AGRICULTURE EXTENSION BY RADIO: EXPERIENCES FROM SEMIARID KENYA

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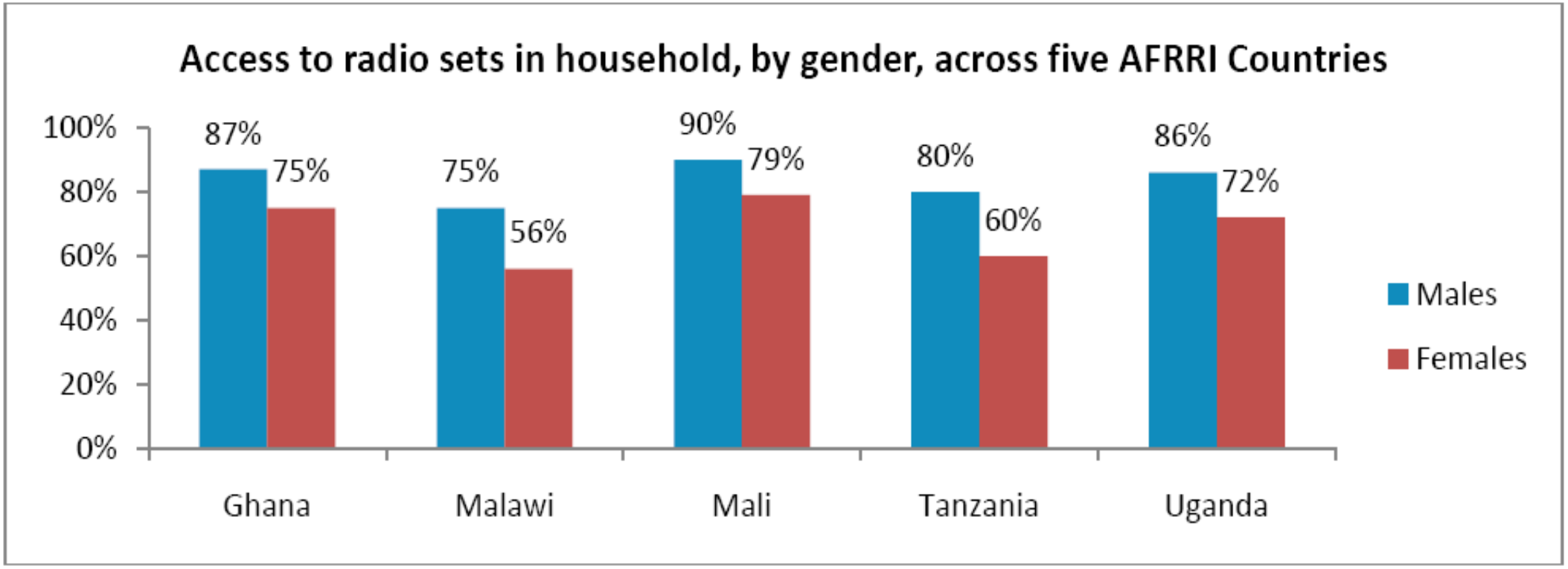
Presentation outline

