



## *ICT in Sweet Potato Seed Systems*

# **“Knowledge Management and Service Delivery in Sweet Potato Seed Systems Using ICT”**

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**“Knowledge Management and Service  
Delivery in Sweet Potato Seed Systems  
Using ICT”**



# Talk Overview



1. Setting the scene....
2. Challenges in Sweet Potatoes Seed Systems
3. Appreciating the role of ICT in a crop value chain
4. Overview of sweet Potatoes ICT Platform
5. Way forward on the ICT Work Package of **ICOPSEA**





# Setting the Scene: Tale of Missed opportunities



1. 33% of the land is arable
2. Abundant source of water and favorable climate
3. Growing higher education sector, 33 Universities (research capacity)
4. Growing population. Approx. 38m people
5. 80% of population rely on subsistence agriculture
6. With inadequate agriculture extension services
7. Uganda # 1 in sweet potatoes production in Africa





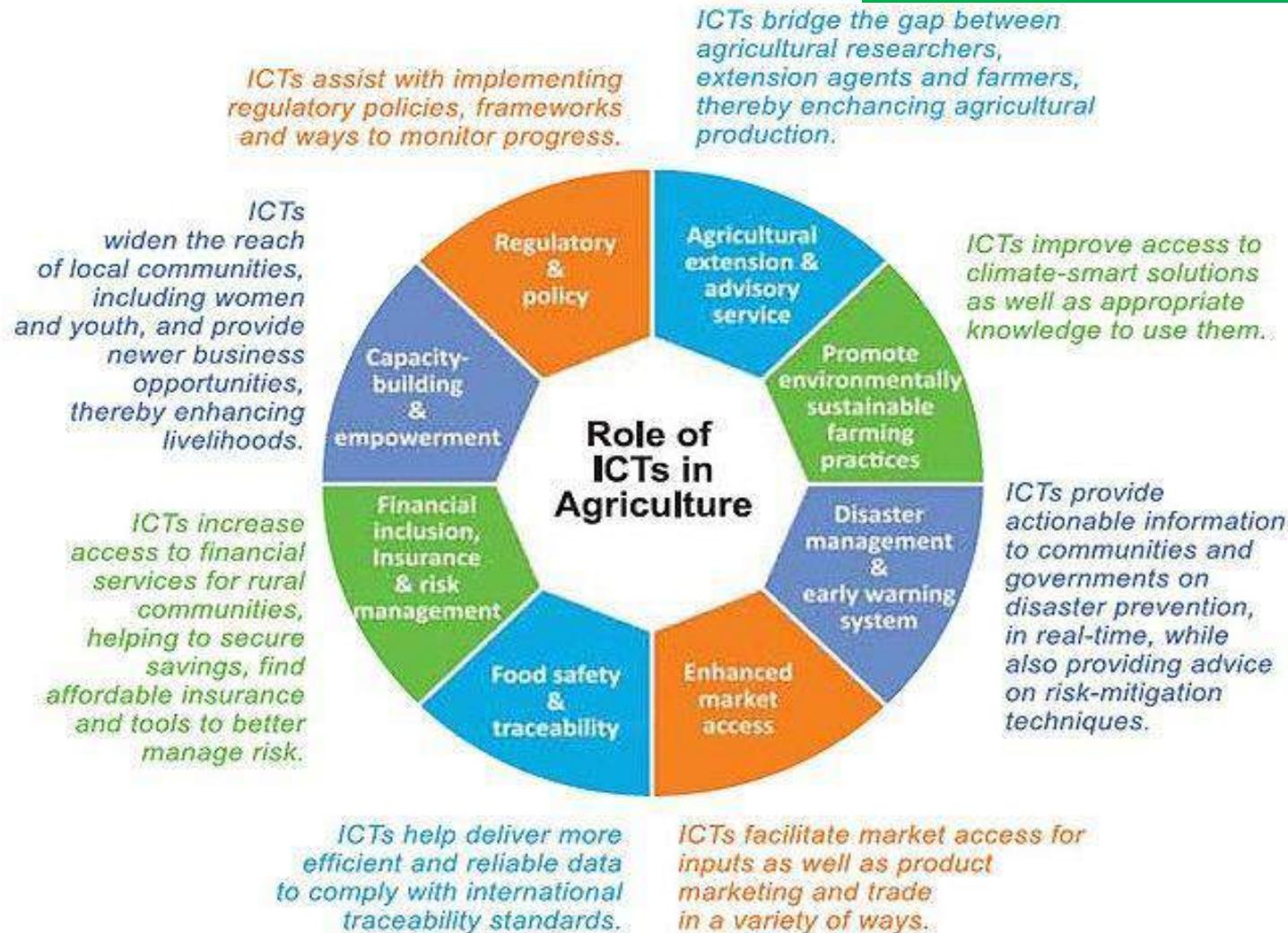
# Challenges in sweet potatoes Seed Systems in Uganda



