



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





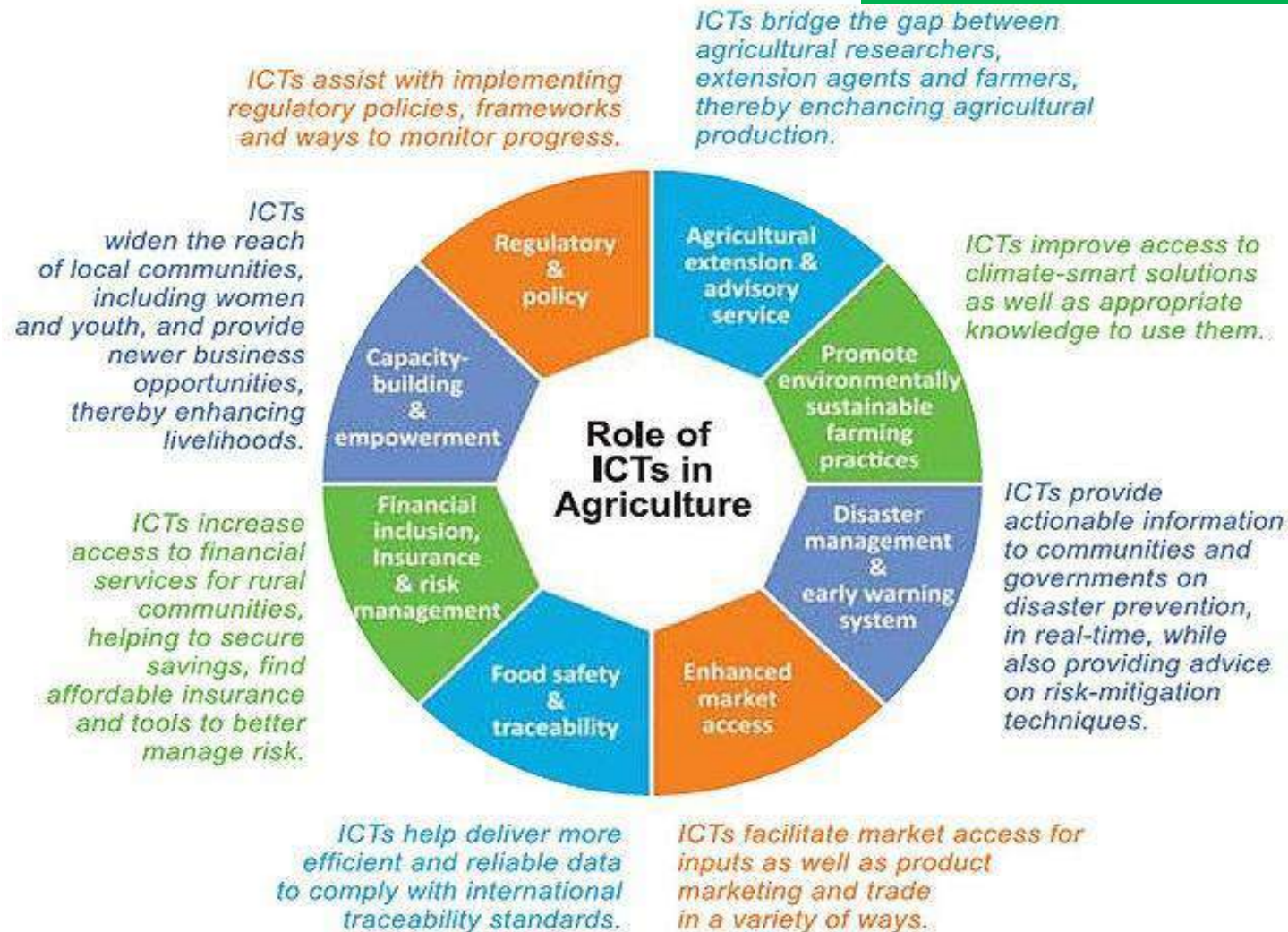
Challenges in sweet potatoes Seed Systems in Uganda