- Introduction
- Methodology
- Results
- Conclusion

Introduction

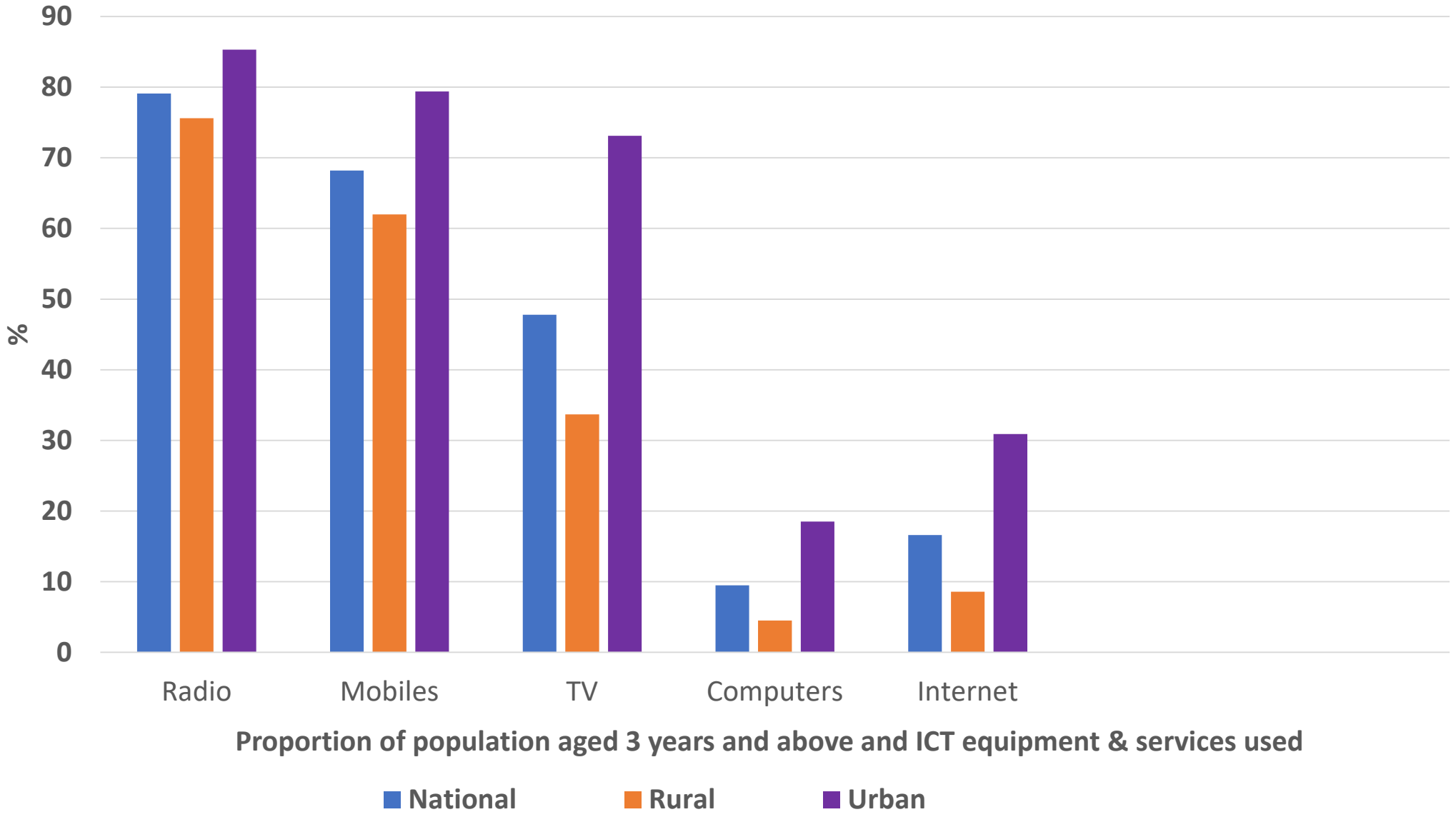
- The global demand for food is projected to increase by 60% by 2050
- Small holder farmers especially in developing countries contribute to this projected demand
- Agricultural extension services provide relevant, practical and timely information to farmers, but face many challenges
- Radio has evolved into an interactive medium with the advancement of ICT and can be used to bridge the agriculture extension gap



Source: African Radio Research Initiative survey (Sullivan, 2011)

