



**Research
Program on**
Roots, Tubers
and Bananas

CGIAR Research Program Roots, Tubers, Banana (CRP RTB) EU value chain proposal planning

Workshopreport¹

26 June, 2012
Kampala, Uganda

¹Prepared by Dr. Dai Peters, International Consultant and Facilitator of the Workshop.



CGIAR Research Program Roots, Tubers, Banana (CRP RTB)

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1. Background and process

At the request of EU to prepare a project proposal for expanding utilization and reducing postharvest losses in RTB, the CGIAR Research Program Roots, Tubers, Banana (CRP RTB) held a stakeholders' workshop in Kampala, Uganda, as the project would be based in Uganda when approved. Uganda is the most suited country to develop innovations to address these needs because: 1) it has all the RTBs—banana, cassava, sweetpotato, potato, and even yam, though not nearly of the same importance as in West Africa, and 2) all the CRP RTB centers, namely CIP, CIAT, IITA, and Bioversity have presence in Uganda. Thus, Uganda is the ideal country to develop and test these innovations that can later be adapted to apply to other East African countries.

A proposal planning workshop was thus organized and held on 26 June, 2012 in Kampala. The pre-workshop assessment identified 15 potential partner institutions that have relevant experiences working with RTB in Uganda. A total of 30 participants were invited to the workshop to ensure that the proposal take into consideration of the views of the RTB stakeholders in Uganda.

With that in mind, this workshop aimed to achieve the following objectives:

- Identify key products of banana, cassava, sweetpotato, and potato that are most relevant for development in Uganda, with the possibility of expanding them to the rest of East Africa;
- Identify research agenda to develop a range of Innovation and technologies for testing;
- Identify the partners with relevant background and expertise to engage in proposal implementation;
- Potential sites where each of the research activities can be carried out; and
- Identify the key elements of gender strategies

The workshop was meant to select an initial set of products, innovations, partners, and sites based on opinions of the workshop participants. These selections will be screened and fine-tuned based on expert opinions during the proposal development process. The final selections, however, will narrow these selections down to the realistic and accomplishable sets of productions, given the timeframe and budget of the proposed project. These selections will be based on the market opportunity assessment to be conducted at the onset of the project in order to ensure that these decisions are demand driven, rather than being driven by research interests and agenda of the partner institutions.

The workshop summary provides the following products:

1. Principle constraints and opportunities to increased use of products derived from these four crops
2. List of potential research agenda and technologies and innovations for testing

3. Partner organizations and their relevant experiences regarding these four crops
4. Potential project sites for each of the products
5. Key elements of gender strategy

The summary starts with the list of the workshop participants to give an overview of the potential partners, followed by the workshop program to indicate the workshop process. Product option identification outlines the priority products and the associated selection criteria which include the constraints, opportunities, potential research agenda, potential sites, and key elements of gender considerations. This summary reports ends with the presentation of partner organizations' experiences with cassava, sweetpotato, banana, and potato.

2. Workshop program and workshop participants

Below is a list of the workshop participants and their profile, followed by the workshop program (for full contact information of all participants, please see the Annex attached below).

