



# How can mobile phone services contribute to effective and efficient delivery of extension services in Tanzania?

A workshop organized by Tanzania NLA for mobile phone companies, Ministry of Agriculture, Tanzania Revenue Authority, Tanzania Communication Regulatory Authority, Agricultural Research Institutions, CSOs and private Apps developers

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## Acronyms and abbreviations

ANSAF	Agricultural Non State Actors Forum
ASLM	Agriculture Sector Lead Ministries
CUG	Closed User Groups
FRI	Farm Radio International
GN	Government Notice
ICT	Information Communication Technology
IVR	Interactive Voice Response
LGAs	Local Government Authorities
MoA	Ministry of Agriculture
NLA	National Learning Alliance
NSA	Non State Actors
PO -RALG	President's Office Regional Administration and Local Government
PPP	Private Public Partnership
SAI	Sustainable Agricultural Intensification
SAIRLA	Sustainable Agricultural Intensification Research and Learning in Africa
SLMS	Sector Lead Ministries
SMS	Short messages
TCRA	Tanzania Communication Regulatory Authority
TTCL	Tanzania Telecommunication Company Limited
WARC	Ward Agricultural Resource Centre

## 1. INTRODUCTION

### 1.1. Background

In 2017 Agricultural Non-State Actors Forum (ANSAF) initiated a partnership with a UK-based organization called WYG which is funded by DFID to implement a programme named "Sustainable Agricultural Intensification Research and Learning in Africa (SAIRLA) (<https://sairla-africa.org/>). The objective of the programme is to support research and learning to co-create and facilitate use of evidence and tools to inform policy and investment decision making processes related to Sustainable Agricultural Intensification (SAI). There is a particular focus on how to improve equity, provision of agricultural services and managing trade-offs. The SAIRLA programme worked with ANSAF to establish a Tanzania National Learning Alliance on SAI (<https://sairla-africa.org/what-we-do/learning-alliances/national-learning-alliance-tanzania/>) to facilitate the process of shared or social learning drawing on research and other forms of evidence. ANSAF is the host and lead facilitator for the NLA in Tanzania.

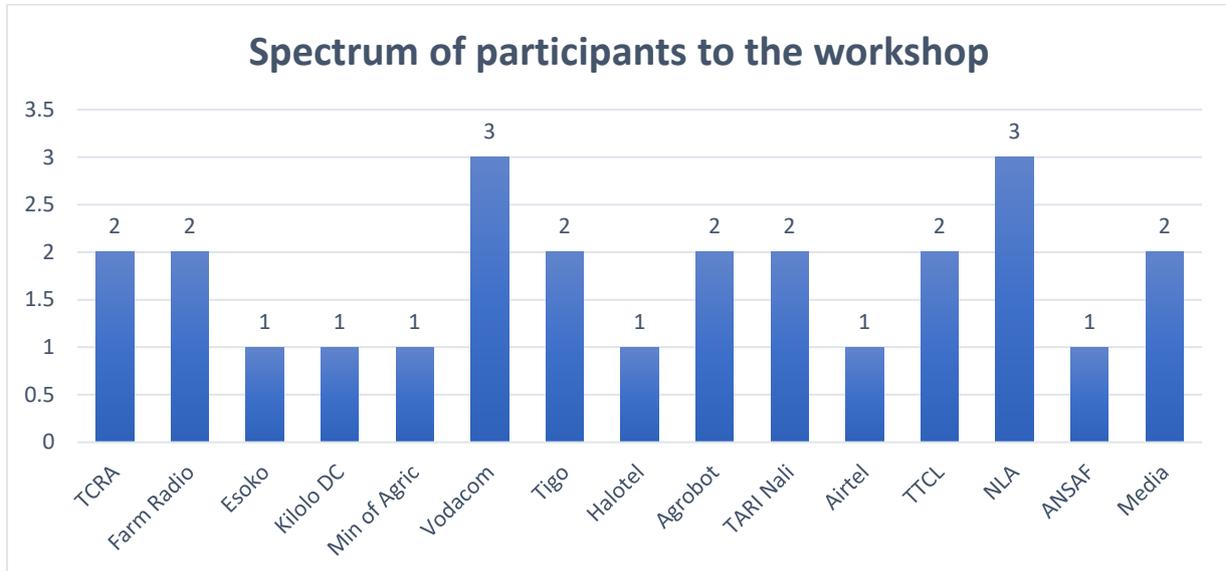
There are five SAIRLA-funded research projects in Tanzania: three are operating from Sokoine University of Agriculture, one under ICRAF and one at Naliendele Agricultural Research Institute in Mtwara. A number of these projects are carrying out research around the use of ICT-based tools and agricultural services. The Gender and Legume Alliance (GALA) project assessed whether different communication channels (including use of SMS and VBA) were more suited to different gender groups TARI Naliendele is collaborating with Bioversity International to design and implement new digitally-supported information services aimed at enabling extension workers and researchers to offer context-specific agronomic advisory services that meet the needs of farmers to adopt sustainable agricultural intensification practices. The project aims at co-generation of evidence that helps decision makers and investors to target information, technology and markets according to farmers' capacity and needs. It is on the basis of the above scenario that the Tanzania NLA has developed a social learning theme around the use of ICTs in agricultural services. An important activity within this learning theme is to facilitate a dialogue between ICT and agricultural stakeholders in Tanzania with the aim of strengthening the effectiveness and efficiency of quality agricultural extension services in Tanzania.