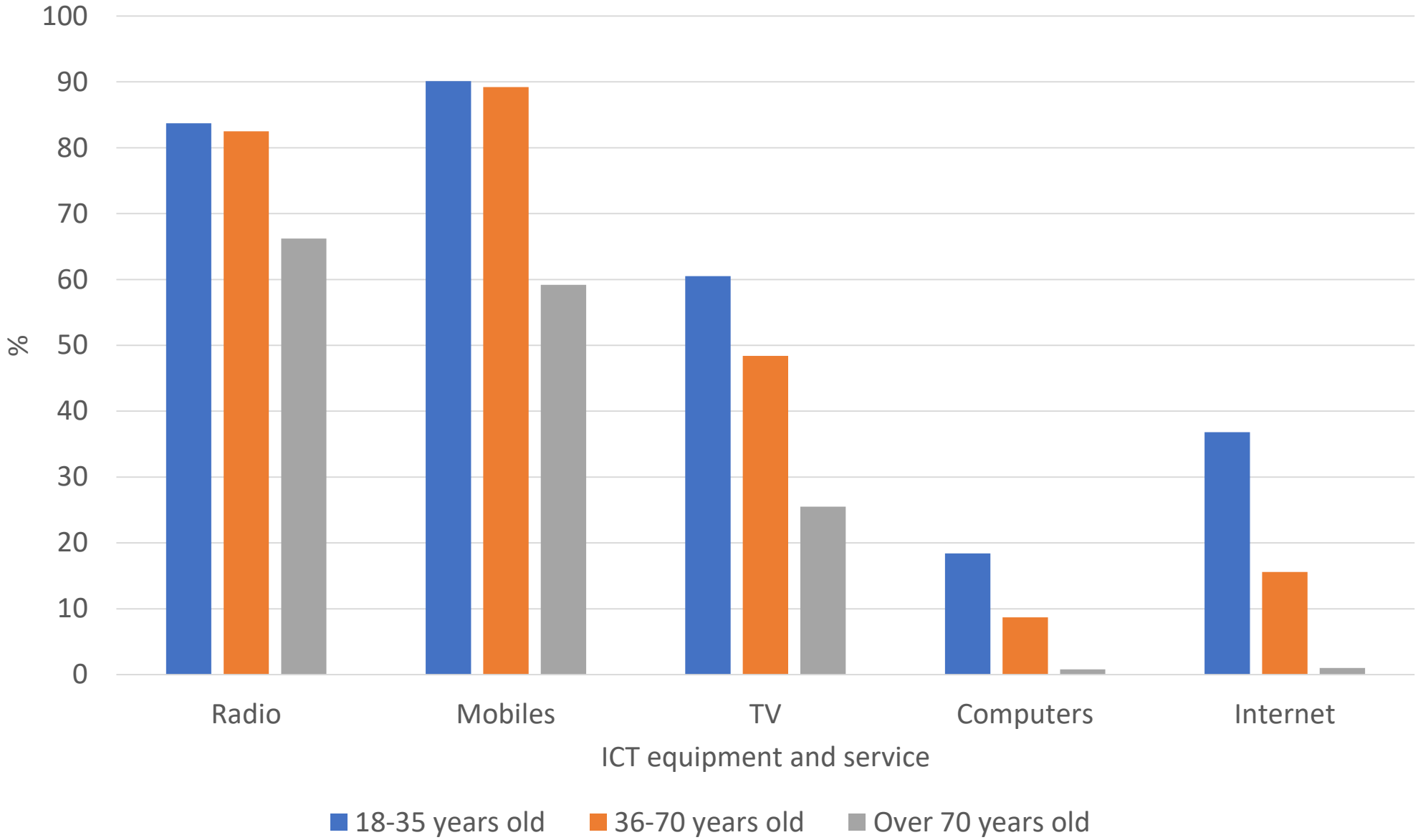
- Various studies across Africa have documented radio as the dominant or most widely used mass medium for disseminating information (Girard, 2003; Boykoff & Roberts, 2009; Myers, 2008).
- 76% of rural communities in Africa own a radio (African Radio Research Initiative survey) (Sullivan, 2011)

Rural Vs Urban use of ICT equipment in Kenya



Source: Kenya Integrated Household Budget Survey (2015/2016)

Use of ICT equipment and service by age group



Source: Kenya Integrated Household Budget Survey (2015/2016)

Background of the study area

- Arid and Semi-Arid lands (ASALs) of Kenya make up over 89% of the country (Arid lands=70%)
- The dominant production system in the ASALs is mobile pastoralism

STUDY AREA

County	Meters Above Sea Level	Rainfall mm/year	Temperature (^{O}C)	Population*	Area (Km^2)
Marsabit	300 to 900	200 to 1000	15 to 26	151,061M 140,011F **Total=291,270**	70,961.2
Samburu	600 to 2600	250 to 1250	24 to 33	112,007M 111,940F **Total=223,947**	21,022
West Pokot	900 to 3,370	600 to 1600	15 to 30	254,827M 257,863F **Total= 512,690**	9,169.4

