Enhancing nutrition security and incomes through adding value to indigenous vegetables in East & Central Uganda

Report on the UK visit

Jagwe J.N., Masanza M., Kasharu M., Namutebi A., Rees D. and Kizito E.B.

March 2015
Summary

The project team members from Uganda travelled to the UK to benchmark project activities with the European partner; Natural Resources Institute, as well as explore and investigate technologies and methods used to prolong shelf life of vegetables (both berries and leafy ones). The trip took place on 17th to 21st March 2015.

A number of organisations and research facilities of interest were visited and these included the following:

- A whole sale market for vegetables called the New Covent Garden market in Central London
- A Fresh produce Journal editor in Central London
- A vegetable Farm in Dover (Angflor)
- East Malling Research Centre
- Natural Resources Institute

During the visits, the team got exposed to the different technologies and methods used in handling of fresh produce in Europe. Technologies appropriate to tropical Africa were also discussed. The team also met food scientists at Eastern Malling who explained the different scientific research done at the centre (texture & colouration deterioration, fruit & vegetable ripening plus the causes as well as outlining the research history.
Contents

Summary .............................................................................................................................................. 2
Contents............................................................................................................................................. Error! Bookmark not defined.
Day one ............................................................................................................................................... 4
Day two ............................................................................................................................................... 4
Day three .......................................................................................................................................... 8
Day four .......................................................................................................................................... 10
Take home lessons .............................................................................................................................. 11
List of persons seen ........................................................................................................................... 13
Day one

The team arrived at the Natural Resources Institute, Chatham Medway campus at about 9AM GMT and were welcomed by Dr Deborah Rees (Reader in Plant Physiology). She quickly gave a brief history of NRI and then did a recap of the proposed itinerary and agenda of the entire visit.

After a break snack, Dr Elizabeth Kizito (Project Leader) made a presentation about the entire project purposely to bring to the same page Debbie who was not present at the project launch. Also present at the presentation was Dr Claire Coote, an Agricultural Economist working with NRI and has also worked on a project in Uganda. Later, the team checked into Ramada Encore Hotel for a rest and to prepare for the following day’s agenda.

Day two

The team, in the company of Dr Uli Kleih of NRI, was driven to central London to visit a wholesale vegetable market. This market is called the New Covent Garden market and we were able to talk to a wholesaler who specializes in supplying vegetables to high end retailers (e.g. restaurants). The team asked several questions regarding the following aspects:

- How leafy vegetables should be handled from the farm to market stalls (i.e.
- When and how vegetables are harvested, transported, stored
- Costs involved in the entire process
- What kind of packaging is done
- What kind of cooling temperatures and equipment is required for the different types of vegetables
- How is ripening controlled
- How is chilling injury and all other types of damages prevented
Photograph 1: Vegetables on display at the New Covent Garden Market

Photograph 2: Dr Agnes Namutebi inspects vegetables on display at the New Covent Garden Market
Photograph 3: Vegetables on display at the New Covent Garden Market in Central London

Photograph 4: The team looking at vegetables on sale at the New Covent Garden Market in Central London
The team, thereafter, visited the office of Market Intelligence Ltd and Lockwood Press Ltd located on Wandsworth Road in central London. This company produces a journal entitled “FRESH PRODUCE” as well as another entitled EUROFRUIT. During the visit, the team took the opportunity to give a brief about the project and an open discussion on vegetables in Uganda was held. The managing director, Chris White was very pleased to host the team and called upon the communications head to cover the visit in the subsequent release.
Day three

The team drove with Dr Debbie Rees to a farm in Angflor which grows vegetables. The team was able to witness harvesting of cauliflower using some tractor driven equipment. In the Afternoon, the team visited the East Malling Research centre (EMR) which is one of the oldest of that kind in Britain. While there, the team was exposed to various research work mostly done on fruits and vegetables i.e. measurement of texture, discoloration, sweetness and cooling effects. It is vital to note that NRI collaborates with EMR on the post harvest research work done and this kind of work is mainly funded by private sector companies which demand for that type of research. It was observed that a lot of work has been done on apples.
Photograph 7: Harvesting of cauliflower at a farm in Angflor.

Photograph 8: Harvesting of cauliflower at a farm in Angflor.
Photograph 9: Dr Debbie Rees demonstrates equipment used to test fruit texture at EMR Quality Produce centre.

**Day four**

The team met with senior staff of the Natural Resources Institute namely Prof Ben Bennett, Dr Richard Gibson, Dr Debbie Rees, Dr Linda Nicolaides, Dr Jan Priebe and Dr David Philips to whom a presentation of the project was made. A detailed discussion ensued thereafter with NRI staff seeking more clarity about the project while offering some advice on the proposed interventions. Discussions were also held on some of the work NRI is doing on Sweetpotato in Uganda and how synergies can be built.