1. Limited access to quality input materials
2. Limited access to quality markets
3. Poor quality of extension services
4. Limited access to financial services
5. Weak production records management
6. Limited access to quality information
7. Poor management of pest and disease out breaks



# Role of ICT in Agriculture



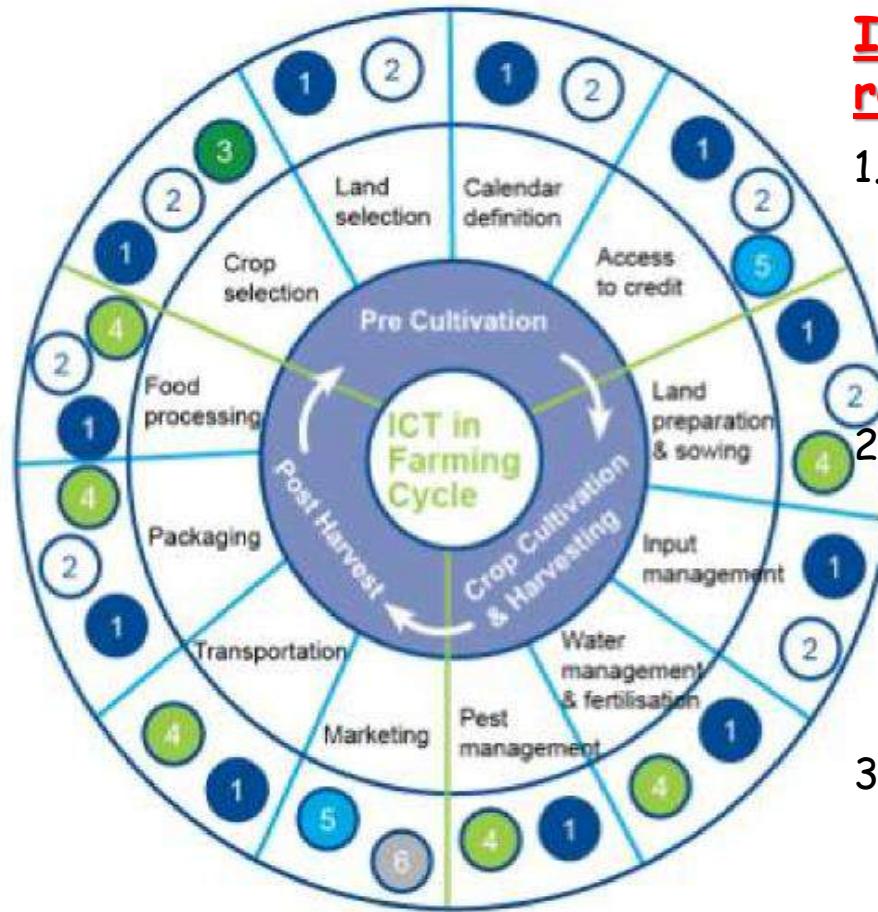
Source: FAO, ITU



# Role of ICT in Crop Value Chains



- 1 Information systems including DSS/ MISS/GIS etc
- 2 ICT-enabled learning and knowledge exchange
- 3 Modelling solutions
- 4 Sensory and proximity devices
- 5 ICT-enabled networking solutions
- 6 Online commerce tools (eCommerce/ mCommerce)