*Kenya National Bureau of Statistics 2009 census

Source: County integrated plans 2013 -2017

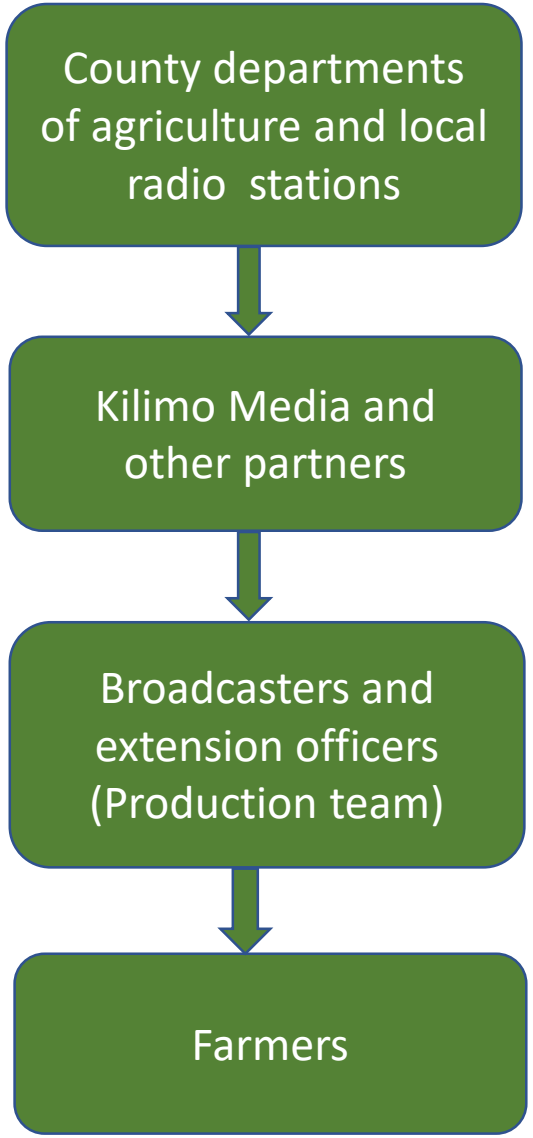
Who we are

Kilimo Media is an agricultural extension service provider that uses the radio and other ICTs to reach farmers

Sharing the Kilimo Media radio model

Kilimo Media staff share the radio extension model with extension and radio teams in Afghanistan in 2014

Kilimo Media's approach



Assign staff to support extension delivery through radio and other ICTs

Mentor and build capacity of broadcasters and agricultural officers on the use of radio for extension

Use technology (radio and other ICTs) for dissemination of information in local languages

- Learn, provide feedback, and act on the knowledge gained from the radio programs
- Peer to peer learning

Study objectives

- Establish the access and use of agriculture information by farmers in semi-arid areas of Kenya
- Build the capacity of radio personnel and agricultural extension officers to package and broadcast agricultural information for farmers
- Develop radio programs that respond to specific needs of farmers
- Assess the impact of the programs on farmers

Methodology

- Project implemented between September 2015 and June 2016
- Baseline survey conducted in September 2015
- Respondents were farmers who were 18 years and above, who owned or had access to a radio
- Data was collected in the three counties through:
  - household interviews
  - focus group discussions with farmer groups
  - key informant interviews
- End of project survey with the same farmers conducted in June 2016

Phase	Steps for data collection	
Baseline survey	Step 1	Trained 3 enumerators on data collection
	Step 2	Pre tested the survey instrument
	Step 3	-Conducted survey with 172 randomly selected farmers -Conducted 5 focus group interviews & interviews with 6 key informants
	Step 4	Analyzed qual & quant data in step 3 (Nvivo, SPSS)
	Step 5	Developed radio programs & broadcasted
Impact assessment	Step 6	Re-interviewed 130 farmers, 3 focus groups, 6 key informants
	Step 7	Analyzed qual & quant data in step 6

Radio programs

- Training of radio production personnel and extension officers
- Program schedules were jointly developed by the production team and matched to the agriculture calendar
- Development of radio programs in local languages (Rendile, Borana, Pokot, Samburu)
- Various radio formats were used such as live interactive programs, interviews, drama, AgTips, news
- Monitoring was done by KiMI team to ensure quality delivery of content

