for distance agriculture learning 	<ul style="list-style-type: none"> -Government already invested heavily in WoredaNet infrastructure -Existing network of connected offices that FTCs could piggyback on 	<ul style="list-style-type: none"> -Open to public -Power is available to FTCs 	<ul style="list-style-type: none"> -Woreda Knowledge Centers are an example of the demand for agricultural related connectivity
TV Broadcast	<ul style="list-style-type: none"> -Dissemination of agricultural videos and programs 	<ul style="list-style-type: none"> -After radio, TV is the second most widely available media 	<ul style="list-style-type: none"> -Government owned stations are willing to broadcast videos 	<ul style="list-style-type: none"> No current projects found

Appendix A: Key Stakeholders Details

The following groups were identified as key stakeholders for any ICT agriculture initiative.

Name	Contact information	Brief
Agricultural Transformation Agency (ATA)	www.ata.gov.et	Established in 2012 to bridge gaps between government, private sector and non-governmental groups in order to promote continuous growth of the agricultural sector as part of the current Five Year Growth and Transformation Plan (GTP)
Canadian International Development Agency (CIDA)	Addis Ababa: Tel: +251-11-371-3022 www.acdi-cida.gc.ca/home info@acdi-cida.gc.ca Canada: 200 Promenade du Portage Gatineau, Quebec K1A 0G4 Tel: +1-819-997-5456	Major donor for projects involving ICT in Ethiopia (such as IPMS)
Ethiopian ICT Development Agency (EICTDA)	www.eictda.gov.et/ info@ictadethiopia.org	Leads and manages development of the ICT sector for Ethiopia. Projects span both private and public sector initiatives.
Ethio Telecom	www.ethionet.et	Government owned telecommunications company providing internet, mobile and fixed line phone services.
Ethiopian Telecommunication Agency	www.eta.gov.et	Regulatory body of the Ethiopian government that oversees internet, mobile and fixed line phones.
Farm Radio International	www.farmradio.org Freyhiwot Nadew, Country Representative Tel: +251-91-164-2430 fnadew@farmradio.org	Non-profit with years of experience in using radio broadcast for agricultural extension.
Improving Productivity and Market Success (by ILRI)	www.ipms-ethiopia.org ipms@cgiar.org www.ilri.org	Appears that they are the leaders in most of the ICT initiatives in Ethiopia; implemented by ILRI on behalf of the Ethiopian Ministry of Agriculture
ICT Center of Excellence	www.ictcoe.org.et Tel: +251-11-895-9056/57	Conducts research, training, consulting and technology transfer in order to promote ICT as a driver of socio-economic development.
Ministry of Agriculture and	www.moa.gov.et Dagnachew Beyene, Extension	Mission: to create a modern and a highly productive agricultural system that uses a more

Name	Contact information	Brief
Rural Development	Director, MoARD be_dagnachew@yahoo.com	advanced technology which enables the society to get rid of poverty. Oversees the extension system, manages the Ethiopian Agriculture Portal (refer to Present ICT Situation section for more detail on the EAP)
Ministry of Communication and Information Technology	www.mcit.gov.et	Mission is to develop, deploy and use communication and information technology to improve the livelihood of Ethiopians and optimize ICT's contribution to the development of the country.
Prolinnova Ethiopia	www.prolinnova.net/ethiopia Mulugeta Tibebe Country Platform Administrator, PANE – muletibe@yahoo.com	National platform involving a number of actors in Ethiopia from government ministries to NGOs to universities and community organizations. Concerned with agricultural and NRM research, extension, education and training.
Sasakawa Fund for Extension Education	http://www.safe-africa.net Tefaye Worku, Program Officer tesfaye@saa-safe.org Tel: +251-91-142-1253	Implementer of large-scale project to improve extension services and build capacity of extension workers and access to ICTs.
USAID	Judy Payne, USAID e-Business Advisor, ICT Team, EGAT/I&E and ICT Advisor, AFR/SD/EGEA	Major donor for ICT projects in country.

Appendix B: ICT Initiatives in Ethiopia

Improving Productivity and Market Success of Ethiopian Farmers (IPMS)			
ICTs employed	Profit actors	Non-profit and/or public actors	Business model
-Internet Web Resources -DVDs of digital documents and training videos	-N/A	-International Livestock Research Institute (ILRI) -Ministry of Agriculture and Rural Development (MoARD) -Canadian International Development Agency (CIDA)	-Funded by CIDA
Services offered	End-users	Intermediary Y/N	
-Training and access to the internet -10 Woreda Knowledge Centers -10 Zonal Information Centers -4 Information Centers at Regional Bureaus of Agriculture -4 Information Centers at Regional Agricultural Research Institutes -Equipping Farmer Training Centers with computers, printers, TVs, DVD players, generators, etc.	-Farmers and extension agents.	-MoARD Extension Agents.	
Contact Information	URL	References, articles	Comments
Ermias Sehai e.sehai@gmail.com +251-011-646-3215 ipms@cgiar.org	www.ipms-ethiopia.org		Farm Radio International is involved in the project, providing journalist training to produce radio programs on improved beekeeping and fruit tree production.