### 1.2. Setting the scene: Dialogue objectives and participants

There are three major objectives of the dialogue:

- 1) Enhance stakeholders' relationships and understanding of current and potential mobile phone-based challenges and solutions for agricultural extension services in Tanzania.
- 2) Discuss/Identify ways to lower the costs, improve the efficiency and effectiveness of mobile phone based agricultural extension services in order to improve the viability of creating sustainable business models.
- 3) Establish a working group (public, private, civil society) on lowering the cost/ improving the cost-effectiveness and efficiency of mobile phone- based services in agricultural extension services.

The NLA Communication expert invited the participants for a round of self introduction, an exercise that took 20 minutes. The moderator invited participants to introduce themselves, an exercised that took 20 minutes. Participants were asked to mention their names, the organization they represent and their roles in the organization. The spectrum of the 26 participants is shown on the bar chart below:



### 1.3. Welcome remarks and rationale for the dialogue

The welcome remarks were given by the NLA Lead Facilitator Mr. Audax Rukonge. First, he provided a more detailed background of the SAIRLA programme in Tanzania, the activities that have been implemented since inception in 2017 and the results. In the beginning, the programmed aimed to address issues of productivity which is very low in Tanzania. A contributor to increased productivity is quality of a diverse of issues including extension services. He stressed on the importance of extension services in order to increase productivity. Reliable information helps the farmers to produce the right crops/livestock, at the right time with the right market.

For successful farming, farmers need access to various types of information. In rural regions of Tanzania, information is delivered to farmers by public agricultural extension service units coordinated at district offices. But the delivery of such advisory services is inefficient due to many challenges. Some challenges include the high numbers of farmers per extension officer and a lack of funds for regular field visits. Of late, there has been rapid technological advancements that provide plausible solutions to the obstacles to reaching the farmers. Modern information and communication technologies (ICT), have greater potential to deliver information to many farmers at the same time and across distances, especially through the use of mobile phones. The advantage is that mobile phones allow farmers to request information and give important feedback, rather than being passive receivers of information.

The TARI Naliendele has created an ICT platform that allows extension services, researchers, and farmers to communicate in a systematic way. The platform has the capacity to facilitate direct monitoring of information flows from the research station to farmers and from farmers back to the research station. One important current information gap relates to the contamination of farmers' produce with aflatoxin. This issue affects farmers in the whole country, leading to serious health concerns and reducing the market value of harvest. In the "What works where for which farmer" project, TARI Naliendele delivers advice on aflatoxin

prevention to groundnut farmers through a new ICT system, using interactive voice response on farmers' mobile phones. The project intends to generate evidence about the feasibility of digital two-way communication between farmers and agricultural advisors. Through their mobile phones, farmers get access to relevant information that helps them to improve their production. Through the same digital tool, the extension service receives questions and feedback from farmers, which is then used to improve the information service.

The cost associated with delivery of extension services limits consistent flow of information from research centers to farmers. To support technological innovation and digital entrepreneurship, government needs to allow and create incentives for collaboration among stakeholders, as well as partner with innovators to digitize relevant government data and information for end users. It is on the above backdrop that the Tanzania NLA Facilitation Team which is hosted at ANSAF plans to conduct a dialogue with potential promoters of research and extension in Tanzania. The purpose of the dialogue with stakeholders is to jointly understand the current situation and identify ways of lowering the costs, improving the efficiency, and effectiveness of mobile phone based agricultural extension services extension services in Tanzania so that many farmers can benefit and maximize their potential.