- The programs were 20 minutes in duration
- programs aired weekly, in the following stations and times
  - Kalya FM in West Pokot – Wednesdays 8.45pm
  - Star FM in Marsabit – Saturdays 8.00pm
  - Serian FM in Samburu – Saturdays 11.00am
- Airing of the programs was pro bono (through an MoU between the radio stations, and Kilimo Media International)

Limitations of the study

- The semi-arid region of Kenya- is unique in its agro-ecology, its people and culture
- Some farmers self-reported that they implemented the practices broadcasted
- Radio programs were not always aired on schedule even though every effort was made to ensure that they were
- Some farmers in the surveys and focus group interviews were not available to be re-interviewed

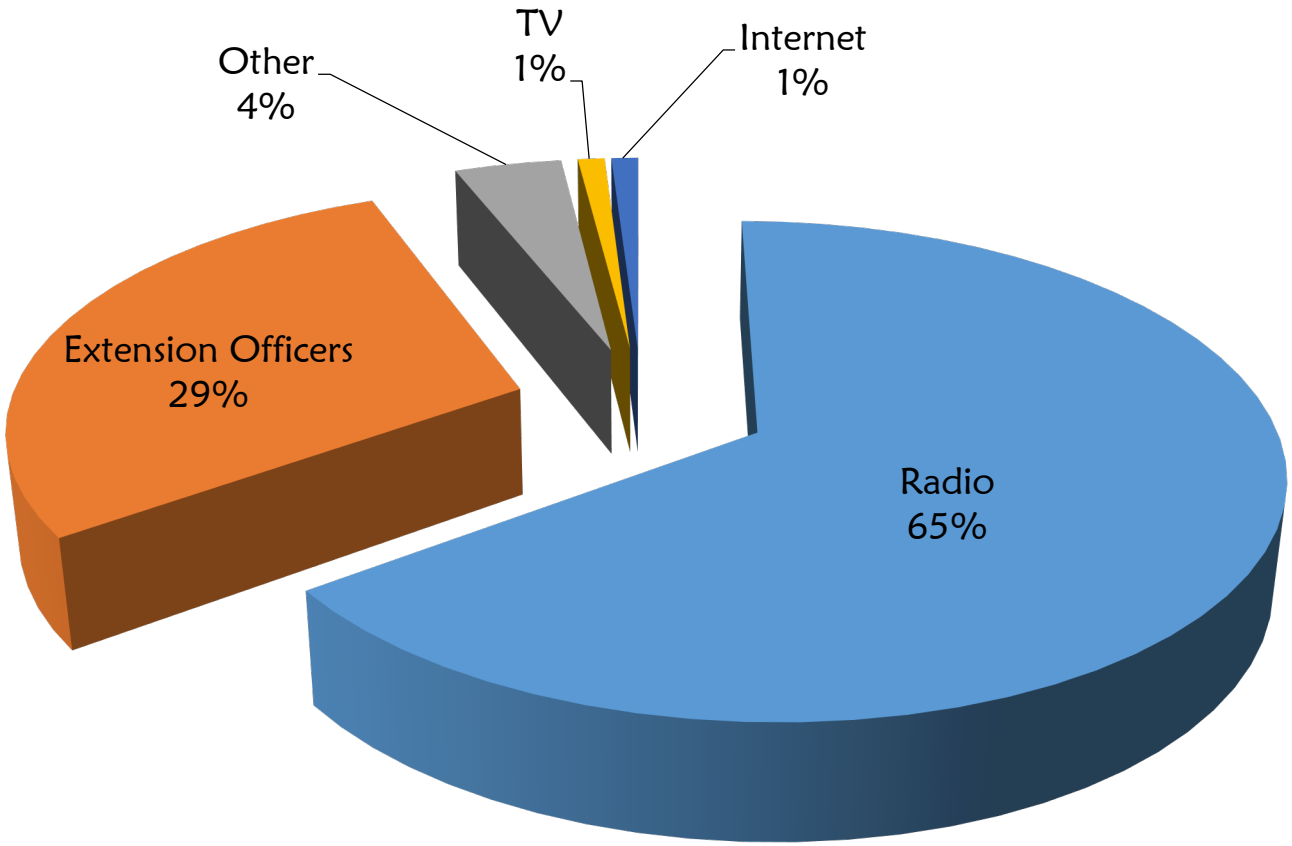
Results

Socio-demographic characteristics

County representation	%
Marsabit	32
West Pokot	34
Samburu	34
Gender	
Male	44
Female	56
Age	
18-28	5
29-38	36
39-49	37
50-59	13
Above 60	9
Marital status	
Single	10
Married	86
Widowed	4