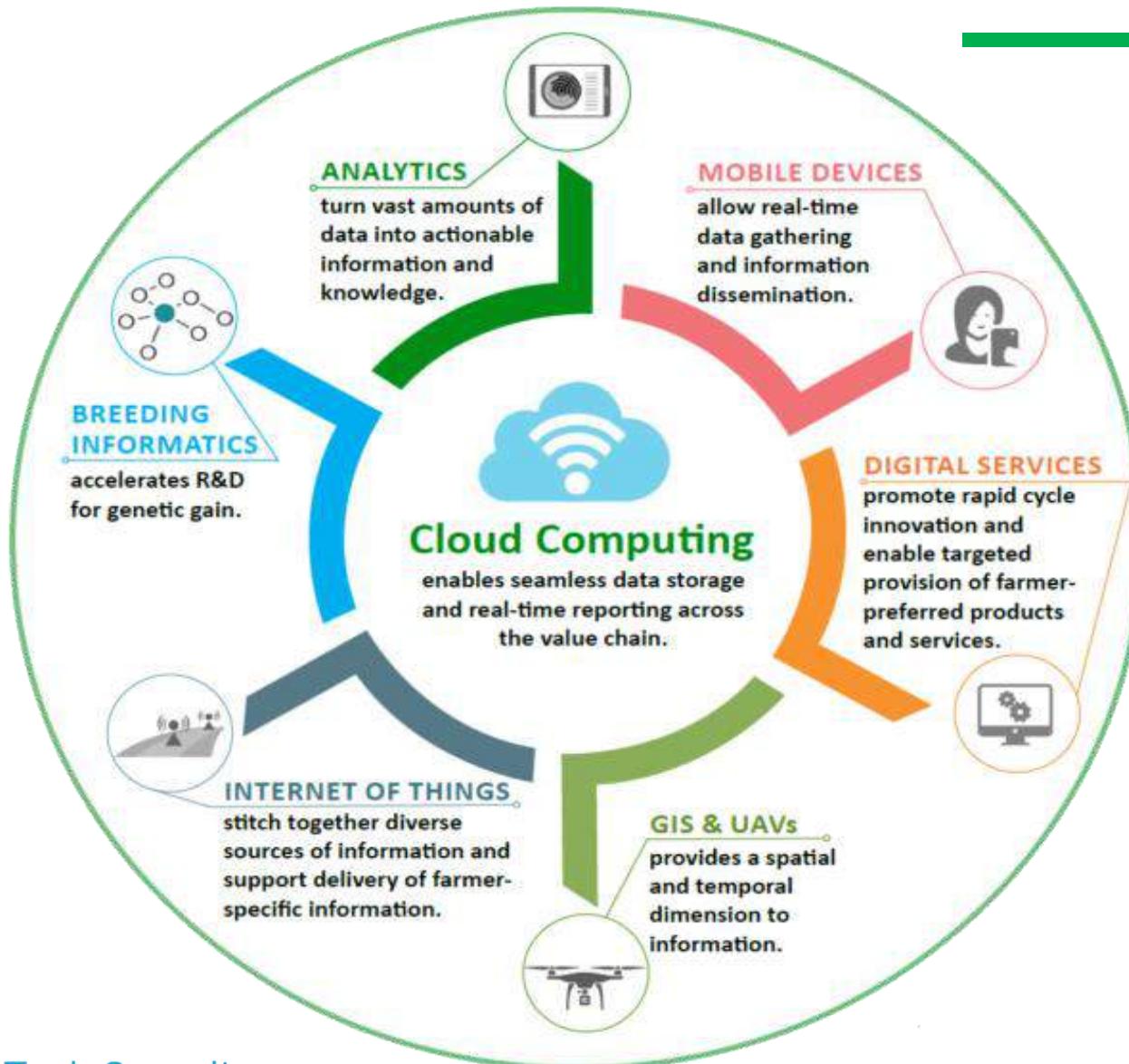
**ICT has three key roles:**

1. **Capturing** information (farmers, suppliers, gardens, market)
2. **Information processing** and visualization (predicting, explaining, meaning)
3. **Information exchange** and knowledge sharing