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



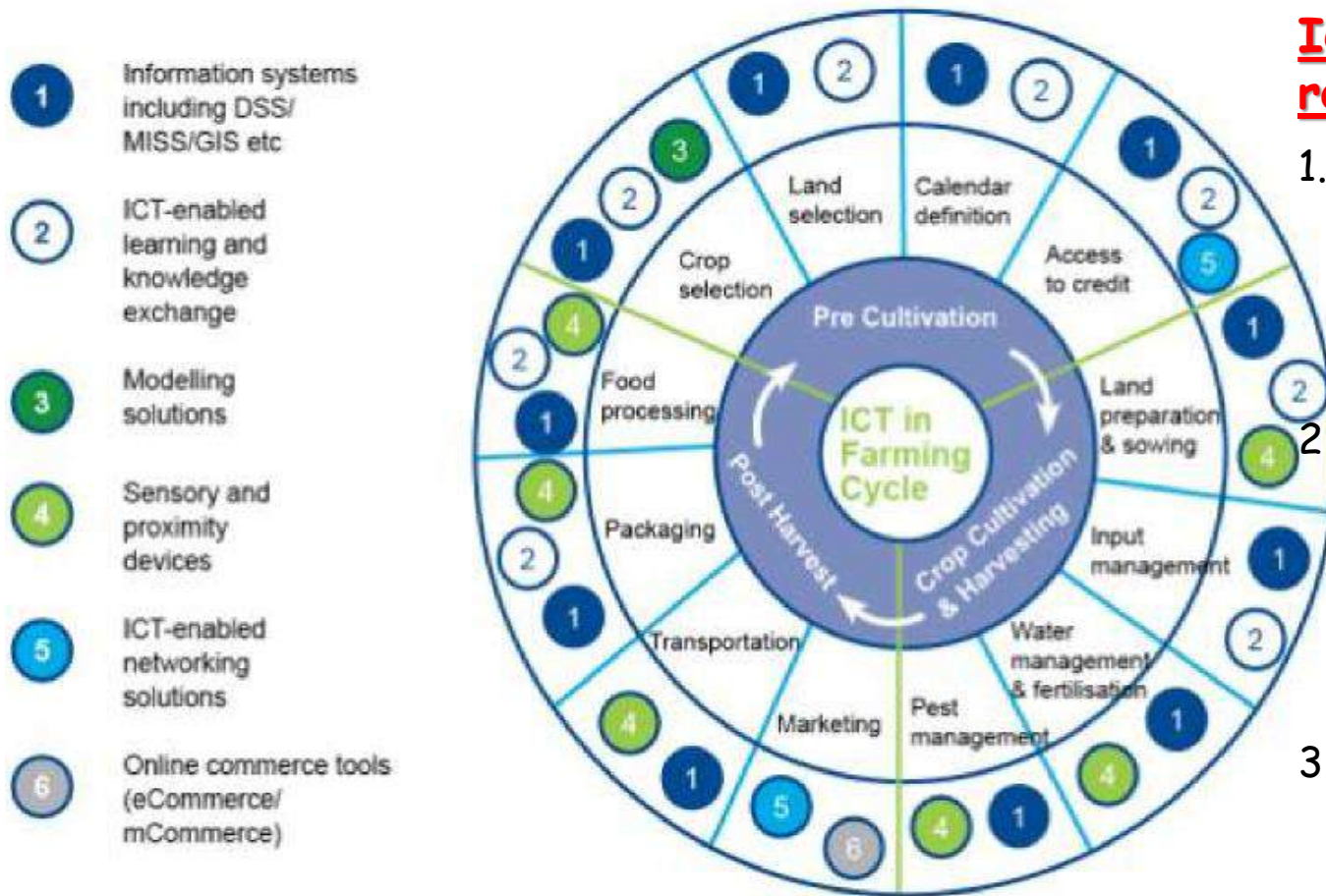
Role of ICT in Agriculture