| First Name | Last Name | Position | Institution |
|--------------------|---------------------|--|---|
| John | Jagwe | Team Leader | Farmgain Africa |
| Wilberforce | Serwanga | Project Coordinator | Africa 2000 Network |
| Jogo | Wellington | Agricultural Economist | Bioversity International |
| Anne | Rietveld | Associate Expert Value Chain Development | Bioversity International |
| Eldad | Karamura | Regional Coordinator | Bioversity International |
| William | Tinzaara | Associate Scientist | Bioversity International |
| Jim | Lorenzen | | IITA |
| Dixon | Busie B. Maziya | Crop Utilization Specialist | IITA |
| Florence | Namara | Engineer (Mechanical) | Uganda Industrial Research Institute (UIRI) |
| Ahmed | Magumba | | USAID LEAD |
| KizitoMusoke | Henry | Executive Director | VEDCO |
| Nancy | Rapado | Programme Director | VEDCO |
| Agnes | Namutebi | Senior Lecturer | Makerere University |
| Michael | Kirya | Business Development Advisor | African Innovations Institute |
| Simon | Byenek Ogwal | Project Manager | Africa Innovations Institute |
| James | Ssemwanga | Managing Director | The Ssemwanga Centre Ltd |
| William | Wamala Wagoire | Director of Research | NARO-Buginyanya |
| Gorrettie Nankinga | Ssemakula | Head, Sweetpotato Research | NARO-NaCRRI |
| Elizabeth | Khakasa | Research Assistant/Food Scientist | NARO-Kawanda |
| Abel | Byarugaba Arinaitwe | Research Officer | Kachwekano-ZARDI |
| Kephas | Nowankunda | Research Scientist | NARO/NARL |
| Elmar | Schulte-Geldermann | ICM Specialist | CIP-Nairobi |

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| First Name | Last Name | Position | Institution |
|------------|--------------|---|---------------------|
| Susan | Corning | Regional Operations Leader | CIP-Nairobi |
| Sarah | Mayanja | DONATA Research Assistant | CIP-Kampala |
| Robert | Mwanga | Sweetpotato Breeder, Liaison Scientist, CIP-Kampala | CIP-Kampala |
| Graham | Thiele | Director, CGIAR Research Program Root Tuber and Bananas | CIP-Lima |
| Ulrich | Kleinwechter | | CIP-Lima |
| Rogers | Walamaku | Cluster Development Advisor | IFDC |
| Joseph | Okalebo | Coordinator | SSOSPA |
| Thomas | Bukenya | | TomCris Enterprises |
| Dai | Peters | Workshop facilitator | Consultant |

| | | |
|--|--|--|
| 8:30 – 9:00 | Registration and Welcome | Robert Mwanga |
| 9:00 - 9:10 | Introduction of participants | Dai Peters |
| 9:15 - 9:20 | Introduction of workshop program Rules of the game | Dai Peters |
| 9:20 - 9:30 | Expectations of this workshop | Susan Corning |
| 9:30 - 9:45 | Introduction of CRP RTB | Graham Thiele |
| 9:45 - 10:00 | RTB project logframe | Graham Thiele |
| 10:00 - 10:15 | Presentation on gender coaching | Sara Mayanja |
| 10:15 - 10:45 | Coffee/tea break | |
| 10:45 - 11:45 (10 -15 minutes per presentation) | Presentations on crop options <ul style="list-style-type: none"> • Banana • Sweetpotato • Cassava • Potato | <ul style="list-style-type: none"> • Bioversity • CIP • IITA • CIP |
| 11:45 - 13:00 | Identification of institutional expertise and experiences | Dai Peters |
| 13:00 - 14:00 | Lunch | |
| 14:00 - 15:30 | Products, markets, technology, and site identification exercise | Small group discussions based on crops |
| 15:30 – 16:00 | Coffee/tea break | |
| 16:00 - 16:50 | Group presentations in plenary | Dai Peters |
| 16:50 - 17:00 | Future steps in proposal development Closing remarks | Graham Thiele Eldad Karamura |

3. Product option identification

Each of the four crops—cassava, sweetpotato, banana, and potato—have a range of possible products that can be derived from the crop. Some of the products are for food consumption while others are for industrial applications; some are for local markets while others may target the broader regional, national, and even international markets; some are for direct utilization while others require processing.

Each of the products comes with a set of constraints and opportunities, and the potential of developing these products are based on the considerations of food security and market opportunities. Not all the potential products are relevant to Uganda, and the selection of the products to develop should be demand-driven, demand for food security or for income generation. Once selected, the option-identification exercise was to identify the relevant research agenda needed to develop innovations to overcome the constraints of the production development.

The participants identified the following products of each crop as the priorities to develop in Uganda.

