EMPOWERING UGANDAN FARMERS THROUGH DIGITAL INNOVATION: TRAINING ON THE M-OMULIMISA PLATFORM FOR CLIMATE-SMART FARMING DECISIONS”

Training Report

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About AICCRA Reports
Titles in this series aim to disseminate interim research on scaling climate services and climate-smart agriculture in Africa and stimulate feedback from the scientific community.

Photos

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AICCRA
Accelerating Impacts of CGIAR Climate Research for Africa

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ABSTRACT

Decision support tools, particularly those that provide relevant data in a quick and user-friendly manner, are crucial in enabling farmers to make informed decisions in their day-to-day operations. This digital literacy training focused on utilizing the M-Omulimisa digital platforms to profile farmers, enhance access to agricultural insurance, quality farm inputs, market information, weather forecasts, and agro-advisories. This digital platform can be accessed by farmers via USSD for those with feature phones or without internet, as well as through Android apps to access all the services available to farmers.

The training was attended by 69 participants (46 males, 23 females) comprising lead farmers, extension workers, digital connectors/village-based agents from five districts of Uganda (Luweero, Mukono, Buikwe, Bugiri and Lira). During the two days of fieldwork and prior to onboarding, brief training sessions were conducted to highlight the benefits of using digital platforms and the value added by the M-Omulimisa App, which addresses farmers' needs. These trainings and support for onboarding farmers were conducted in Luweero, Lira, Buikwe and Bugiri. Plans were made to monitor the utilization of digital platforms to ensure that farmers remain active and receive value for their investment.

ABOUT THE AUTHORS

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CONTENTS

ACRONYMS

AFAAS	Africa Forum of Agricultural Advisory Services
AICCRA	Accelerating Impacts of CGIAR Climate Research for Africa
AI	Artificial intelligence
ASARECA	Association for strengthening Agricultural Research in East and Central Africa
CAADP-XP4	Comprehensive Africa Agriculture Development Programme Ex-pillar IV
DeSIRA	Development Smart Innovation through Research in Agriculture
ECA	Eastern and Central Africa
FINAPS-UG	Facilitation for Innovation and Sustainable Productivity -Uganda
FSCs	Farmer Service Centers
ICT	Information and Communication Technologies
IDA	International Development Association
IFAD	International Fund for Agricultural Development
Ips	Innovation Platforms
GAPS	Good Agronomic Practices
GAO	Gordon Agricultural Organization.
MAAIF	Ministry of Agriculture, Anima Industry and Fisheries
OACPS	Organization of African, Caribbean, and Pacific States
SMS	Short Messaging Services
USSD	Unstructured Supplementary Service Data
UFAAS	Uganda Forum of Agricultural Advisory Services
VBAs	Village based Advisors/Agent
VSLA	Village Savings and Loans Association
ZAABTA	Zirobwe Agaliawamu Agri-business Training Association

1. INTRODUCTION

Background information

Over 15 years ago, ASARECA adopted the Innovation Platform (IP) approach as a framework for scaling out its proven gender responsive and climate smart agricultural Technologies, Innovations and Management Practices (TIMPs) in its 15 member countries. Since then, ASARECA has been providing oversight and technical backstopping to key stakeholders involved in facilitation of agricultural commodity-based IPs in ECA. This includes strengthening the capacity of commodity-based IPs to enhance technology demand articulation and prioritization of research action and scaling of innovation at regional, national and sub-national levels.

Grain yields, especially for maize and rice farmers in Central, Eastern and Northern Uganda, are on a decline mainly due to poor agronomic practices, poor quality inputs including use of fake seeds, delayed planting due to absence of accurate weather forecasts to predict onset and cessation, exploitation by brokers due to lack of information about prices in the market and drought due to climate change. This is partly due to limited access to weather-indexed crop insurance services, extension and agro- advisory services. Additionally, there is a limited number of public extension service providers to meet the needs of farmers. To address this challenge

To address the challenges, ASARECA in collaboration with the Uganda Forum for Agricultural Advisory Services (UFAAS), the African Forum for Agricultural Advisory Services (AFAAS) and M-Omulimisa, a private AgriTech company in Uganda conducted a digital literacy training in use of M-Omulimisa phone-based digital platform and facilitated an on-boarding exercise of village-based agents and producers onto this platform. These activities are intended to support the increase in crop production, access to quality inputs, access to weather-index based insurance, weather forecasts and access to better and fair markets. We believe improved access to the above services will enhance the resilience of farmers to climate shocks hence improving their livelihoods.