Source: FAO, ITU



Role of ICT in Crop Value Chains

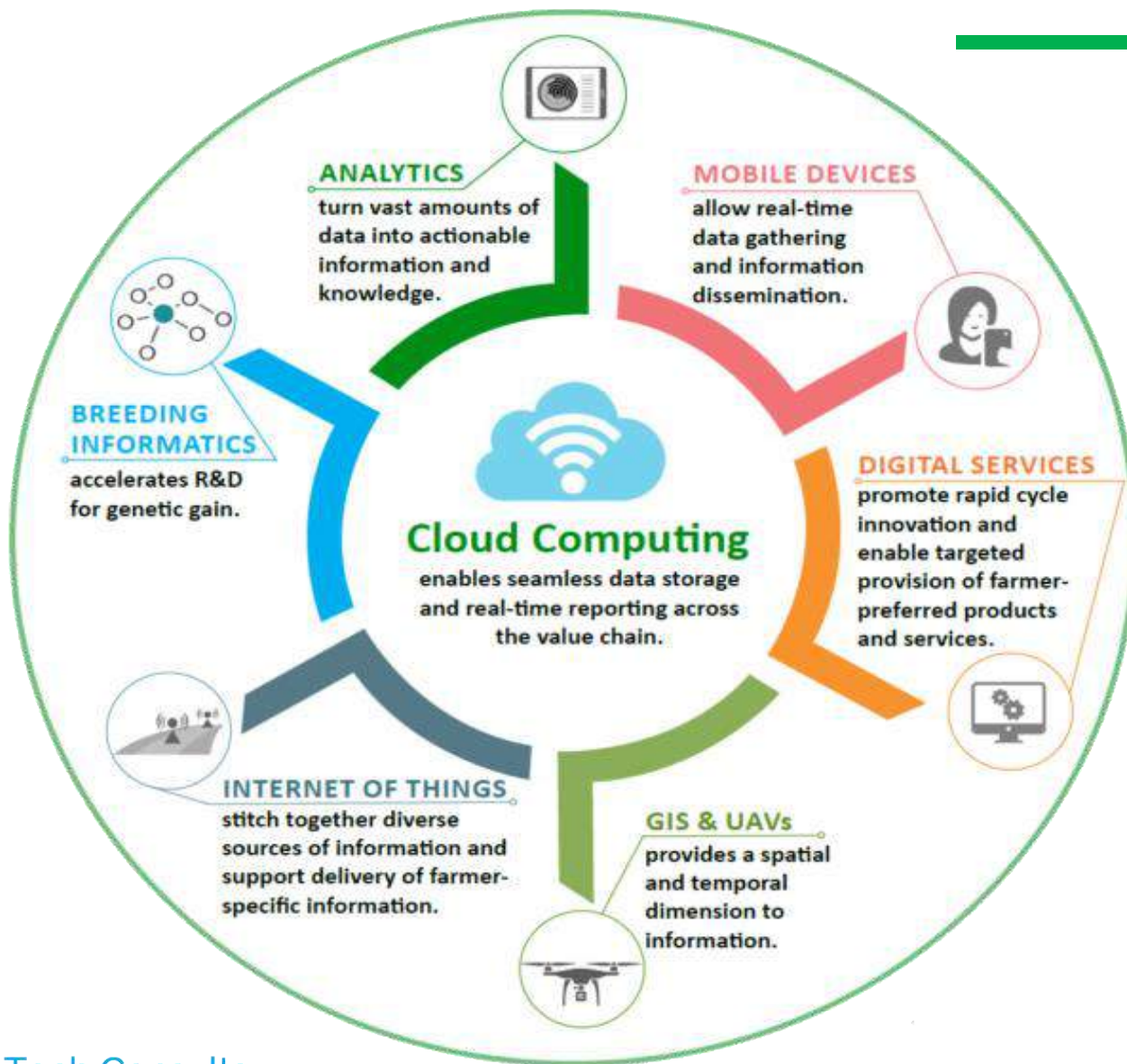


ICT has three key roles:

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



Agri-Web Services

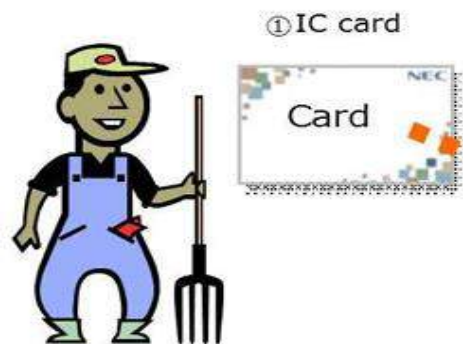




Typical Example of Agri-Web Services



**Rural farmers
(service users)**



Loans,
farming guidance



**Financial institution,
farming assistance company**

Rural area service shop

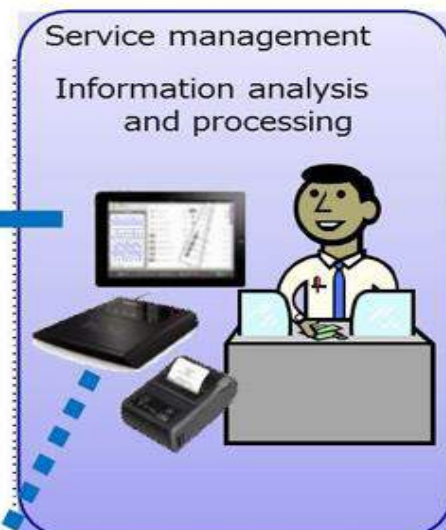


Communication lines

④ Financial infrastructure package
(cloud-based)

Communication lines

New social service office



Communication lines

⑤ Set of server equipment
(cloud-based)



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

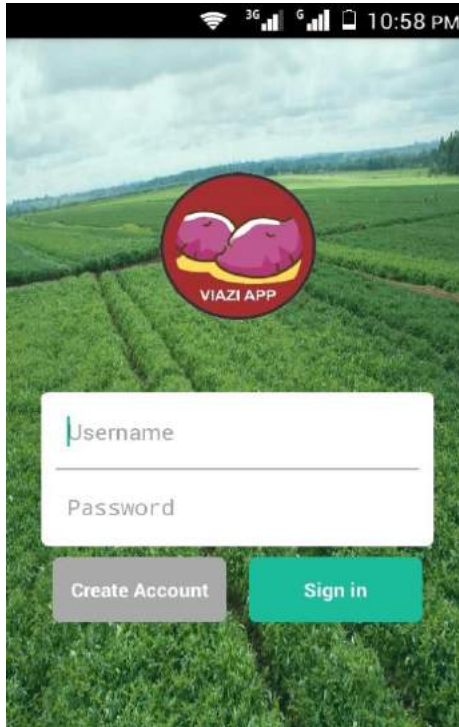
Project progress monitoring

Project activity reporting






A peep into Sweet Potatoes ICT Platform features



Login interface for all the registered users



Create Account



First Name

Last Name

Telephone Number

Username

password

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 [Search](#)

Show 10 entries Search:

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

Showing 1 to 2 of 2 entries [Previous](#) 1 [Next](#)

[←](#) Garden Inspections

Inspection Date: 2017-09-24

Inspection Stage 3
Garden Size: 13 Acres [Inspected](#)

Inspection Date: 2017-09-20

Inspection Stage 2
Garden Size: 13 Acres [Inspected](#)

Inspection Date: 2017-09-17

Inspection Stage 1
Garden Size: 13 Acres [Inspected](#)