Farm Radio International Participatory Agricultural Radio Series in Ethiopia			
ICTs employed	Profit actors	Non-profit and/or public actors	Business model
-Radio -Freedom Fone's open source software for Interactive Voice Response (IVR)	-N/A	-Farm Radio International (FRI) -International Livestock Research Institute (ILRI) -The Ethiopian Agricultural Transformation Agency -Local partner radio stations that receive scripts and training from FRI	-FRI is a non-profit organization and its specific projects are funded by various donors
Services offered	End-users	Intermediary Y/N	
-Radio programs on agricultural commodities, including beekeeping, fruit trees, improved teff and maize production -Radio programming includes participatory interviews with model farmers -Supports the formation of listener groups -Train radio journalists -Host "Barza", an online community for African radio broadcasters	-Farmers ⁴	-Local radio broadcasters who receive scripts and training from FRI.	
Contact Information	URL	References, articles	Comments
Freyhiwot Nadew, FRI Country Representative Tel: +251-91-164-2430 fnadew@farmradio.org	www.farmradio.org	Evaluation of the pilot project URL: http://www.ipms-ethiopia.org/content/files/Documents/publications/IPMS%20Other%20Studies/Farm_%20Radio_%20IPMS.pdf	

⁴ Although specific end user information is not yet available, FRI plans to collect information for the 2013 teff and maize programs.

SAFE's Strengthening Agricultural Extension Delivery Service in Ethiopia			
ICTs employed	Profit actors	Non-profit and/or public actors	Business model
-Internet -Video -Cameras -Computers	-N/A	-Sasakawa Africa Fund for Extension Education (SAFE) -Winrock International -Haramaya University	-Donors: Bill and Melinda Gates Foundation -Nippon Foundation
Services offered	End-users	Intermediary Y/N	
<ul style="list-style-type: none"> - -Established more than 20 resource centers with complete ICT equipment and broadband internet access for extension workers and MoARD staff in project areas. - Training extension workers on use of ICT equipment for farmer trainings, photography (including camera accessories), and fundamentals of film production (personal communication with Tesfaye Worku, SAFE program officer) - - Improving internet access for frontline ag extension workers 	<ul style="list-style-type: none"> - -The project is being implemented in all of Ethiopia's regional states – reaching approximately 215,000 farm families. 	<ul style="list-style-type: none"> - -215 FTCs: strengthening the capacity needs of 645 Development Agents, and 180 Subject Matter Specialists (SMSs) 	-
Contact Information	URL	References, articles	Comments
Tesfaye Worku, Program Officer tesfaye@saa-safe.org +252-91- 421-253	http://www.safe-africa.net/Contact%20Us1.html http://www.saa-safe.org/www/ethiopia.html		Website states that the best practices from the pilot projects will be scaled up by the government to other agricultural development areas of the country.

Digital Green			
ICTs employed	Profit actors	Non-profit and/or public actors	Business model
-Video	-N/A	-Digital Green -Bill and Melinda Gates Foundation, -Department for International Development (DFID) -Ford Foundation -iDE Ethiopia	-Cost-sharing agreements with each partner and communities
Services offered	End-users	Intermediary Y/N	
-Participatory video production on topics of improved agricultural practices -Video database	-Farmers		
Contact Information	URL	References, articles	Comments
contact@digitalgreen.org , +91-11-41881037/38 (in India)	www.digitalgreen.org/		Indian NGO that recently began to work in Ethiopia.

ICT Center of Excellence			
ICTs employed	Profit actors	Non-profit and/or public actors	Business model
-ICT Center of Excellence is a promoter of ICT technology, rather than an implementer (though there are plans to implement “voice-driven applications” for ag extension with national & int’l partners)		- ICT Center of Excellence - Addis Ababa University	-Under Addis Ababa University
Services offered	End-users	Intermediary Y/N	
-Research and development -Consulting and outreach -Education and training	-Extension personnel		
Contact Information	URL	References, articles	Comments
Tewodros Mebrahtu, Director +251-11-895-9056/57	www.ictcoe.org.et		Relatively new to the ICT landscape, just starting work on ICT related to agriculture.

Ethiopian Livestock Market Information System (ET LMIS)			
ICTs employed	Profit actors	Non-profit and/or public actors	Business model
-Internet -SMS -Radio -Email	-N/A	-Global Livestock CRSP -Texas A&M Agrilife Research -USAID -Mercy Corps -Government of Ethiopia	
Services offered	End-users	Intermediary Y/N	
-Regular livestock prices -Market volume information for 45 livestock markets across the country	-45 livestock markets across the country	-90 market monitors trained by Mercy Corps	
Contact Information	URL	References, articles	Comments
Sintayehu Alemayehu: Marketing and IT Specialist ILRI, Addis Ababa, Room 34, +251-91-104-5053 s.alemayehu@cgiar.org	www.lmiset.net/Pages/Public/Home.aspx		