Cassava

| Product | Option 1 | Option 2 | Option 3 |
|---------------------|--|--|---|
| | Fresh roots | Chips | Starch |
| Selection criteria | Famine reserve crop for Uganda High calorie food Staple food for most homes | Marketable on both the local and international markets Livestock feed Flour production Beer production | Growing demand for industry |
| Markets/utilization | Household | Household, industrial, regional, and international markets | Industry; textile, food, packaging industry |
| Constraints | Perishability Short life after harvest | Cost-effective and efficient drying technologies Varietal issues Optimum harvest age for maximum yield Household processing level | Competition from alternative starch sources like corn starch Quality of the starch being produced High production costs |
| Research agenda | Need varieties with a long shelf life Technologies that can increase the shelf life Nutrient dense cassava varieties(proteins and vitamins) | Optimum harvest age for maximum yield Optimum particle size for chips used for dairy feed Efficiency of drying technologies High dry matter Utilization of cassava peels | Starch modification Variety research to get those that give high amount of starch |
| Sites | Masindi, Lango sub-region and Acholi Sub-region | Teso sub region, Paliisa, Tororo, Busia, West-Nile region | Lango sub-region, Busoga region, Acholi Sub-region, West-Nile, Masindi |
| Gender | Women are responsible for household food security | Gender friendly technologies like the chippers and dryers | Women use starch for stiffening their clothes Improve women's income |

Group members

BusieMaziya –Dixon—IITA, Nancy Phoebe Rapando, Namara Florence, Byenek Simon Ogwal, Kirya Michael, Walamaku Rogers, Khakasa Elizabeth, Magumba Ahmed

Sweetpotato

| Product | Option 1 | Option 2 |
|----------------------|---|---|
| | Fresh roots & vines for food & feed industry | Sweetpotato composite flours |
| Selection criteria | Perishability & bulkiness | Narrow utilization base |
| Markets/ utilization | Home & industry use | Industry use |
| Constraints | <ul style="list-style-type: none"> • Market linkages (producer to the buyer) • Seed availability/ seasonality of roots • VAD • Storage | <ul style="list-style-type: none"> • Suitable varieties • Drying & processing techniques • Storage & Packaging technologies • Articulating demand and supply • VAD |
| Research agenda | <ul style="list-style-type: none"> • Varietal improvement • Value chain analysis • Storage pests • Storage technologies (merge indigenous knowledge with improved technologies) | <ul style="list-style-type: none"> • Value chain analysis • Shelf life stability (processing & storage options for flours) • Variety screening |
| Sites | <ul style="list-style-type: none"> • Eastern & central Uganda | <ul style="list-style-type: none"> • Eastern & central Uganda |
| Gender | <ul style="list-style-type: none"> • Women predominate sweet potato production & processing • Women, elderly & children more prone to VAD | <ul style="list-style-type: none"> • Women predominate in processing. • Men predominating at cash points. |

GROUP MEMBERS

Gorrettie Ssemakula – NARO, Sarah Mayanja – CIP, Joseph Okalebo – SSOSPA, Agnes Namutebi – Makerere University