1.1 About M-OMulimisa digital agriculture Platform

M-Omulimisa is a digital Agriculture platform that was first established in 2017. In 2021, with support from World Bank and Ministry of Agriculture and Fisheries Uganda (MAAIF), they received funding to design an agricultural extension platform. In 2022, M-Omulimisa won the Agritech Company of the year at the national agriculture awards in Uganda. M-Omulimisa provides a comprehensive and innovative suite of services designed to meet the diverse needs of small-holder farmers. These include the Village Savings and Loans Associations (VSLA) Digitization tools, Weather Index Insurance, Manya AI, a USSD artificial intelligence engine used by farmers to ask questions related to agriculture. It is accessible by sending a message to 8228. Additional updates are aimed at localizing content for farmers to access information in local languages. Furthermore, it consists of a farmer marketplace, Farmers discussion forum, to for asking agricultural related question.

The platform currently has over 24,500 registered farmers that access agricultural information and inputs. Over 55,000 individual advisory messages have been provided; 7,600 farmers insured; and approximately 5,000 acres of land mapped and insured with a turnover of over $50,000 worth of insurance claims made to date. In terms of VSLA, M-Omulimisa has 374 groups, 3,957 individual farmers with a savings portfolio of $80,000 USD.

Objectives

The overall objective of the training of trainers (ToT) in use of digital agriculture platforms and onboarding of farmers onto the M-Omulimisa platform was to strengthen capacities of village-based agents in the utilization of digital platforms to scale up proven climate resilient technologies. The specific objectives were:

1. To enhance the digital literacy of village-based agents and farmers in the use of m-Omulimisa digital platforms
2. To accelerate the adoption of digital technologies to facilitate access to agricultural quality inputs, advisory services, and dissemination of knowledge of good agronomic practices.
3. To increase farmer resilience to climate change through increased uptake of weather-index based insurance

Outputs

The expected outputs were:

1. Digital literacy of farmers to use phone-based platforms such as m-Omulimisa enhanced.

2. Village-based agents and farmers in producer cooperatives on-boarded onto m-Omulimisa digital platform.

3. Farmers in producer cooperatives such as ZAABTA use M-Omulimisa platforms to access services (market information, GAPs, insurance, quality inputs and weather forecasts).

4. Increase in the number of farmers insuring their crops, livestock and poultry

5. Reduced crop losses due to changes in rainfall patterns (delayed onset).

Expected outcomes

Utilization of the knowledge and skills gained from training to on-board farmers onto the m-Omulimisa digital platforms within the neighboring communities.

Organization of the training

This was a face-to-face hands-on training that was facilitated by staff of ASARECA Secretariat, AFAAS, UFAAS, and m-Omulimisa. It was conducted through practical demonstration sessions and actual on-boarding exercise for farmers in the districts of Buikwe, Luwero, Lira and Bugiri. The trainees comprised digital connectors from Gordon's Agricultural Organisation-Uganda (GAO-Ug), FINAPS-UG, Divine market connectors, Bugiri Crop Kings, Infinity Agricultural consults, Luweero-ZAABTA, Entrepreneurs for rural access, Buikwe Tukolelewamu farmer's group Buikwe, Bugiri-Nabigingo SACCO Ltd among others., and Bugiri Crop Kings. Village-based agents/digital connectors were practically trained on the following: (i) Use of the M-Omulimisa platform to purchase quality inputs, seek for agro-advisories, apply for credit and crop insurance and do garden mapping.

The training was conducted at Arch apartments and Hotel in Kampala Uganda, on 1st July 2025 followed by field work in the districts of Luwero, Buikwe, Bugiri and Lira from 2nd to 5th July 2025.