## 2. KEY PRESENTATIONS

### 2.1. The role of the Ministry of Agriculture in the provision of extension services

Assistant Director of Extension Services at the Ministry of Agriculture, Dr. Kissa Kajigile presented the current state of the extension services in Tanzania. She said there are 12,1545 villages in Tanzania with 4,247 wards, 64,616 hamlets. According to Tanzania policy on extension services, each village needs to have one extension officer. There are 8,323 extension officers in Tanzania. those needed are 20,533 extension officers and therefore the country has a shortage of 12,210 extension officers in the agriculture sector. This is why the use of ICT is very important at the moment. The deficit is a major blow to the increased productivity in Tanzania. Tanzania has no stand-alone policy for extension services. What is available is a section within the agriculture sector policy which talks about "Strengthening Research and Extension Services", and this is not given due attention.

There are four farmer training centers in the country and the Ministry of Agriculture facilitates the private sector to disseminate technologies that lessen the burden of production. The Assistant Director presented an array of challenges facing the extension services in Tanzania including the shortage of extension staff, weak coordination between Agriculture Sector Lead Ministries (ASLM), and low capacity to use innovative ways (such as ICT) to disseminate technologies and weak engagement of the private sector. She urged the private sector to turn the challenges into opportunities for them.

The Ministry of Agriculture intends to strengthen mechanisms for engaging the private sector in the delivery of extension services and promote the use of ICT to disseminate technologies in collaboration with extension practitioners/stakeholders (PPP)

## QUESTIONS AND ANSWER SESSION:

1. What is MoA doing to promote the use of ICT in the agricultural sector?

**Response:** The ministry has constructed ward agriculture resource centers (WARC). These are buildings that are well-furnished with books and other educational materials. In Tanzania there are 336 WARC and out of those 224 (over 66.6%) are working.

2. What is the readiness of the government to plan work with the private sector to address the challenges?

**Response:** It was noted that the Directorate of Extension Services did put together a proposal to establish a special desk to monitor the extension services delivery. This desk would cost TZS300 million to set up a room with trained personnel who will be receiving calls from farmers and provide responses. But when this budget request was submitted, it was quickly cut because matters related to extension in Tanzania do not belong to the Ministry of Agriculture. It is under the PO-RALG. It was resolved that a mini committee be formed to follow up with the Permanent Secretaries of Ministry of Agriculture, Treasury and the Ministry of PO-RALG. The point is to convince the PS to agree to push for approval of this budget so how to get a budget to scale up ICT in Tanzania.

3. Success in productivity how can you quantify? Are we spreading all over?

**Response:** The ministry is also using Farmers Field Schools (FFS) approaches where there were 16,000 FFS all over the country.

### 2.2. The e-ushauri from TARI Naliendele

The presentation from TARI Naliendele was made by researchers Mr. Gaspar Mgemikolo and Happiness Daudi. The presentation focused on the project "What works where for which farmer."

Basically, successful farming means farmers must access information inputs. Ordinarily, information is delivered to farmers by public agricultural extension services at the district offices. Unfortunately, the delivery of advisory services face challenges, including high numbers of farmers per extension officer and a lack of funds for field visits. The research centre proposed a solution to mitigate this challenge. That is to introduce modern information and communication technologies (ICT). It is confirmed widely that ICT has great potential to deliver information to many farmers at the same time and across distances, especially through the mobile phone. An ICT system is needed that allows extension services, researchers, and farmers to communicate in a systematic way. Such a system could also directly monitor the information flows in extension delivery, to inform policy-makers about current information gaps and the performance of extension. The researchers explained how the model works and the potential it has to close the gap between experts and farmers.

An urgent message that TARI Naliendele wants to communicate to the farmers is the high risk of food contamination by aflatoxin. The contamination has been noticed in groundnuts. Aflatoxin leads to serious health concerns and reduces the market value of harvest.

The research centre' is convinced that mobile phones can link farmers to the centre' and farmers can be informed about ways to combat aflatoxin including the use of allusive. The

pilot project has failed to attain the intended results because they need a special number which will be used to facilitate the system to work. Second, the centre' needs a toll-free number where farmers can call to get information on what they need to do when they see malicious pests/diseases attacking their crops.