Banana

| Product | Option 1 | Option 2 | Option 3 |
|---------------------|---|---|--|
| | Market- acceptable fresh cooking and desert fruit with long shelf-life and minimal PH damage | High quality beverages (wine and gin) targeted for urban and export markets | Instant mashed cooking banana product (instant Matooke) |
| Selection criteria | <ul style="list-style-type: none"> - Need for exploiting new market opportunities (Urban and export markets) and increase investment in the banana subsector -Need for reducing PHL resulting from in-transit ripening of fruit - Only one green cooking banana cultivar is currently available with extended shelf-life for long distance marketing; need to diversify products on market - Most of marketed desert bananas have a very short shelf-live | <ul style="list-style-type: none"> - Utilization of surplus production during peak-production of green cooking bananas (wine) - Increased use of banana biodiversity by differentiating wine-markets (wine) - High rural and urban demand for beer-banana products outstrips supply (gin) - Suitable for processing on different levels (on-farm and industrial) (Wine and gin) - Increased incomes for farmers in marginal banana-farming areas (gin) | <ul style="list-style-type: none"> - Need for exploiting new market opportunities (Urban and export markets) and increase investment in the banana subsector - Matooke or steamed mashed green cooking banana is the traditional and most popular dish in Uganda - Preparation of Matooke is labour and time consuming Utilization of surplus production during peak-production of green cooking bananas |
| Markets/utilization | Fresh fruit for rural, urban and export markets | Rural, Urban and regional markets. Utilization of residues for feed/soil amendments. | Urban and export markets |
| Constraints | <ul style="list-style-type: none"> - PHL not quantified along the banana value chains - Bio-chemical and physiological processes associated with fruit ripening in local varieties are not clearly understood - Cultivar susceptibility to post-harvest fruit diseases is not determined, especially for highland bananas - Optimum harvest time is not determined for the different highland banana cultivars - Potential demand for differentiated fresh fruit along the value chain is not determined | <ul style="list-style-type: none"> - No quality standards established for banana-based beverages (wine and gin) - No cost-benefit analysis for current and potentials processing methods (wine and gin) - Juice properties (yield, taste, consistency, smell, colour) of beer-banana cultivars not established (gin) - Currently no differentiation (on basis of cultivar or age) for banana wine (wine) - Current marketing approaches/ practises have not been evaluated for their cost-effectiveness. | <ul style="list-style-type: none"> - The Presidential Initiative in Banana Industrialization (PIBID) has made claims to develop such a product but so far they have concentrated on flour of green cooking bananas - Required investments to start a factory and develop the product will be high - Consumer acceptability will be an issue - Experiences from banana flour (PIBID) learn that prices paid to farmers are low therefore not providing incentives to farmers to sell to factory |
| Research Agenda | <ul style="list-style-type: none"> - Quantifying PHL along the value chains as basis for indentifying intervention areas - Comparative study of fruit bio-chemical and physiological qualities associated with | <ul style="list-style-type: none"> - Determining best practices in beer-banana management and harvesting to optimize juice yields for different cultivars - Making costs-benefit analysis for current and superior | <ul style="list-style-type: none"> - Developing parameters for processing green cooking bananas into instant Matooke - Consumer study to assess consumer acceptability |

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| | | | |
|--------|--|--|---|
| | <p>ripening for selected cultivars</p> <ul style="list-style-type: none"> - Screening for extended shelf-life, susceptibility to PH diseases, PH damage resistance in relation to consumer preferences - Determining optimum harvest age for different cultivars - Evaluating harvesting techniques for small-holder farmers - Characterizing the value chains for differentiated fresh fruit - Establishing demand for differentiated fresh fruit along value chains | <p>processing methods (wine and gin)</p> <ul style="list-style-type: none"> - Market study to estimate potential demand for improved banana-based beverages (wine and gin) - Establishing quality procedures / standardization (wine and gin) - Screening of beer-banana cultivars for determination of juice properties (gin) - Development of differentiated products on basis of cultivar used and age of product (wine and gin) - Evaluation of current marketing strategies (packaging, labeling, promotion, market outlets etc.) and identification of areas for improvement (wine and gin) | <ul style="list-style-type: none"> - Making a Cost-benefit analysis |
| Sites | <p>Cooking bananas: Rakai, Bushenyi Desert bananas: Mukono, Mubende,</p> | <p>Wine: Bushenyi Gin: Luwero, Kiboga</p> | <p>Areas with high production such as Mbarara, Bushenyi</p> |
| Gender | <p>Men and women smallholders have different roles in banana production and marketing</p> <ul style="list-style-type: none"> - Cultivar diversity is maintained on farm by women - Rural-Urban wholesale and/or brokering is dominated by men - Urban Market retailing dominated by women - Purchase and preparation of cooking bananas mainly by women - Existing knowledge gaps with regards to roles of child-headed households, women-headed households, HIV-victims and elderly in banana value chains | <ul style="list-style-type: none"> - Wine: Labor for on farm processing often provided by women but control of processing and marketing often by men - Gin: Both women and men process; processors are of all ages. Labor for some labor-intensive stages of process often provided by young men - Gin: Rural retailing (bars) often done by women in child-bearing ages or elderly (those that cannot work land because of care for young children or old-age) - Households (men, women and children) are affected by alcoholism. Higher percentage alcohol problems among men | <ul style="list-style-type: none"> - The use of an instant Matooke will considerably reduce labour and time spent for those responsible for food preparation (women in general). - This will be especially valuable for working women in urban areas - The establishment of a processing factory will provide employment for both men and women in rural areas |