Inspection Date: 2017-09-06

Inspection Stage 3
Garden Size: 69 Acres [Inspected](#)

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



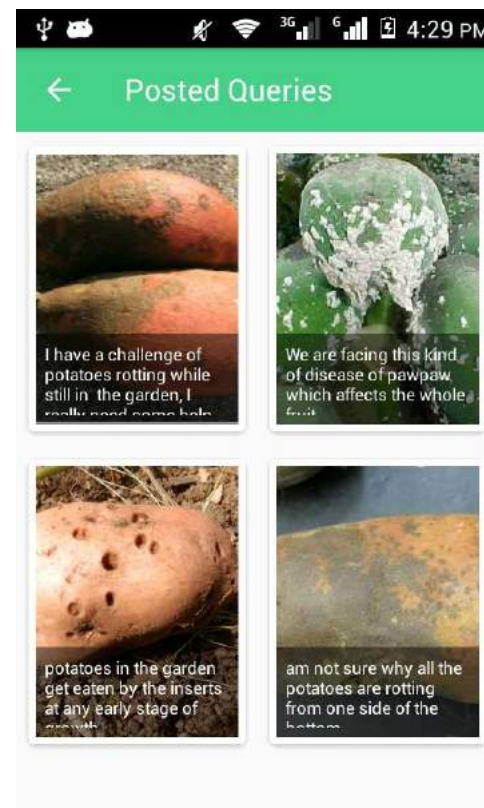
A peep into Sweet Potatoes ICT Platform features



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



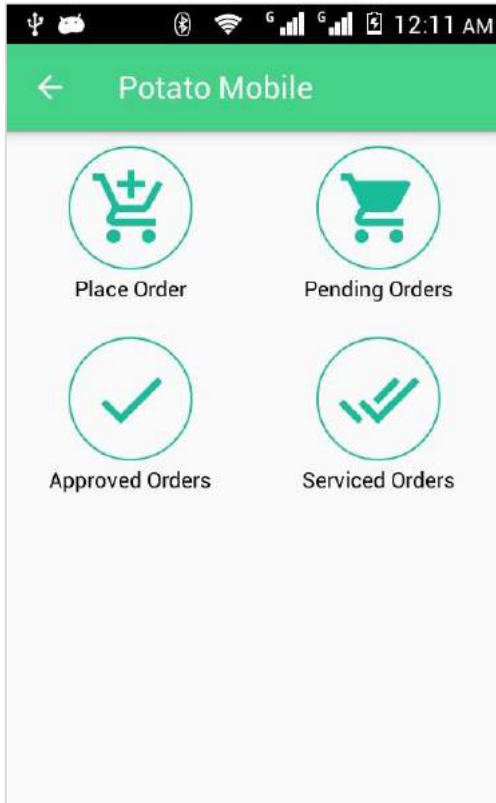
What is required of the farmer is to describe the challenge either by recording himself /attaching a photo of the affected part of the plant ,action taken so all this helps the experts to determine immediate solution



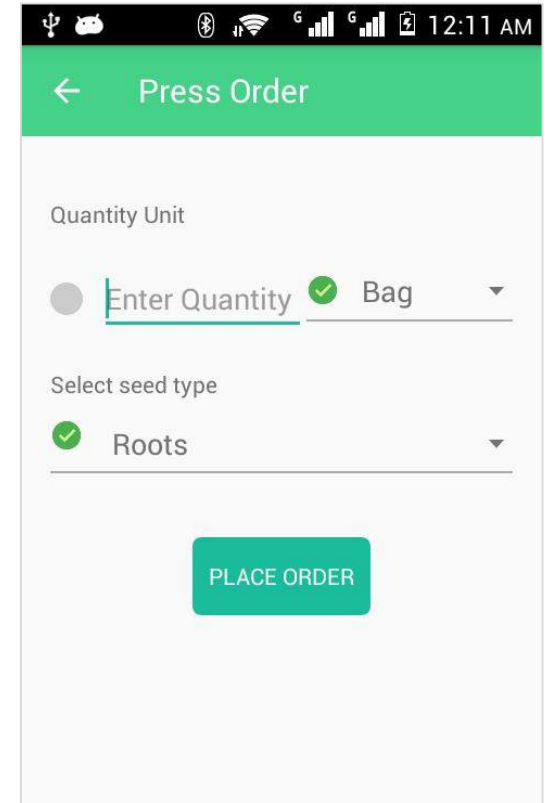
This system enables extension agents to provide advisory services based on farmer requests.