# Agri-Web Services

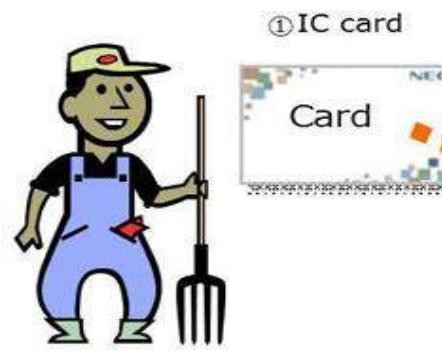




# Typical Example of Agri-Web Services

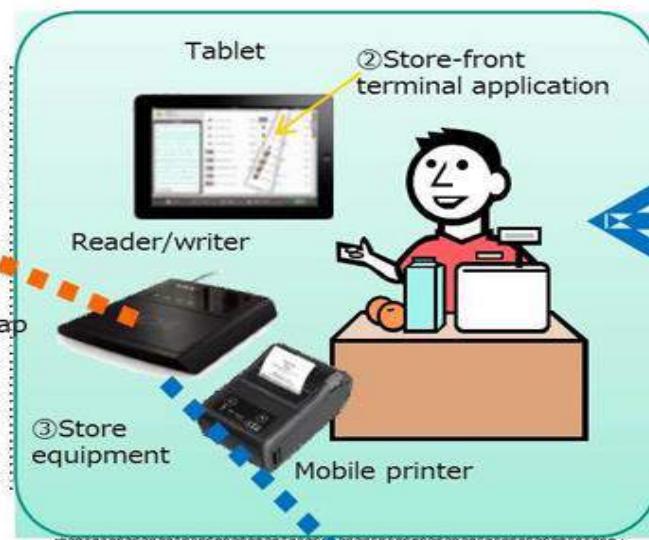


## Rural farmers (service users)



① IC card

## Rural area service shop



② Store-front terminal application

Reader/writer

③ Store equipment

Mobile printer

④ Financial infrastructure package (cloud-based)

## New social service office

Service management  
Information analysis and processing



Support

Communication lines

⑤ Set of server equipment (cloud-based)



Financial institution,  
farming assistance company



Communication lines



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# Sweet Potatoes ICT Platform Overview



- > **Web Portal:** Frontline platform for information access on sweet potatoes value chain and ICOPSEA project
- > **User query management and data collection:** The system that support the capture of user requests and provides features for responses
- > **Garden mapping:** Supports geo-mapping of sites in real-time
- > **Integrated databases:** farmer profiles, input providers, market database
- > Pest and Disease surveillance..
- > Customer order management...
- > Stock tracking ....
- > Tracking certification and garden inspection ...





# Sweet Potatoes ICT Platform Overview



*Optional features could be implemented*

Project activity implementation tracking

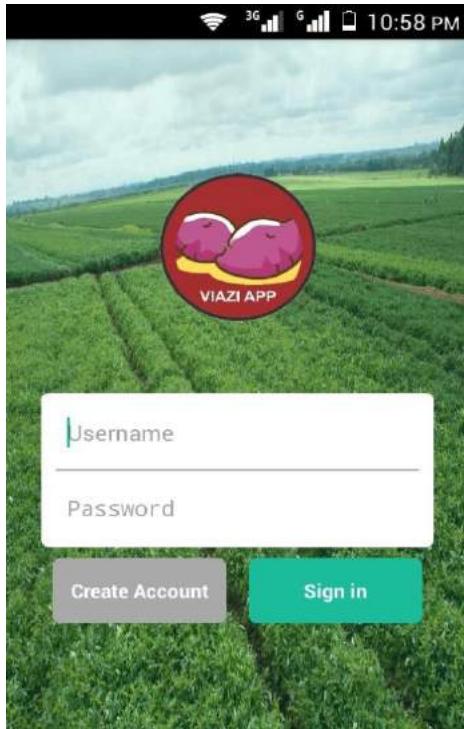
Project progress monitoring

Project activity reporting





# A peep into Sweet Potatoes ICT Platform features



Login interface for all the registered users



Non registered Farmer is required to provide his full details



# A peep into Sweet Potatoes ICT Platform features



Register Garden

Garden Size  
e.g 40 Acres

Planting Purpose  
 Roots

Planting Date (Click To Change)  
YYYY-d-m

REGISTER GARDEN

**Farmer may proceed and request to be a certified seed multiplier**

MyGardens			
Planting Date: 2017-07-20			
Roots Garden	37 Acres	Ready	certified
Planting Date: 2017-07-20			
Veins Garden	69 Acres	Ready	certified
Planting Date: 2015-02-09			
Roots Garden	13 Acres	certified	
Planting Date: 2017-10-16			
Roots Garden	23 Acres	Not Certified	

A farmer registers the garden on which the application captures all the details plus the GPS coordinates in the background after the farmer may request to be vein multiplier



# A peep into Sweet Potatoes ICT Platform features



Garden Inspection

Inspection Requests / Schedule Inspection

Certification Date Range 11/16/2017 - 11/16/2017

Show 10 entries  Search:

Farmer (Owner)	Garden info	Farmer's Training Status	Schedule Inspection
Mugisha John	<p>Garden Size: 20 Acres</p> <p>Purpose: Roots</p> <p>Planting Date: 2017-08-23</p> <p>Request Date: 2017-08-27 00:57:06</p>	Not Trained <input type="button" value="Change To Trained"/>	<p>Inspection 1 <input type="button" value="Schedule"/></p> <p>Inspection 2 <input type="button" value="Schedule"/></p> <p>Inspection 3 <input type="button" value="Schedule"/></p> <p><input type="button" value="Save Schedule"/></p>
Namanya Abert	<p>Garden Size: 12 Acres</p> <p>Purpose: Roots</p> <p>Planting Date: 2017-08-31</p> <p>Request Date: 2017-09-06 06:04:55</p>	Trained	

Showing 1 to 2 of 2 entries  1

← Garden Inspections

Inspection Date: 2017-09-24

Inspection Stage 3 Garden Size: 13 Acres

Inspection Date: 2017-09-20

Inspection Stage 2 Garden Size: 13 Acres

Inspection Date: 2017-09-17

Inspection Stage 1 Garden Size: 13 Acres

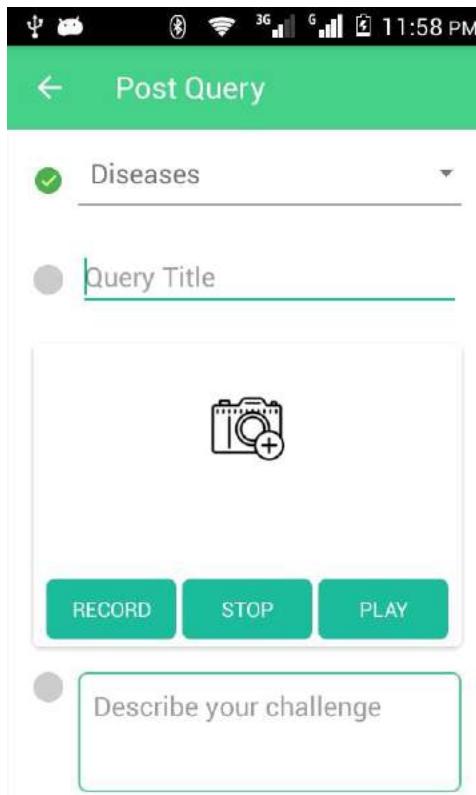
Inspection Date: 2017-09-06

Inspection Stage 3 Garden Size: 69 Acres

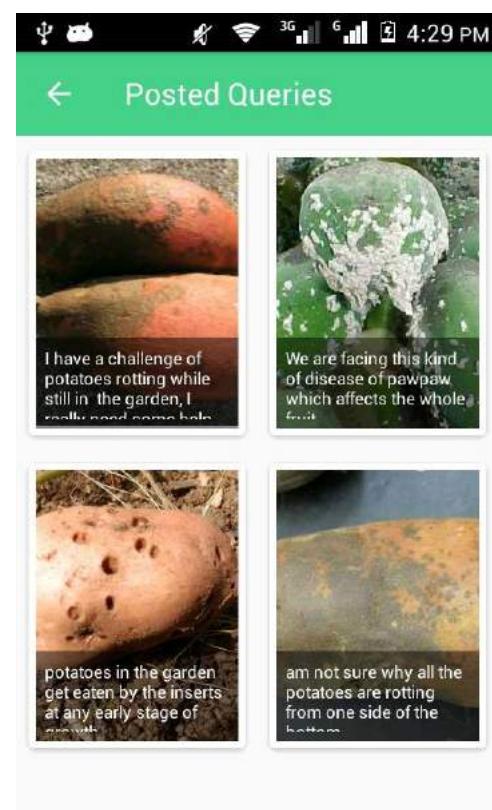
The seed company has got the experts who go in the field to supervise / inspect all the gardens which were requested to be certified after all the three stage inspection then gardens are marked as inspected and certified