Group members

Eldad Karamura, James Ssemwanga, Henri Kizito Musoke, Wellington Jogo, William Tinzaara, Jim Lorenzen, Kephias Nowakunda, Anne Rietveld

Potato

| Products | Option 1 | Option 2 |
|---------------------|---|---|
| | Ware potato (table potato) + seed potato | Processed Products* |
| Selection criteria | <ul style="list-style-type: none"> • High demand of table potato in both rural and urban areas. • Source of income to household in potato growing districts • High potential for export | <ul style="list-style-type: none"> • High demand of processed potatoes urban areas. • High potential for export |
| Market /utilisation | <ul style="list-style-type: none"> • Staple food in potato growing region • Very short growing season i.e., can get 3 crops a year • Local and regional markets available (E. African Region) | <ul style="list-style-type: none"> • Local and regional markets available (E. African Region) |
| Constraints | <ul style="list-style-type: none"> • Very high poverty levels forcing farmers to sell table potato early at very low prices to meet the household demands. • Lack of appropriate storage technologies. • Pest and diseases. • Poor harvest techniques | <ul style="list-style-type: none"> • Instability in prices of the raw materials (potatoes) and other inputs. • Lack of adapted varieties with good processing qualities |
| Research Agenda | <ul style="list-style-type: none"> • Research in appropriate storage facilities for increased shelf life. • Management of both infield and post harvest diseases and pests. • Selection of appropriate varieties • Testing models for the best access to credit | <ul style="list-style-type: none"> • Research in appropriate storage facilities for increased shelf life. • Management of both infield and post harvest diseases and pests. • Selection of appropriate varieties |
| Sites | <ul style="list-style-type: none"> • South western region and eastern region in the Mt Elgon area | <ul style="list-style-type: none"> • South western region and eastern region in the Mt Elgon area and central region (Kampala) |
| Gender | Equity in sharing and utilization of outcomes from the potato industry by women, youth and men | Equity in sharing and utilization of outcomes from the potato industry by women, youth and men |

*Process products: Crisps (snacks), Chips (French fries), Potato starch, Frozen potato (fries), Potato flour, Feed (potato peals)

Group Members

Dr William Wagoire (NARO- Buginyanya ZARDI), Dr. Elmar Gilderman (CIP), Mr. Bukenya Thomas (Tom Cris Enterprises), Mr. John Jagwe (Farm Gain Africa), Mr. Serwanga Wilberforce (Africa 2000 Network), Mr. Arinaitwe Abel (NARO- Kachwekano ZARDI)

4. Expertise and experiences of potential partner institutions

During the workshop, the participants were asked to identify the relevant experiences and expertise they had in relation to the four crops. The following tables of each crop summarize these institutions' expertise that could potentially be drawn to identify and implement the proposed project.