Opening session

Speaking to the participants, ASARECA's Programme Officer in charge of Technologies and Innovations, Dr. Joshua Okonya, during his opening remarks highlighted the urgent need for farmers to start using technology for farming. He appreciated the fact that 90% of the trainees had smart phones and encouraged youth to see this as an opportunity to make money within their communities. He further highlighted the need to leverage technology in the agricultural sector just as has been the case in the banking sector where MTN mobile money and Airtel money are popular and frequently used. He challenged participants to explore and fully utilize the power of the mobile phone beyond calling and receiving calls but to use them more productively to increase their farm income and improve livelihoods. He said that digitization of agriculture is one way to attract youth (both male and female) into the different nodes of the agricultural value chain such as distribution, supply, marketing, value addition, processing and was happy that this training targeted youth who comprise a significant proportion (10.8 million) of Uganda's population. Nearly 43% (about 4.1 million) of the youth are not in formal employment.

Dr. Okonya challenged the village-based agents or digital connectors to embrace the use of digital technologies to enhance access to new and urban markets for improved household incomes, livelihoods and food security of farmers. Participants of the training were attached to either a community-based organization, a producer cooperative or a farmer organization/group. He informed participants that on-boarding of farmers onto the digital platforms was going to be a continuous process in which the village-based agents and lead farmers who benefited from the current training would cascade the training further to their counterparts and on-board them too using the farmer-to-farmer approach.

In her opening remarks, Ms. Beatrice Luzobe Namusoke, the CEO UFAAS, emphasized the need to clearly define roles of each partner as the four institutions provide technical backstopping and routinely monitor the trained digital connectors to onboard farmers onto the M-Omulimisa platform. This could be through a collaborative framework between ASARECA, AFAAS, UFAAS and M-Omulimisa. She also encouraged the trainees to encourage farmers to embrace the use of digital services as this will bridge the gap in the number of available extension workers in the country.

In her opening remarks, the manager of the AICCRA project at ASARECA, Ms. Julian Barungi, introduced ASARECA as an intergovernmental organization, that operates in 15 member countries, with core focus on promoting demand-led proven and gender-responsive agricultural technologies, knowledge management, agricultural policy implementation, technical and human capacity strengthening and monitoring and evaluation for regional research for development programs and project. She emphasized the core reason why we are attending the training, to learn more about the M-Omulimisa agricultural extension application. She further emphasized the risks that climate change poses to farmers and encouraged the participants to use the M-Omulimisa Weather index insurance as one of the strategies for reducing risk resulting from erratic and unpredictable weather patterns.

Julian highlighted the need to work together to improve agricultural productivity and address issues of climate change and informed farmers that there will be a

follow up activity a year later to check on improvements attributed to the M-Omulimisa training. She further encouraged the system developers to translate the application modules into local languages that can easily be understood by farmers.

2. M-OMULIMISA DIGITAL APPLICATION TRAINING

M-Omulimisa provides a comprehensive and innovative suite of services designed to meet the diverse needs of small-holder farmers. M-Omulimisa application has several modules which include: Village Savings and Loans Associations (VSLA) Digitization tools, Weather Index Insurance, Weather forecasts, Manya AI, a USSD artificial Intelligence engine used by farmers to ask questions related to agriculture. The services are accessible via USSD and mobile apps, ensuring that farmers in even the most remote areas can benefit. With no need for smartphones in many cases. These are described in detail below:

Manya AI: The AI-powered advisory service delivers instant advice via SMS empowering farmers with actionable insights. Available for free across all networks, it ensures inclusivity and addresses the unique challenges faced by farmers in different regions. The service will soon provide support for multiple local languages. This is illustrated in figure below 2.2.1a.

VSLA: Through Digi Save, M-Omulimisa provides end to end digital financial solutions that digitizes savings groups and provide tools for financial literacy, loan management, and AI-powered credit scoring. These features enhance financial inclusion, enabling farmers to access affordable credit and manage their resources effectively as shown in figure 2.2.1b.

Figure 2.2.1a : Manya AI Module

Figure 2.2.1b. VSLA Application module

Weather Forecasts: This module provides location-specific weather forecasts and market information tailored to farmers' crops and regions. This service helps optimize farming activities and increases profitability through informed decision-making as illustrated in the figure 2.2.2a.