# A peep into Sweet Potatoes ICT Platform features



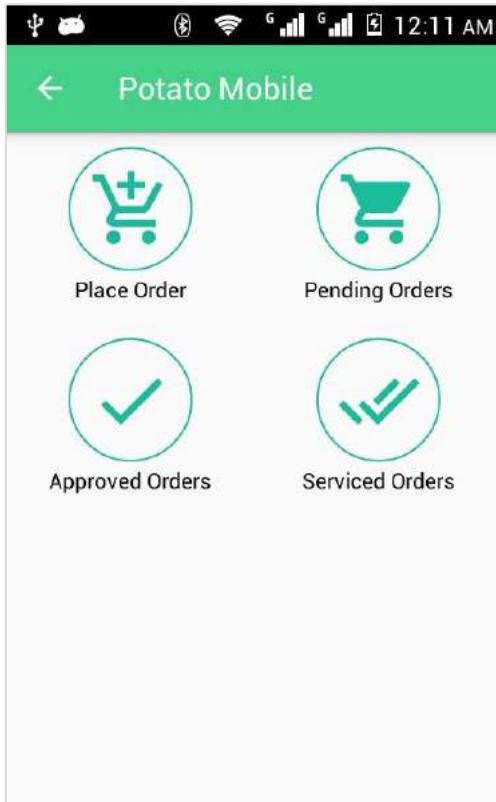
Farmer can post a number of queries per each category (diseases , insects, pests , climate , soil all those queries are responded by different experts corresponding their expertise



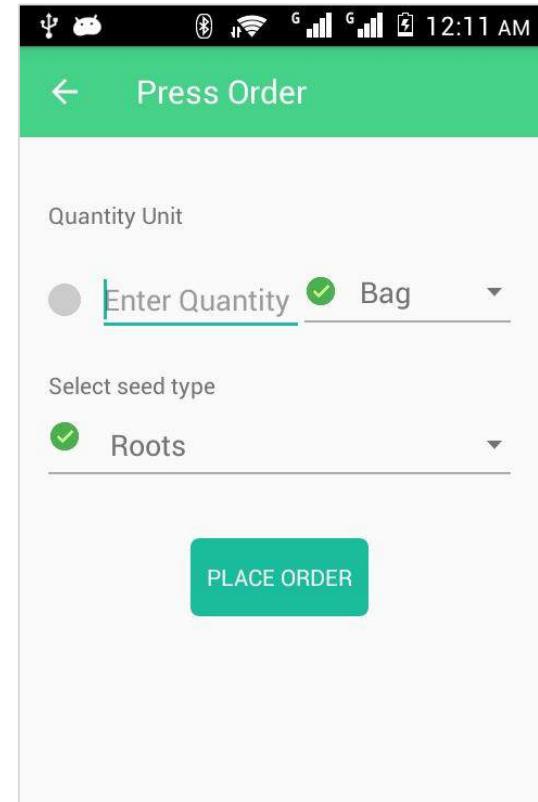
This system enables extension agents to provide advisory services based on farmer requests.