### **QUESTIONS AND ANSWER SESSION:**

1. TCRA asked Naliendele – what do you need from TCRA?  
**Response:** Supportive policies and processes. TARI need the regulatory authority to provide them with the easier and cheaper way of linking farmers to extension workers by providing the research institution with a toll-free number where farmers can call and ask various questions.
2. What do you need from the mobile phone companies?  
**Response:** Supportive systems/apps and special number to facilitate the access to e-ushauri platform. Only one number is needed.
3. What do you need from the MoA  
**Response:** Supportive policies and processes
4. What has been an obstacle to you from rolling out/ moving forward with the implementation of your digital platform?  
**Response:** Lack of local special number to facilitate farmer access to the system at a lower cost.
5. Is Bioversity the owner of the server? Where is the server in the first place?  
**Response:** The system is a donor funded initiative managed by Bioversity. And the server is in Costa Rica under the administration of Bioversity. But they are willing to give to a local company/organization to use to help farmers to access information.
6. To what extent are you going to coordinate the system. Is the system able to link farmers to the market?  
**Response:** Yes, the system has the potential to provide information on where the farmers can access the markets, only if the current limitations are tackled.
7. Is it an open system or closed system?  
**Response:** The system is closed- i.e. it only works for registered farmers and not every farmer. The non- registered cannot use it.  
Is the system still at the pilot stage in Tanzania or in all the three east African countries of Kenya, Uganda and Tanzania?  
**Response:** the system is still in the pilot stage in all the countries.
8. A journalist wanted to know the number of farmers who are using the system. Why is the number of farmers not increasing since the last report? How far have you engaged other stakeholders like mobile phone companies?  
**Response:** It started with around 100 farmers and each was given an airtime of Tsh. 10,000/- to call. When they money was finished, they didn't call. So, the issue of cost is highly challenging.
  - TARI Naliendele prepared a concept note and approached TTCL but the effort was not successful.
9. TCRA posed a question on what is the special number. Do you mean a toll-free number? It is mentioned in the presentation, what is it? how did the farmer interact with the advisor?

**Response:** It is the **Interactive Voice Response (IVR)** Number which used by mobile companies to connect to farmers. During the pilot stage the number that was used was from Kenya, which is +254203892376. Kenya was selected because they had the lowest costs. The farmer has to register to be able to access the system. The one who does the registration must also be a registered person but the right to register can also be given to another person. Once registered the farmer can interact with the system. They can call, receive recorded responses and ask follow up questions. The question is recorded and a farmer gets the recorded voice. However, the main challenge is cost

#### **OTHER COMMENTS FROM PLENARY:**

- There is a need to collect stories of farmers who are using the system now and validate the hypothesis that this was highly needed to facilitate extension services. It was suggested that there should be commonly asked questions that are recorded and made available to farmers whenever they need.
- Participants suggested that the project should prove a clear return on investment, something which was not recorded as the piloting was mainly on the control of aflatoxin in groundnuts.
- Someone from TRA was very much concerned about the modalities of administering taxes if the system was closed. Tracking transactions can be very tricky. The local number would make the system open and all the billable information can be accessible by the government of Tanzania. While some suggested that the server be set in the country, others were in the opinion that having a physical server may not be necessary. The most important thing is the software itself. The cost of fixing and maintaining the server might be bigger. Example, Agrobot, they don't have a physical server but a Cloud server. They just own the software.
- The MoU between Bioversity and Naliendele does not contain a phrase on the right of shifting the server and the software. There is a need to find out if Bioversity is willing to transfer the software

### **2.3. Integrating Radio & Mobile Platforms for effective and efficient extension delivery – Farm Radio International and Esoko**

The Director of Farm Radio International (FRI)-Mr. Rex Chapota shared their experience on how they were able to integrated radio and mobile platforms to reach more farmers with extension messages. The presentation shows what a radio and a mobile phone can do for the farmer when they are combined. They reach many as they are both interactive, they are cost effective, there is a platform called Uliza. It is a new model of interactive radio for widespread citizen engagement and feedback for adaptive management using mobile platforms. The approach is a combination of Radio + Mobiles + Digital solutions + Face-to-face.

FRI has established a cutting-edge Radio & ICT innovation lab in Arusha, Tanzania, that is pioneering solutions to make Radio 2.0 even more powerful.