Agricultural Insurance: Our agricultural insurance solutions protect farmers against climate-related risks, safeguarding their livelihoods and promoting resilience in the face of challenges like extreme weather events. This is illustrated in figure 2.2.2b

Figure 2.2.2a Weather index forecasts

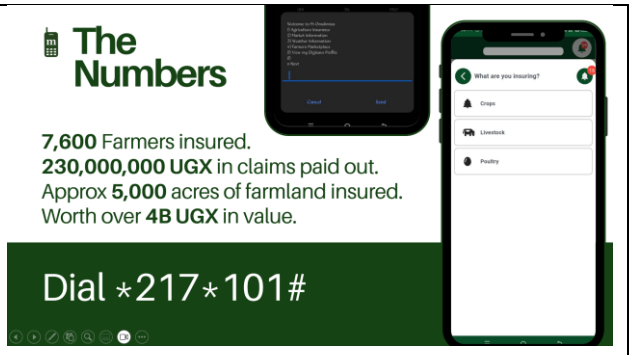
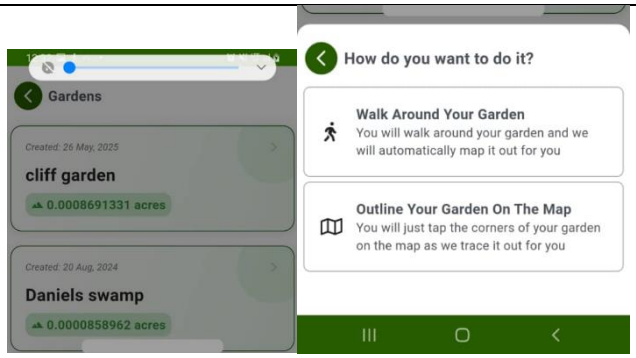


Figure 2.2.2b Weather Index Insurance

Market Place: M-Omulimisa provides Last-Mile Delivery of Inputs and Support to village agents network by ensuring high-quality agricultural inputs, tools, and services reach farmers wherever they are (Figure 2.2.3a). This approach guarantees timely access to resources while empowering rural youth with entrepreneurial opportunities.

Garden Mapping: Beyond offering standalone services, M-Omulimisa integrates solutions that address the entire agricultural value chain—from planting to selling. Farmers benefit from tools like garden mapping, access to a digital marketplace, and expert agronomic practices as illustrated in the figure 2.2.3b.

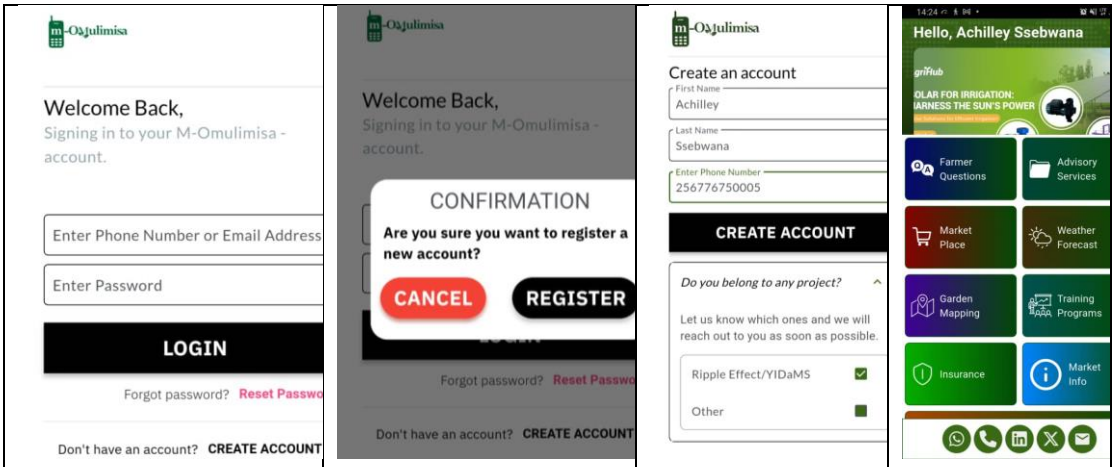
Figure 2.2.3a Farmers Market Place



2..2.3b Garden mapping Module

Onboarding farmers onto the platform

The process of onboard farmers starts by registering farmers onto the M-OMulimisa digital platform, setting of a user email as a username, and a password, as shown in Figure 2.3.1.