# A peep into Sweet Potatoes ICT Platform features



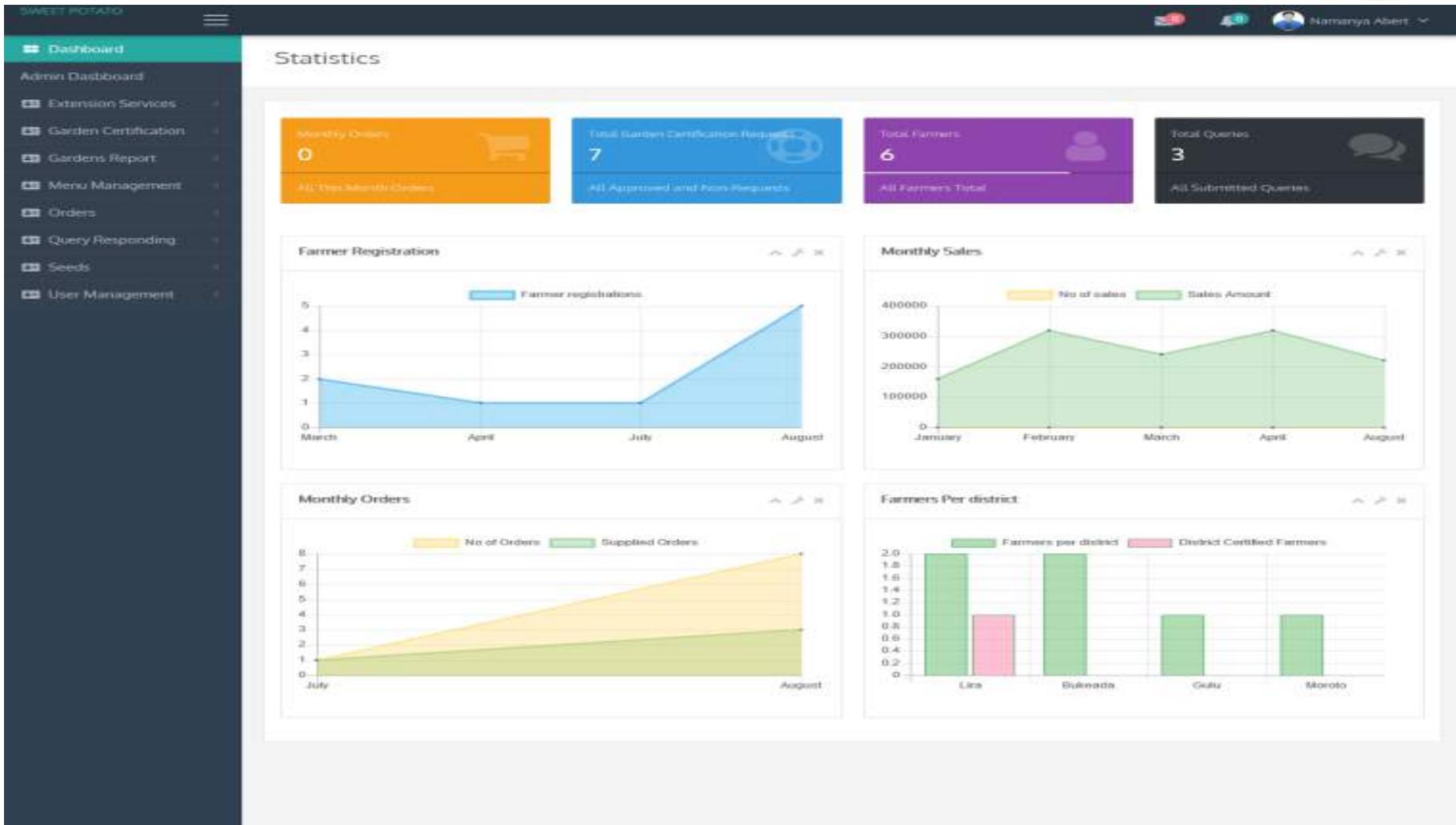
Registered farmers order for veins /roots for those who want to consume the roots or for sale on a larger market



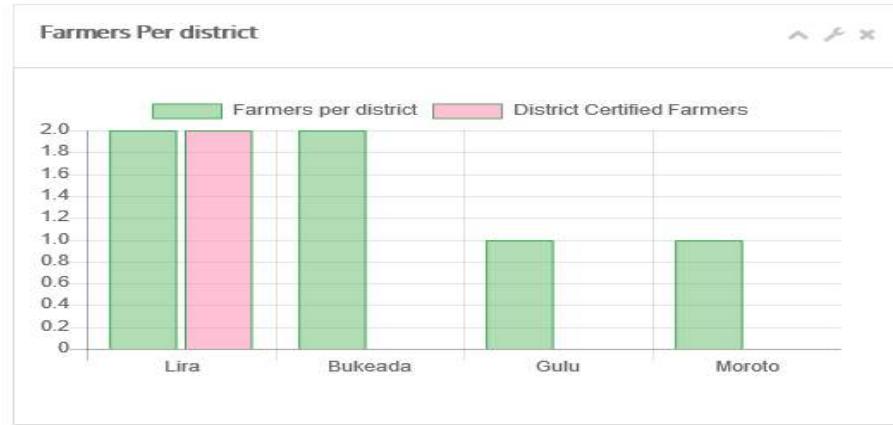
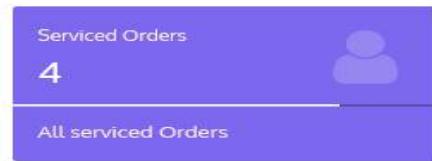
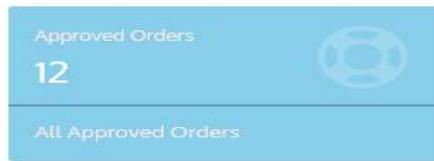
With this feature the farmers are able to order for veins from certified seed multipliers



# A peep into Sweet Potatoes ICT Platform features



Data visualization on dash boards



All the statistical information is displayed on the dashboard which is used for decision making



# More and More ICT in Agriculture - Do you have a choice?



CB INSIGHTS



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# Mapping A Sweet Potatoes garden in Bukedea





# Thank You



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