Interactive radio plays a “convening” role among multiple stakeholders including government, the private sector, and civil society creating an ecosystem of partners.

Quality interactive radio programs are a unique opportunity to address development issues — from market linkages to nutrition to mental health.

Programs promote gender equality - by prioritizing women as listeners, putting their voices on air, and addressing gender issues head on.

## 2.4. Esoko Network Tanzania Limited

The Managing Director & East Africa Lead for E-Soko Network Tanzania Limited, Mr. Patrick Kiao presented his company’s experience on the use of training gadgets in the rural areas. Esoko provides digital solutions and services for agriculture and data collection, to empower rural populations and the organizations that work with them. The presenter demonstrated the gadget which can be used to project video clips for training purposes. Patrick played a video showing how the eSoko app called insyt works. For more information, click <https://esoko.com>

## 2.5. The Importance of Voice Messages in Conveying agricultural Information to sunflower farmers – Kilolo District Council

A case drawn from Kilolo District was presented. The presenter introduced the district profile as having a population of 231,560 inhabitants dwelling in 106 villages. The district has 61 village extension officers distributed in 24 wards and villages, and the shortage is 59 extension officers. The district has been using different approaches to delivery agricultural extension services. These include:

- Farmer Field Schools
- Training and visits
- Farmer to farmer extension
- Agricultural shows/exhibitions
- Demonstration plots
- ICT through mobile phones
- Printouts/leaflets, brochures
- Local radios, village meetings etc.

The district collaborates with various stakeholders who support provision of agricultural advisory services in various ways. Some of these collaborators include USAID-Feed the Future, RUDI, One Acre Fund, BRITEN, Clinton Development Initiatives, and Research Institutions (TARI, SUA, UDSM, University of Iringa etc.).

In 2018 season, the district got support from the University of Greenwich, NRI, UK for establishing 15 farmer field schools for training farmers good agricultural practices and increasing resilience for climate change. The support came up with the research of assessing the importance of mobile phones (ICT) in conveying agricultural information through automated voice calls to small-scale farmers of Kilolo district. The research was conducted in 4 wards (6 villages) to farmers engaging in sunflower production. About 300 small scale farmers were sampled and divided into 4 groups based on whether they were in farmer field schools and received automated calls or not. All 300 farmers were registered with their mobile phone number by their respective village extension officers using tablets. However, the

recording of weekly weather information, and the associated agricultural advisory services were recorded by the department of agriculture in Kilolo District and sent to the University of Greenwich, NRI, UK. The key information that farmers received as automated voice calls in their mobile phones were; weather information, timely weeding, pests and disease control, fertilizer application, timely harvesting, drying, sorting and packaging, and price and market information. Some farmers were not responsive at the beginning but as time went on the response was very good and most of farmers wanted to join but it was not possible. It was observed that farmers were interested more in weather information, followed by price and market information. The research was just for one season due to resource constraint from the funder, but farmers were eager to continue in the next season.

The lessons learnt during and after the research. Using mobile phones to achieve agricultural development goals requires supplementary investments, resources, and strategies. Flexible but strongly supportive policies and regulations, complementary investments in physical infrastructure, support for men and women farmers of different age groups. Technological appropriateness and enabling environments for innovation adoption will determine the long-term impact and sustainability of these efforts. It is important to note that, the versatility and constant innovation that characterize ICT can be confusing, especially when is not well interpreted to the target audiences. For example, interventions can focus more on the technology rather than on the priorities of the intended users and the trade-offs imposed by resource-constrained environments. It therefore important to focus on the need that the intervention is purposed to address to clients and not the need for ICT, but the need for better access, timely weather information, timely for appropriate pests and disease management, timely market information and strong links to agricultural value chains. However, it should be noted that, ICT will not be an effective means to meet these needs at all as it can confuse client if delivery at once. We also learned that; it was important to engage the farmers' right from the beginning of the season.

We are not concluding from these lessons, because much remains to be learned, but we hope that these serve as sound considerations for future investments in agricultural advisory service delivery interventions.

The major questions are: who is monitoring the content? Who is approving it before it is shared with farmers? Is the Ministry of Agriculture involved? Were the issues of sustainability reflected before initiating the platform?

From the discussion, it was suggested that SMS customization can help to reduce costs increase revenue when combined with CUG. Do business to business relations.