(a) User Logon Screen | (b) Registration Screen | (c)User Registration | (d) User Dashboard

Figure 2.3.1 Onboarding farmers onto the platform

Farmer profiling

During farmer profiling users update their biodata profiles to make sure that all the mandatory requirements are met. These include, the biodata information, residential address, National Identification details among others. This is highlighted in the figure 2.4.1below.

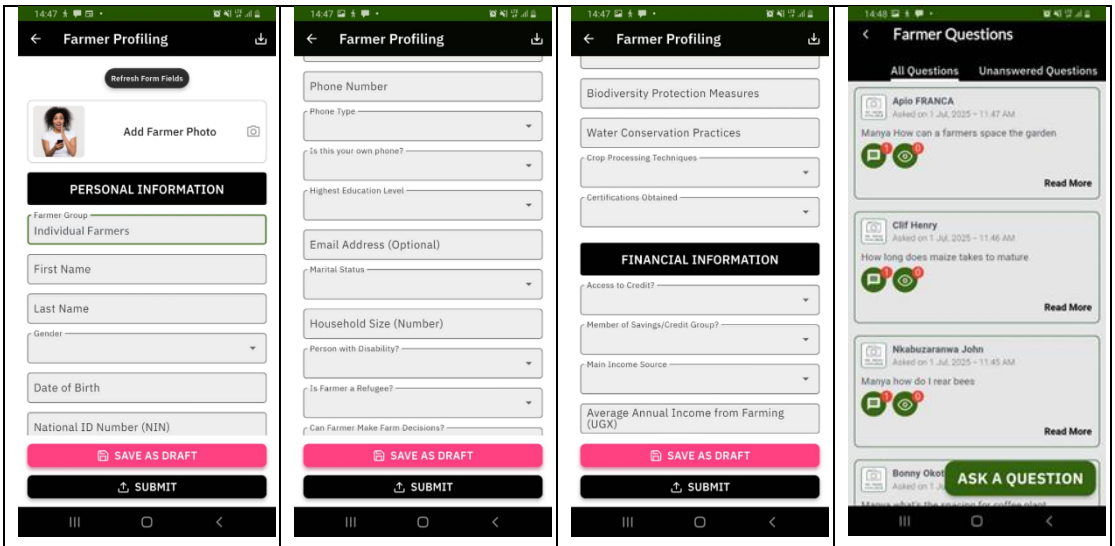
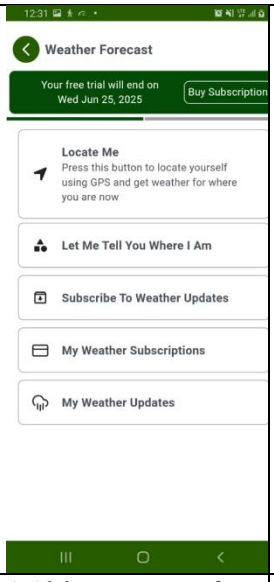


Figure 2.4.1 Farmer Profiling Information

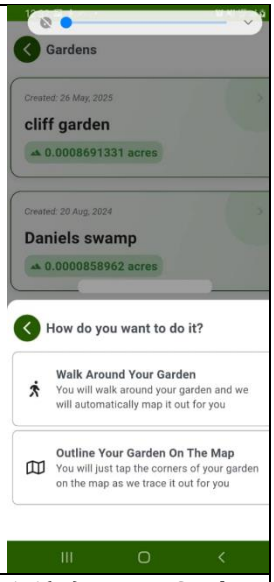
Access to the application modules is possible starting with farmer questions followed by Farmer Advisory services, farmer Market Place, Weather Forecasts and finally garden mapping (figure 2.4.2).