Education	%
No education	33
Primary	38
Secondary	20
College	8
Undergraduate	1
Size of HH	
Less than 4 members	16
5-9 members	63
10-14 members	16
More than 15 members	5
Land ownership	
Private land	67
Communal land	30
Leased	3
Land size	
Less than 5 acres	76

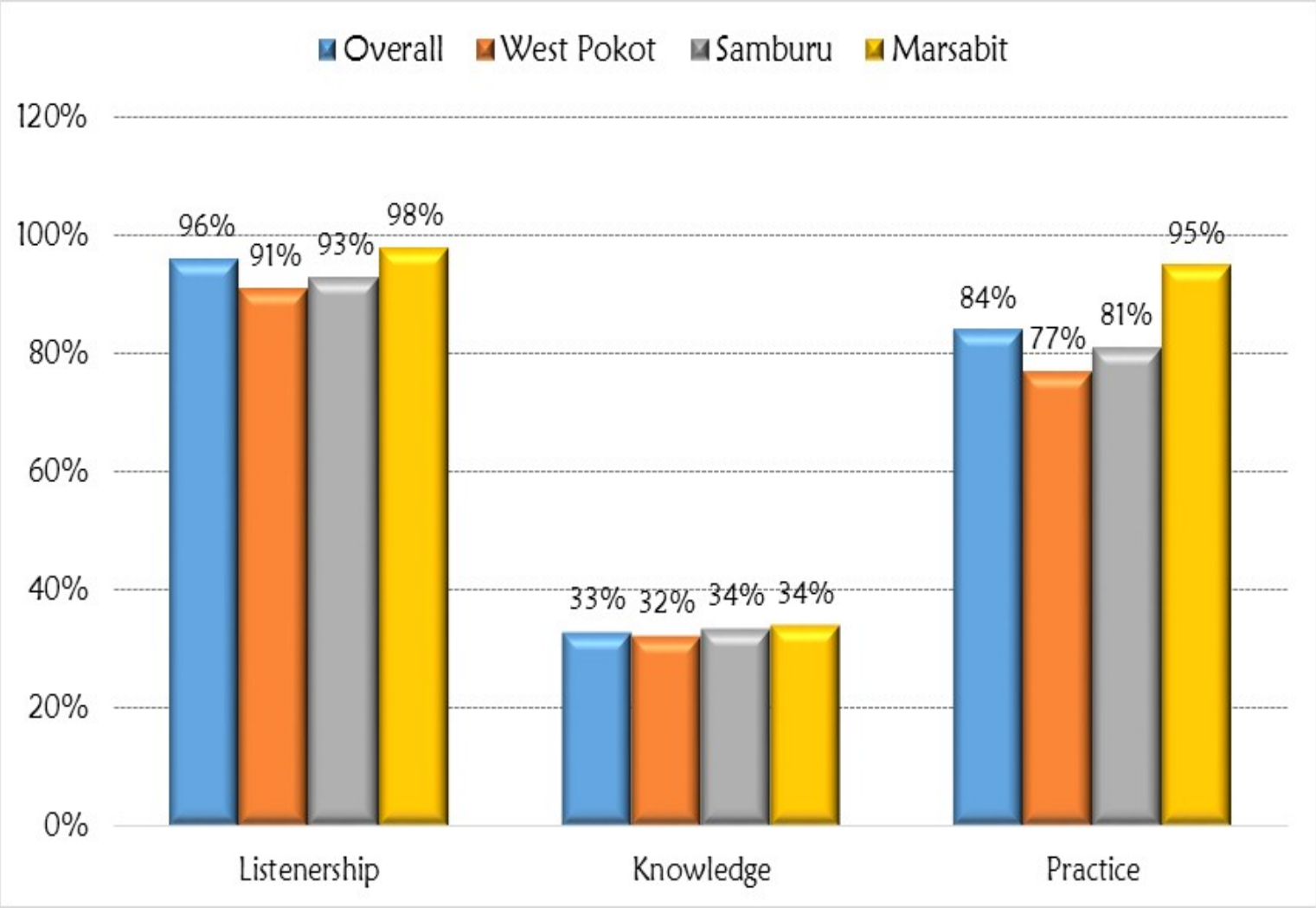
Source of agricultural information



Preferred radio program listening times

Listening Times	Total	County			Gender	
		West Pokot	Marsabit	Samburu	Male	Female
9-11am	13%	0%	0%	37%	7%	17%
12-4pm	3%	2%	0%	7%	4%	3%
6-8pm	9%	11%	5%	12%	14%	6%
After 8 pm	85%	91%	95%	70%	86%	85%