## 2.6. TCRA on regulatory framework

The presentation from the Tanzania Communication Regulatory Authority was made by Mr. Fuad Adam. He confessed that it is the first time to be invited in such a meeting bringing together research centres, mobile phone companies, NGOs, ministries and TCRA together to discuss such an important topic. "*We really encourage you to continue with this work in the same spirit.*" The role of TCRA is to provide an enabling environment to all actors in the communication industry to operate. Now it depends on how fast one grabs the opportunity availed by the government. Financial sectors are fast at grabbing the opportunities. There is a lot of potential in the agricultural sector.

TCRA provide access by way of giving licenses to mobile companies to compete. They have 90% access to the population (market) and are technologically neutral. That is one can use any technology to provide services. TCRA are now phasing out 2G and 3G networks and are migrating to 4G. As the technology changes, TCRA has to adapt to that.

They provide protection to the consumers. The consumers have the right to use without obligation to use. Issues of privacy and security are the services given to all.

- Actors in the agriculture sector can grab these opportunities provided by TCRA – e.g. to facilitate access information. The main question is who will be responsible for the content? This is a difficult area. Example, can Bwana Shamba (an extension worker) be the content developer and monitor quality? These are some of the questions to reflect on when we are talking about the quality of extension services.

## 2.7. Tanzania Revenue Authority

The presentation from Tanzania Revenue Authority (TRA) headquarters was made by Mr. Paschal Mallya. His presentation focused mainly on how TRA operates within its mandate to collect revenue. Mr. Mallya said TRA has the responsibility to collect taxes and it does not have the mandate to exempt taxes. Exemption is granted by the Minister for Finance and Planning after being convinced that the exempted service is a public good. Given the mandate of TRA, Mr. Mallya was not in a position to answer questions related to tax reduction. However, he said the Excise Duty Act can talk about inputs where there are VAT Act procedures. There is a room to ask from the Ministry of Finance and Planning where the minister can give a GN. Anything on income tax it is the council of ministers who can give a greenlight.

Who validates the content and the system? There is a need for communication among the partners (in this case departments and ministries).

There was a clear proposal that TARI Naliendele and ANSAF should seek exemption on VAT to lower the cost of SMS for farmers. Regarding the server administration, it was proposed that Tanzania experts should develop a program using an open source platform, have corporate option or negotiated patent right.

## 3. WHAT THE MOBILE COMPANIES ARE DOING

A discussion on what the mobile companies were doing to facilitate farmers' access to agricultural information allowed cross-fertilization of ideas and experiences from the participants. Each mobile phone company had 15 minutes to share their plans or interventions.

### 3.1. VODACOM Tanzania:

- Has Agricultural Digital Ecosystem called "Connected Farmers"?
- It provides all-purpose solution –including education, financial transactions and relevant and pro-active information such as e voucher and subsidy, where and when the farmers can sell their produce; predict what the farmers will harvest, digital market, extension services and agribusiness etc.
- The platform is scalable to millions of farmers immediately, and it is open and can be easily integrated with other systems
- Massive reports can be generated using this platform
- Expressed willingness to work with MoA- Directorate of Extension Services to support their proposal to set up a Call Center for Agriculture. They can help to design a feature which will enable extension staff to respond to calls wherever

they are- without having to sit in one place (call room) while communicating with farmers.

- Proposed the need to team up and work with other stakeholders since the company is not a specialist in agriculture field/does not have any professionals

### 3.2. AIRTEL

- Has a network coverage of 95% mostly populated by farmers?
- They provide a number of services including SMS, Toll free services and disbursement solutions to farmers
- Committed to working on specific packages for extension services

### 3.3. TIGO

- Did research in Mtwara and Lindi regions to develop demand driven ICT services to cashew farmers

### 3.4. HALOTEL

- This is the newest mobile company in the communications sector in Tanzania. So far, they have not done much in this area but expressed their interest and willingness to work together with relevant stakeholders to design an effective online mobile platform for farmers.

### 3.5. TTCL

- Designed an app which is intended to provide agricultural information to farmers –namely

## **QUESTIONS AND ANSWER SESSION:**

**Question: Is there a way of addressing the cost challenge –the tax regime?**

**Response:** TRA has a provision for tax exceptions for specific goods and services. There are procedures that need to be followed but in the end the Ministry of Finance does make the final decision.