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| CASSAVA | | |
|----------------|------------------------------|--|
| 1. | NARO | <ul style="list-style-type: none"> • Product safety analysis • Cassava flour product development • Cassava cultivar screening • Cassava postharvest processing |
| 2. | SSOSPA-Uganda | <ul style="list-style-type: none"> • Postharvest handling – processing of cassava • Cassava flour and flour product development |
| 3. | UIRI | <ul style="list-style-type: none"> • Design and fabrication of cassava chippers and graters • Training fabricators in machine building • Starch extraction |
| 4. | A2N-Uganda | <ul style="list-style-type: none"> • Cassava Farmers’ Organization • Cassava value chain development • Cassava market analysis • Cassava value addition options |
| 5. | Ssemwanga Center | <ul style="list-style-type: none"> • Cold storage fresh processing |
| 6. | VEDCO | <ul style="list-style-type: none"> • Farmer level knowledge and technology development and dissemination (extension) • Development of marketing chain linkages • Policy and advocacy • Mobilisation of producer association |
| 7. | FARMGAIN | <ul style="list-style-type: none"> • Market opportunity identification • Supply and demand analysis |
| 8. | IITA | <ul style="list-style-type: none"> • Screening varieties for end-use quality characteristics • Flour product development • Development of labor saving device equipment • Value chain analysis • Capacity building • Improving nutritional quality of traditional products • Food safety mycotoxins |
| 9. | Africa Innovations Institute | <ul style="list-style-type: none"> • Adopting and scaling out prototype technologies • Working with industry in product development and commercialization • Analysis of group dynamics and developing mechanisms for institutional support • Identification of critical control points in processing and developing robust quality control systems for farmer processors |
| 10. | LEAD | <ul style="list-style-type: none"> • Multiplication of screened varieties to increase access • Value addition for increased market accessibility • Development of high quality flour/starch |
| 11. | TomCris Enterprises | <ul style="list-style-type: none"> • Food processing of cassava crisps |

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| Banana | | |
|--------|---------------------|---|
| 1. | TomCris Enterprises | <ul style="list-style-type: none"> • Food processing of banana crisps |
| 2. | NARO-NARL | <ul style="list-style-type: none"> • Banana based product development • Banana cultivar screening/characterization <ul style="list-style-type: none"> • Preference • Shelf-life/storage • Marketability • Banana marketing <ul style="list-style-type: none"> • Farmer organization • Value chain mapping • Value chain analysis |
| 3. | FARMGAIN Africa | <ul style="list-style-type: none"> • Market opportunity identification • Supply and demand analysis |
| 4. | Ssemwanga Centre | <ul style="list-style-type: none"> • Cold storage • Fresh processing |
| 5. | Bioversity | <ul style="list-style-type: none"> • Variety selection tools including cultivar identification and characterization • Postharvest losses assessment, including diseases • Use of biodiversity for Nutrition and health • Value Chain development <ul style="list-style-type: none"> • Organizing stakeholder platform • Small and medium banana processing • Market structures and analysis |
| 6. | VEDCO | <ul style="list-style-type: none"> • Participatory research and knowledge management and dissemination (extension) • Development of market chain linkages • Policy advocacy • Mobilization of producer associates |
| 7. | IITA | <ul style="list-style-type: none"> • Flour quality • Product development • Assess cooking quality |
| 8. | Makerere | <ul style="list-style-type: none"> • Food technology and nutrition • Product development shelf life stability and quality assessment (juice & puree) |
| 9. | A2n-Uganda | <ul style="list-style-type: none"> • Banana farmer organization • Market chain development • Market chain analysis • Production planning &VA |