The visit was concluded with a vote of thanks being moved to Dr Debbie and the entire NRI team for the warm welcome accorded and the time spared to interact with the Ugandan team.
Photograph 10: NRI staff listening to Dr Liz Kizito as she made a presentation about the project

**Take home lessons**

i) In regards to vegetable marketing

- Packaging in cartons/ wooden crates can go a long way in reducing damage during handling
- We can encourage our farmers to consider doing the packaging on-farm to reduce PHL but also add value to their vegetables and earn more from them.
- Simple appropriate packaging should be explored e.g. use of polyethylene coverings with perforations
- Pre-cooling is the key technology for fresh vegetables right from harvesting
- The consumers in UK (supermarket chains, restaurants etc) have a big say in defining quality of vegetables.
In UK, Market outlets range from wholesalers who supply restaurants, institutions & vegetable shops
In UK, Supermarkets have overall control on vegetable supply chain based on preset stringent product quality criteria

ii) In regards to awareness creation
• Role of media personnel to link producer and buyers is critical
• Value chains in the UK are getting shorter by reducing the amount of handling/ packaging/ sorting. This is a result of the German influence.
• The FJP organizes events for different stakeholders in the value chain thus encouraging linkages between them.
• The culture of talking about food needs to be encouraged so that consumption increases (can be considered in our awareness programmes)

iii) In regards to On-Farm interventions
• Production of vegetables ought to be staggered all year round such that at any one time there is a harvest going on
• Packaging of the vegetables can also done on-farm.
• Pre-cooling is paramount for fresh vegetables right from harvesting on the farm

iv) In regards to Laboratory research
• Equipment for use in checking quality ought to be purchased [e.g. penetrometer for testing fruit texture] and design a color chart/ code to gauge chlorophyll content.
List of persons seen

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
<th>Position</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dr Debbie Rees</td>
<td>NRI/Produce Quality Centre (EMR)</td>
<td>Plant Physiologist</td>
<td>d.rees@ greenwich.ac.uk</td>
</tr>
<tr>
<td>2. Dr Uli Kleih</td>
<td>NRI</td>
<td>Agricultural Economist</td>
<td><a href="mailto:u.k.kleih@greenwich.ac.uk">u.k.kleih@greenwich.ac.uk</a></td>
</tr>
<tr>
<td>3. Dr David Philips</td>
<td>NRI</td>
<td>Business Development Economist</td>
<td><a href="mailto:d.p.phillips@greenwich.ac.uk">d.p.phillips@greenwich.ac.uk</a></td>
</tr>
<tr>
<td>4. Dr Ben Bennett</td>
<td>NRI</td>
<td>Intl.Trade &amp; Markets Economist</td>
<td><a href="mailto:Ben.bennett@gre.ac.uk">Ben.bennett@gre.ac.uk</a></td>
</tr>
<tr>
<td>5. Dr Richard Colgan</td>
<td>NRI</td>
<td>Post Harvest Biologist</td>
<td><a href="mailto:r.j.colgan@gre.ac.uk">r.j.colgan@gre.ac.uk</a></td>
</tr>
<tr>
<td>6. Mr Chris White</td>
<td>Market Intelligence Ltd</td>
<td>MD</td>
<td>Tel: +442075013710 <a href="mailto:chris@fruitnet.com">chris@fruitnet.com</a></td>
</tr>
<tr>
<td>7. Claire Coote</td>
<td>NRI</td>
<td>Agric Economist</td>
<td><a href="mailto:h.coote@gre.ac.uk">h.coote@gre.ac.uk</a></td>
</tr>
<tr>
<td>8. Linda Nicolaides</td>
<td>NRI</td>
<td>Food Safett &amp; Quality management expert</td>
<td><a href="mailto:l.Nicolaides@gre.ac.uk">l.Nicolaides@gre.ac.uk</a></td>
</tr>
<tr>
<td>9. Dr Gerard Bishop</td>
<td>East Malling Research</td>
<td>Principal Research Scientist</td>
<td><a href="mailto:Gerard.bishop@emr.ac.uk">Gerard.bishop@emr.ac.uk</a></td>
</tr>
<tr>
<td>10. Ms Zeenat</td>
<td>Covent Garden Market</td>
<td>PR assistant</td>
<td>+44 7539016730</td>
</tr>
<tr>
<td>11. Richard Gibson</td>
<td>NRI</td>
<td></td>
<td><a href="mailto:r.w.gibson@gre.ac.uk">r.w.gibson@gre.ac.uk</a></td>
</tr>
<tr>
<td>12. Jan Priebe</td>
<td>NRI</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>