Listenership



- Listenership of agricultural programs increased from 59% at the baseline to 96% at the end of the project
- Out of those who listened 33% reported to have increased their agricultural knowledge. Out of these 84% reported to have implemented a practice they heard
- Some respondents reported to visit agro-dealers to seek more information (Marsabit 54%, West Pokot 48%, Samburu 16%)

Practices implemented by farmers

- **Marsabit**
  - Soil conservation practices (terraces, crop rotation, mulching etc)
  - Use of herbicides and pesticides
  - Horticulture (pawpaw and oranges)
  - Growing green grams
- **Samburu**
  - Plant spacing and early planting
  - Mixed farming (maize and beans)
- **West Pokot**
  - Dairy farming (cows and goats, zero grazing)
  - Poultry keeping
  - Tissue culture banana growing

Feedback on programs

- 85% of those who listened to the programs reported that they were relevant to their information needs
- 86% reported that the content was clear and concise due to the use of local language
- 80% were content with the duration of the programs
- Respondents were content with programs aired in the evenings (Serian FM in Marsabit & Kalya FM in West Pokot), but not so in Samburu (Serian FM) which aired the programs during the day

Impact of the programs-radio stations

Radio station staff reported:

- a wide reach of the programs
- Increased feedback to stations from farmers after the programs
- Increased agriculture-related advertising on radio
- Increased interest in agriculture content by radio staff who were at first sceptical
- The abilities of radio staff to develop better programs was improved

"At the beginning of the project I had been sceptical about the response by listeners to agricultural programming. I used to present music programmes, mainly the rhythm and blues genre. I have since changed my attitude towards agriculture programming - our programmes are popular and farmer participation is excellent."

Carol Mwok, a presenter at Kalya FM in West Pokot

Impact of the program on farmers

Farmers said that they were now confident to seek for extension services whenever the need arose. (Extension officers gave their telephone numbers on the radio programs)

Tissue culture bananas in West Pokot

Impact of the program on farmers

- For some farmers, the radio broadcasts were their first access to information on better farming practices
- Being interviewed on radio and sharing their farming experience with other farmers gave them much satisfaction

Green grams in Marsabit

Impact of the program: Extension officers

- Radio gave them a platform to reach more farmers than they had anticipated at the Project inception
- Better understanding of how radio works and how they can use it to reach farmers better
- All extension officers participating in the project reported that their credibility among farmers had grown

"With radio my job has become very easy because thousands of listeners get the advice I give them in one radio broadcast. I can never achieve this in a week using the normal approach of farmer meetings or farm visits."
Peter Kodwaran, West Pokot

Challenges

Farmers

- Lack of financial resources
- Harsh climatic conditions
- Low radio ownership hindered many farmers from listening to the programs
- Low mobile phone ownership especially among women farmers
- Programs were viewed as too short. Requested that they are increased to 30-45 minutes

Radio stations

- Inadequate resources for the programming personnel and extension officers to effectively respond to the growing needs of farmers with on-farm support
- High staff turnover in some stations-retraining

Extension officers

- The strong cultures, beliefs, perceptions and attitudes of the communities in the three counties
- Rough terrain and long distances between HH made it difficult for follow-up-visits

Partnerships to overcome some of the challenges

Tawang'a- Knowledge that builds
Solar radio project in partnership with LifeLine Energy targeted at communicating development information (agriculture, health and nutrition) to hard to reach populations

Our continued partnership with Syngenta Foundation enables KiMI to provide much needed support to extension officers and radio stations to develop content that responds to farmers needs

MOU signed between Strathmore University and KiMI to develop a climate change curriculum to be used during trainings and workshops with stakeholders from the private and public sectors