## 4. GROUP WORK AND FEEDBACK

Participants were divided into three groups to look at the challenges and propose solutions to facilitate the provision agriculture extension services using mobile phones.

### 4.1. Group One – Non State Actors & CSOs

This group comprised of representatives of Non-State Actors. This group listed four challenges of delivering extension services and proposed corresponding solutions as follows.

- i. The cost of access by end users is high. The investment cost, cost per unit, developing and running a system are all very high. The proposed solution is for the government to consider tax waivers/ reduction on end users. Consider cost sharing and collaboration between actors in win-win manner.

- ii. Content development and quality/standards was seen as a challenge. It was not clear as to who is involved in content development, what are the sources of the content and who is responsible to validate the content before it goes to farmers. There was a weak link between research and extension, farmer to farmer linkages. An example of a weak link is between the research stations such as TARI and the Directorate of Extension Services at the Ministry of Agriculture. Proposed solutions include embarking on training and updating extension officers, collaboration between TARI /extension, institute a competent content validation process, increased communication among partners, and introduce tailor made advisory services.
- iii. There were too many platforms that created competition and weakened complementarity. Proposed solutions were to improve collaboration among players, awareness raising of solutions available, ICT4Agriculture forum / publication for enhanced collaboration, integration of services and complementarity. The Director of Extension Services was asked to be proactive in order to speed up the attainment of the departmental goals.
- iv. Digital illiteracy among end users: Many end users do not know the costs involved. Proposed solution was that the stakeholders should collaborate in awareness raising at all levels, including policy makers, undertake collaborative research to show impact /cost effectiveness.

#### 4.2. Group two – Ministries and Regulatory authorities

This group comprised of regulators represented by the Ministry of Agriculture, TRA and TCRA. They presented three challenges as follows:

- i. Communication between research institutions and farmers. They proposed that the research institution should seek advice from TCRA to request for a toll-free number. It was also possible to look for the establishment of a special number for automated responses. The MoA should establish a call center to coordinate the delivery of extension services.
- ii. High taxes. This is similar to the high cost that was mentioned by the other group. The proposed solution was for the research centre to seek exemption on VAT from the Ministry of Finance and Planning. Regulatory authorities can also engage with the government to reduce taxes so that there are cheap SMS for farmers.
- iii. Administration of the content production was seen as a challenge especially because quality control measures were not clear. It was proposed to study the model used by Agrobot using akilibandia [artificial intelligence]in Iringa and scale up to other places. It was important to regulate the quality of messages that reach the farmers.

#### 4.3. Group Three – Mobile phone companies

This group comprised of representatives from the mobile phone companies. In their perspective, the challenges and solutions were as follows:

- i. Literacy and language and attitude combined. When it comes to bringing in ICT, simple services become an issue. Consumers do not know the value of the information they can get and the cost involved in making it available for them. They are difficult to pay for a very valuable information. Proposed solution would be to

initiate a long term public private partnership with deliberate attempt to change the mindsets of the people.

- ii. Cost was mentioned by this group. For them, the issue was that low end-users see even a cost of 200/- as too high while mobile companies see it as low. They said the truth is that technology is costly. Other costs are embedded in tax imposed to the companies to the extent that they pile up to a huge operation cost for the companies. Stakeholders including the government need to be conscious when they are making policies. Always policy makers should think about the smallholder producers. Proposed solution would be to have a wide range of participation in tax policy making who should have in mind the end users. Abrupt changes of policies impact negatively on the end users as well as businesses.

## 5. THE WAY FORWARD

### 5.1. General agreements

The meeting agreed on the following action points

1. To form a committee that will meet the MoA to advocate for extension services as well as lobby the Ministry of Finance and Planning to lower the cost on mobile phone companies that are supporting agriculture extension.
2. To engage with the treasury on tax reduction
3. We are all interested in offering services. The concern is the quality and cost
4. There is a business case on what we do, we are going to share proceedings of this workshop
5. Next month (Sept) the tax committee starts working for the next year budget cycle. This is the right time to start the engagement

### 5.2. Formation of a Task Force

The following members volunteered to sit on the committee

1. Immaculate Rugaimukamu -Airtel – DSM
2. Happiness N. Shuma – from Vodacom
3. Rex Chapota – Farm Radio International
4. Kohelethi Samwel Mgongolwa - Agrobot- DSM
5. Bless Samwel Siyovela - Agrobot- DSM
6. Gaspar Mgimikolo TARI- Naliendele- Mtwara
7. Vincent Nkini -Tigo -DSM
8. Dr. Kissa Kajigile - MoA- Dodoma
9. Mbarwa Kivuyo - NLA/SAIRLA- DSM