(iii) Farmer Advisory services

1.6(iv) Farmer Market Place



1.6(v) Weather Forecasts



1.6(vi) Garden mapping

Figure 2.4.2

Highlights of the training and Farmer onboarding onto M-Omulimisa Digital Platform

Below are some of the achievements of the M-Omulimisa digital platform training:

a) Hands-on demonstrations in the use of the M-Omulimisa digital platform was successfully conducted.

b) Q&A sessions were used to address all questions and concerns of the trainees.

c) 36 village-based digital connectors were trained on how to serve as agents and support farmers to use all services on the M-Omulimisa platform.

3. LESSONS LEARNT AND WAY FORWARD

1. The M-Omulimisa platform responds to farmers' needs of delivering good quality farm inputs especially seeds at a relatively lower price compared to the open-market retail price

2. The M-Omulimisa platform facilitates access to weather index crop and livestock insurance hence reducing the risk of the negative impacts of climate change such as drought and excessive rainfall. The platform also provides weather information.

3. Youth who have permanent residence within the community and already have a network of farmers they are serving with a different service or product are more reliable to work as digital connectors.

4. The trained digital connectors will need additional capacity building sessions in marketing for instance to build their confidence in sales and pitching.

5. M-Omulimisa digital application platform helps farmers mitigate risk and secure livelihood and build resilience in the face of unpredictable challenges.

Way forward

1. The trained digital connectors (village-based agents) will continuously onboard farmers onto the M-Omulimisa platform.

2. Target to train more public agricultural extension workers to also serve as a village-based agents as it eases their work and helps them to reach more farmers in a short time.

3. Create more awareness in rural areas to interest not only farmers but also district officials and NGOs.

4. For the agricultural insurance product, there is need to specifically target medium to large scale commercial farmers, especially those who use machinery on their farm and have at least one acre of a single crop per season.

5. Plan to collect success stories and continuously provide technical backstopping to the digital connectors

ANNEX 1: TRAINING PROGRAM

Date: 30th June - 05th July 2025: Venue: Kampala, Uganda

Date	Time	Activity
30th June 25	am	Travel to Kampala
	pm	Joint Planning meeting (AFAAS, UFAAS, ZAABTA and M-Omulimisa)
1st July 25	am/pm	Training of farmer leaders of ZAABTA in Zirobwe to use m-Omulimisa digital platforms for: (i) purchasing quality inputs (eg improved seeds, pesticides) (ii) apply for crop, livestock and poultry insurance (iii) receive location-specific weather forecasts (iv) market prices for crops (maize, beans, soybean, groundnuts and cassava) (v) field mapping (vi) Do's and Don'ts of Weather-based index crop and livestock insurance
2nd July 25	am/pm	Field day for on-boarding farmers onto M-Omulimisa digital platforms
3rd July 25	am/pm	Field day for on-boarding farmers onto M-Omulimisa digital platforms
4th July 25	am/pm	Field day for on-boarding farmers onto M-Omulimisa digital platforms
5th July 25	am	Departure