A peep into Sweet Potatoes ICT Platform features



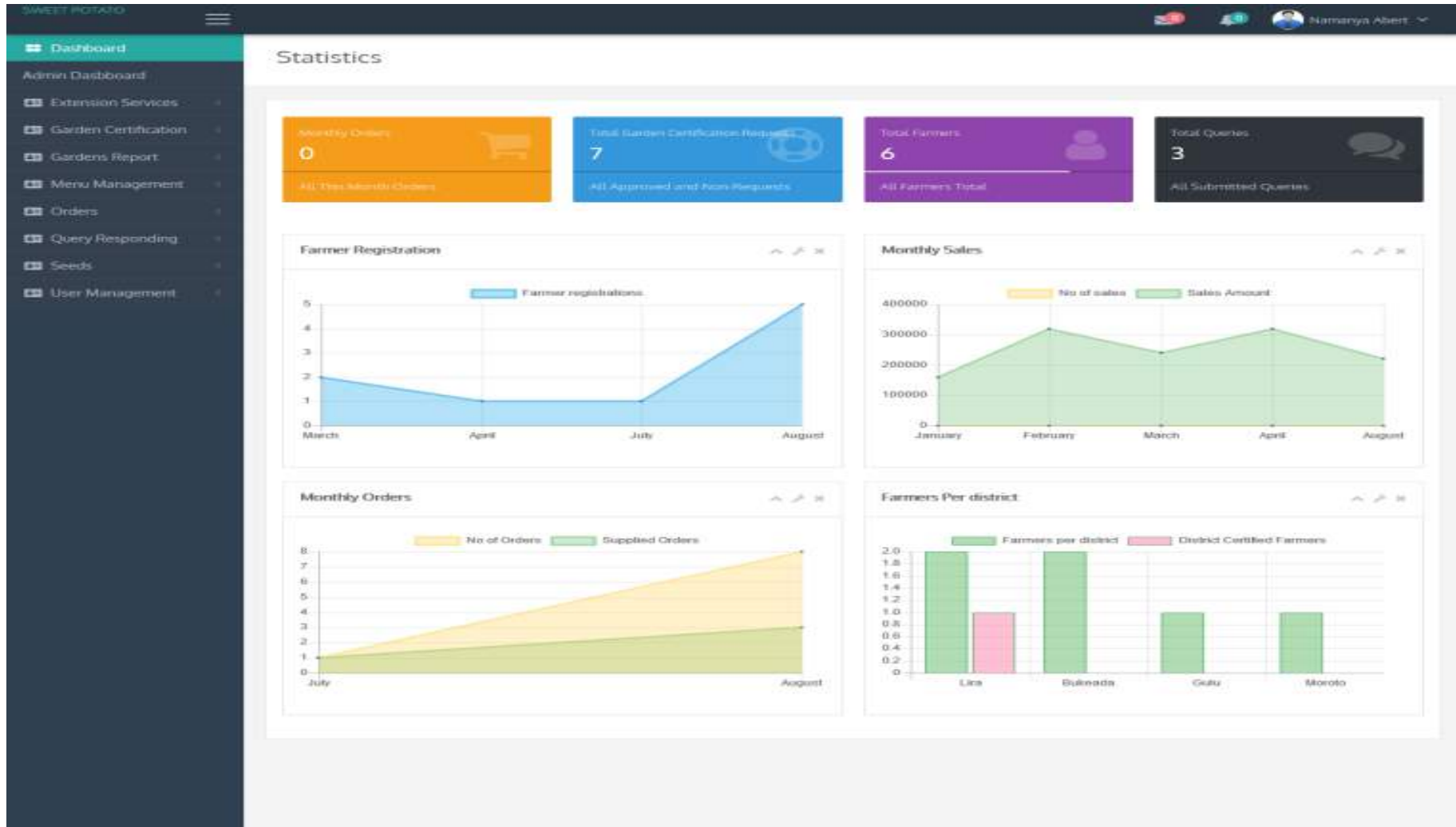
Registered farmers order for veins /roots for those who want to consume the roots or for sale on a larger market