### 5.3. Leadership of the Task Force

This was a broader team formed, but the agreement was to split the team/Task Force into two teams -one responsible for the technical issues (involving the MoA, PO-RALG senior officials) and the other team will be responsible for the advocacy issues related to regulatory and cost involved (targeting Tanzania Communication Regulatory Authority, Treasury and Tanzania Revenue Authority). The terms of references for the two teams are being drafted by the NLA team under the leadership of Mr. Mbarwa Kivuyo.

## 6. ANNEXES

### 6.1. List of participants

SN	NAME	ORGANISATION	MOBILE NO:
1	Patrick Kiao	Esoko Tanzania- DSM	255757430314
2	Linda Temba	FRI Tanzania- Arusha	255768969692
3	Rex Chapota	Farm Radio- Arusha	255766848454
4	Nguyen Dix Than	Halotel- DSM	255629224466
5	Magreth Henjewe	FTCB/SAIRLA- DSM	255715660146
6	Mgimiloko M. Gasper	TARI- NALIENDELE- Mtwara	255786638513
7	Kissa Kajigili	MoA- Dodoma	255754362340
8	Watson Matamwa	Kilolo DC- Iringa	255754759605
9	Bless Mgongolwa	Agrobot- DSM	255762529462
10	Kohelethi Samwel	Agrobot- DSM	255738859653
11	Happy Daudi	TARI- NALIENDELE- Mtwara	255787026265
12	Mbarwa Kivuyo	NLA/SAIRLA- DSM	255715302486
13	James Kandoya	The Guardian- DSM	255752158882
14	Victor Nkya	TCRA- DSM	255784785317
15	Paschal Mallya	TRA-DSM	255783867744
16	Immaculate Rugaimukamu	Airtel – DSM	255784670102
17	Elias Msuya	Mwananchi- DSM	255754897287
18	Janneth Maeda	TTCL- DSM	255738262819
19	Teddy Senga	Sales-Airtel- DSM	255784670373
20	Habakuk Christopher	TTCL- DSM	255738262952
21	Vicent Nkini	Tigo -DSM	255658123187
22	Halid Omary	MIC-DSM	255658123338
23	Fuad Adam	TCRA- DSM	255713541673
24	Rehema Msamy	ANSAF	
25	Audax Rukonge	ANSAF	
26	Happiness N. Shuma	Vodacom	0754711888

## 6.2. The workshop programme

**Moderator: Mbarwa Kivuyo**

<b>TIME</b>	<b>ACTIVITY</b>	<b>RESPONSIBLE</b>
08:00-08:30	Arrival & Registration	All participants
08:30 – 08:40	Brief Introduction & workshop objectives	Mbarwa Kivuyo
08:40 – 09:00	Opening remarks and workshop objectives	Audax Rukonge
09:00 – 09:20	Brief background to SAIRLA and the NLA	Audax Rukonge
09:20 – 09:50	The role of the Ministry of Agriculture in the provision of extension services	Dr. Kisa – Director of Extension Services MoA
09:50 – 10:20	Making digital technology work for the smallholder farmers – The KilimoLine	TARI Naliendele
10:20 – 10:40	Q&A	All
10:40 – 11:10	<b>TEA BREAK</b>	<b>ALL</b>
11:10 – 11:25	Using ICT to deliver extension services – the experience of Farm Radio International	– Mr. Rex C, Farm Radio
11:25 – 12:20	What are Mobile Phone Companies doing to facilitate the delivery of extension services to smallholder producers? What can they do to improve future delivery?	– Vodacom – Airtel – Tigo – Zantel – Halotel – TTCL
12:20 – 12:50	Creating an enabling environment for ICT to work for smallholder producers: The perspective of Regulatory bodies	TCRA
12:50 – 13:20	Group Discussions	Groups
13:20 – 13:40	Presentation	Group leaders
13:40 – 14:00	The way forward	Mbarwa Kivuyo
14:00 – 14:10	Closing Remarks	COSTECH
14:10 -	<b>Lunch &amp; Departure</b>	<b>ALL</b>