APPENDIX 2. TRAINING PARTICIPANTS

Name	Gender	IP/ Institution	District
1. Kisaakye Anthony	M	ZAABTA	Luwero
2. Mayambala Christopher	M	ZAABTA	Luwero
3. Senyonga Anthony	M	ZAABTA	Luwero
4. Male Richard	M	ZAABTA	Luwero
5. Mbidde Eriasaf	M	ZAABTA	Luwero
6. Ntege Stephen	M	ZAABTA	Luwero
7. Namugambe Rose	F	ZAABTA	Luwero
8. Sekabira Emmanuel	M	ZAABTA	Luwero
9. Nankya Prossy	F	ZAABTA	Luwero
10. Kyobe Micheal Jordan	M	Buikwe LG	BUIKWE
11. Jingo Joseph Nkumbi	M	Buikwe LG	Buikwe
12. Taremwa Owen	M	Buikwe LG	Mukono
13. Andrew Munyole	M	Buikwe LG	Buikwe
14. Waiswa Nicholas	M	Buikwe LG	Buikwe
15. Ankunda Moreen	F	Buikwe	Buikwe
16. Andima Vincent	M	Buikwe LG	Buikwe
17. Nkabuzaranwa John	M	Buikwe LG	Buikwe
18. Murungi Bwanika Tony	M	Buikwe LG	Buikwe
19. Kasamba Salim	M	BAIDA	Bugiri
20. Kenneth Mwanja	M	BAIDA	Bugiri
21. Nicholas Wabuyiwa	M	BAIDA	Bugiri
22. Kasamba Ratifu	M	BAIDA	Bugiri
23. Namusobya Farida	F	BAIDA	Bugiri
24. Mukuve Ivan	M	BAIDA	Bugiri
25. Nansubuga Safiyat	F	BAIDA	Bugiri
26. Bosana Victoria	F	BAIDA	Bugiri
27. Nanyange Joy	F	BAIDA	Bugiri
28. Stephen Alupa	M	BAIDA	Bugiri
29. Waiswa Adam	F	BAIDA	Bugiri
30. Mwesigwa Matilda	F	BAIDA	Bugiri
31. Nadego Hellen	F	BAIDA	Bugiri
32. Kisambila Hakimu	M	BAIDA	Bugiri
33. Awany Isaac	M	FINASP	LIRA
34. Okello Ciprian	M	FINASP	LIRA
35. Omia Emmanuel Emmy	M	FINASP	LIRA
36. Olet Calvin	M	FINASP	LIRA
37. Joshua Okonya	M	ASARECA	Wakiso
38. Ben Ilakut	M	ASARECA	Wakiso
39. Achilley Ssebwana	M	ASARECA	Wakiso
40. Julian Barungi	F	ASARECA	Wakiso
41. Daniel Ninsiima	M	M-Omulimisa	Wakiso
42. Saida Nakaziba	F	M-Omulimisa	Wakiso
43. Janepher Wabulyu	F	M-Omulimisa	Wakiso
44. Simeon Mubiru	M	M-Omulimisa	Wakiso

45. Beatrice Luzobe	F	UFAAS	Kampala
46. Elizabeth Asiimwe	F	UFAAS	Kampala
47. Scovia Lindway Ojuru	F	UFAAS	Kampala
48. Bashir Benbela	M	AFAAS	Kampala
49. Steven Ngolobe	M	Nabigingo SACCO Ltd	Bugiri
50. Rogers Kizito	M	Nabigingo SACCO Ltd	Bugiri
51. Mulodhi Muhabansi	M	Nabigingo SACCO Ltd	Bugiri
52. Musoga Sale	M	Nabigingo SACCO Ltd	Bugiri
53. Isabirye Brian	M	Nabigingo SACCO Ltd	Bugiri
54. Balegeya Mutwalibi	M	Nabigingo SACCO Ltd	Bugiri
55. Obbo Zadoki	M	Nabigingo SACCO Ltd	Bugiri
56. Ochieng Ronald	M	Nabigingo SACCO Ltd	Bugiri
57. Tugabane Yoweri	M	Nabigingo SACCO Ltd	Bugiri
58. Tenywa Godfrey	M	Nabigingo SACCO Ltd	Bugiri
59. Namuyalu Aisha	F	Nabigingo SACCO Ltd	Bugiri
60. Aisha Nakagolo	F	Nabigingo SACCO Ltd	Bugiri
61. Babita Yayeri	F	Nabigingo SACCO Ltd	Bugiri
62. Nanangu Asiya	F	Nabigingo SACCO Ltd	Bugiri
63. Okoth John	M	Nabigingo SACCO Ltd	Bugiri
64. Nakabenda Mary	F	Nabigingo SACCO Ltd	Bugiri
65. Nabikamba Isa	M	Nabigingo SACCO Ltd	Bugiri
66. Erumbi Annet	F	Nabigingo SACCO Ltd	Bugiri
67. Otabongo Francis	M	Nabigingo SACCO Ltd	Bugiri
68. Omasete Gabriel	M	Nabigingo SACCO Ltd	Bugiri
69. Acepu Livingstone	M	Nabigingo SACCO Ltd	Bugiri
70. Wanyana Annet Hadijah	F	ASARECA	Wakiso

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