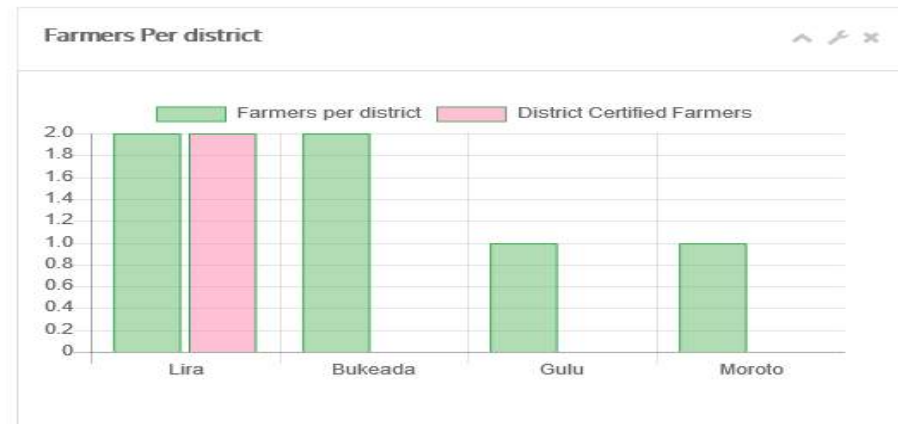
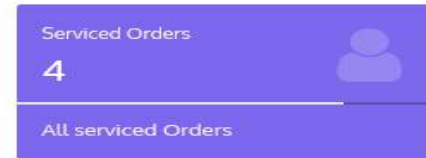
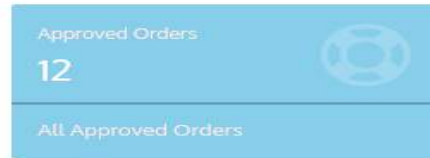
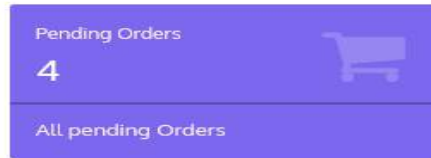
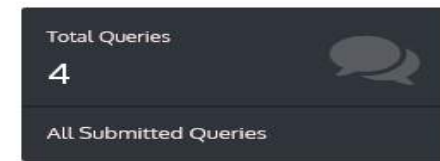
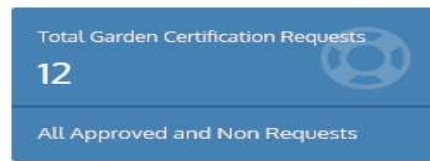
With this feature the farmers are able to order for veins from certified seed multipliers



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?



FARM MANAGEMENT SOFTWARE



NEXT GEN FARMS



ANIMAL DATA



SMART IRRIGATION



PLANT DATA/ANALYSIS



PRECISION AGRICULTURE AND PREDICTIVE ANALYTICS



MARKETPLACES



ROBOTICS AND DRONES



SENSORS



CBINSIGHTS

Mapping A Sweet Potatoes garden in Bukedea





Thank You