Prolinnova-Ethiopia			
ICTs employed	Profit actors	Non-profit and/or public actors	Business model
Participatory style videos	N/A	<ul style="list-style-type: none"> -Ethiopian Institute of Agricultural Research (EIAR) -Federal Ministry of Agriculture (MoA) -Several universities NGOs including: <ul style="list-style-type: none"> -AgriService Ethiopia -Best Practice Association -FARM-Africa -Ethiopian Rural Self-Help Association -CARE-Ethiopia -Oxfam Canada -Institute for Sustainable Development -Organisation for Relief and Development in Amhara (ORDA) -Sustainable Land Use Forum (SLUF) -Pastoralist Forum Ethiopia (PFE) -International Food Policy Research Institute (IFPRI). <p>The Core Group drawn from these organizations oversees the network, and its Secretariat is hosted by PANE (Poverty Action Network Ethiopia).</p>	National platform involving a number of actors in Ethiopia from government ministries to NGOs to Universities and community organizations. Concerned with agricultural and NRM research, extension, education and training.
Services offered	End-users	Intermediary Y/N	
-Agricultural research, extension, education, and training			
Contact Information	URL	References, articles	Comments
<p>Mulugeta Tibebu, Country Platform Administrator, PANE: muletibe@yahoo.com</p> <p>Alemayehu Tegegn, Country Platform Acting Coordinator, BPA: ale_te66@yahoo.com</p> <p>Amanuel Assefa, Prolinnova Oversight Group member, PCI: kidus_aman@yahoo.com</p>	www.prolinnova.net/ethiopia		Formerly known as PROFIEET - Promoting Farmer Innovation and Experimentation in Ethiopia

Ethiopian Commodity Exchange Market Data Strategy			
ICTs employed	Profit actors	Non-profit and/or public actors	Business model
-Mobile Phones -Fixed line phones -Internet -Radio -TV -Newspaper -Electronic Price Ticker Displays in 21 locations	-Exchange Members -Wholesale merchants and traders	-The Government of Ethiopia -Exchange Members -Market Actors	-Offers a warehouse system across the country as well as sampling, grading and weighing grain and coffee facilitating national and international trade of commodities
Services offered	End-users	Intermediary Y/N	
-Price Information for coffee, sesame, haricot beans, maize, wheat.	-Commodity traders, wholesalers and merchants	-Radio and TV broadcasters and newspapers	
Contact Information	URL	References, articles	Comments
Eleni Gabre-Madhin, CEO eleni.gabre-madhin@ecx.com.et	www.ecx.com.et/Home.aspx	UNDP Ethiopia 2012	The ECX data strategy is not intended for large volume commodity trade, but their prices reflect current market trends and assist farmers and merchants across the country for determining the value of their crops.

Winrock International Farmer-to-Farmer Program for Food Security			
ICTs employed	Profit actors	Non-profit and/or public actors	Business model
-Use of various ICTs as part of the SAFE program	-N/A	-Winrock International	-Funding from USAID
Services offered	End-users	Intermediary Y/N	
-Technical training	-Extension agents and farmers	-Sasakawa Africa Fund for Extension Education	
Contact Information	URL	References, articles	Comments
Dr. Wudnesh Haile winrock.eth@telecom.net.et P.O Box 2417 Addis Adaba, Ethiopia Tel: 655537/650383 information@winrock.org	www.winrock.org Jen Snow, jsnow@winrock.org (based in D.C.)		

Ethiopian Agricultural Portal			
ICTs employed	Profit actors	Non-profit and/or public actors	Business model
-Internet database	N/A	- Ministry of Agriculture and Rural Development - IPMS	
Services offered	End-users	Intermediary Y/N	
-Online portal of information about major Ethiopian agricultural commodities	-Extension -Researchers -Universities -NGOs -Government -Private Sector		
Contact Information	URL	References, articles	Comments
eagriportal@gmail.com +251-11-646-3302 +251-11-646-3215	www.eap.gov.et		Website is often down.

Agricultural Transformation Agency (ATA)			
ICTs employed	Profit actors	Non-profit and/or public actors	Business model
-Ethiopian Soil Information Service (EthioSIS): digital form of country-wide soil data		-Ministry of Agriculture, Regional Agricultural Bureaus, national and regional research institutes, the National Soil Testing Center (NSTC), the Africa Soil Information Service (AfSIS), the national extension system, and the university system.	(Contacted for information) USAID is a donor
Services offered	End-users	Intermediary Y/N	
-Detailed and specific soil fertility map and soil information system for all of Ethiopia	-Will be accessible to the general public, including extension workers and farmers.		
Contact Information	URL	References, articles	Comments
Eric Couper eric.couper@ata.gov.et	http://www.ata.gov.et/projects/ethiopian-soil-information-system-ethiosis/		Still in the process of being developed, but holds promise as a future tool for extension workers and farmers.

Appendix C: References, Articles, Reports, or Evaluations used for this Rapid Assessment

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Appendix D: Contacts

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Sasakawa Africa Fund for Extension Education	Jeff Mutimba jmutimba@field.winrock.org Tesfaye Worku, Program Officer, Email: tesfaye@saa-safe.org	www.safe-africa.net/index.htm	P.O.Box: 24135 Code 1000 Addis Ababa Ethiopia Tel: +251-11-647-7665 +251-91-151-2630 Fax: +251-11-647-7666
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