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| SWEETPOTATO | | |
|-------------|---------------------|--|
| 1. | TomCris Enterprises | <ul style="list-style-type: none"> • Food processing of sweetpotato crisps |
| 2. | SSOSPA-Uganda | <ul style="list-style-type: none"> • Processing of OFSP • Flour and flour products development |
| 3. | Ssemwanga Center | <ul style="list-style-type: none"> • Production of OFSP • Cold storage • Fresh root processing |
| 4. | VEDCO | <ul style="list-style-type: none"> • On-farm knowledge development, management and dissemination (extension) • Development of market chain linkages • Product development • Policy advocacy • Producer association mobilization |
| 5. | Farmgain-Africa | <ul style="list-style-type: none"> • Market opportunity identification • Supply and demand analysis |
| 6. | NARO | <ul style="list-style-type: none"> • Breeding, (OFSP, DM, DPSP) OFT, Multiplication • Flour products development • Nutritional composition |
| 7. | Makerere University | <ul style="list-style-type: none"> • Food Technology and nutrition • Quality assessment of stored roots & flour products |
| 8. | CIP | <ul style="list-style-type: none"> • Breeding (OFSP, DM, DPSP) • Value Chain analysis and development |
| 9. | A2N-Uganda | <ul style="list-style-type: none"> • Farmers' organization in the southwest – Kabale • Value addition options • Market outlets in the S. Western region |

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| POTATO | | |
|--------|-----------------|---|
| 1. | NARO | <ul style="list-style-type: none"> • NARL (Kawanda), UIRI • Testing nutrition composition of potatoes • Processing qualities of potatoes Kachwekano-ZARDI and Buginyanya-ZARDI <ul style="list-style-type: none"> • Identification of varieties with desired processing characteristics • Testing ware potato stored • Understanding potato value chain |
| 2. | UIRI | <ul style="list-style-type: none"> • Technology transfer of potato chips processing equipment • Acquisition • Construction • Installation • Trail runs |
| 3. | VEDCO | <ul style="list-style-type: none"> • Potential since we are just moving in the potato growing area (Knowledge dissemination) |
| 4. | Farmgain-Africa | Market opportunity identification Supply and demand analysis |
| 5. | CIP | <ul style="list-style-type: none"> • Value chain linking farmers to markets • Global regional knowledge transfer • Storing technology • Varieties/Breeding |
| 6. | A2N-Uganda | <ul style="list-style-type: none"> • Working with UIRI to test the appropriateness of different potato varieties in Kabale |

Annex. Full contact details of the participants

| SN | First Name | Last Name | Title | Institution | Address | City | Country | Telephone | Mobile | Fax | Email1 | skype |
|----|---------------|-----------------|--|---|--------------------------|---------|----------------|---|--|-----------------|--|-------|
| 1 | John | Jagwe | Team Leader | Farmgain Africa | P.O. Box 9497 | Kampala | Uganda | +256 414 691965 | +256 772 410574 | | jjagwe@farmgainafrica.org johnjagwe@gmail.com | |
| 2 | Wilberforce | Serwanga | Project Coordinator | Africa 2000 Network | P.O. Box 21990 | Kampala | Uganda | +256 312 263219 | +256 772890847 | +256 414 534299 | wilser2007@gmail.com | |
| 3 | Jogo | Wellington | Agricultural Economist | Bioversity International | P.O. Box 24384 | Kampala | Uganda | +256 414 286213 | +256 788552833 | +256 414286949 | w.jogo@cgiar.org | |
| 4 | Anne | Rietveld | Associate Expert Value Chain Development | Bioversity International | P.O. Box 24384 | Kampala | Uganda | +256 414 286213 | +256 758 685792 | +256 414286949 | a.rietveld@cgiar.org | |
| 5 | Eldad | Karamura | Regional Coordinator | Bioversity International | P.O. Box 24384 | Kampala | Uganda | +256 414 286213 | +256 712286948 | +256 414286949 | e.karamura@cgiar.org | |
| 6 | William | Tinzaara | Associate Scientist | Bioversity International | P.O. Box 24384 | Kampala | Uganda | +256 414 286213 | +256 772 44298 | | w.tinzaara@cgiar.org | |
| 7 | Jim | Lorenzen | | IITA | P.O. Box 10, Duluti | Arusha | Tanzania | +255 27 2553093 or 27 2553102 (Tz) +256 414 285060/4 (Ug) | +255 767 914951 (Tz) +256 752 787806 (Ug) | +255 27 2553125 | j.lorenzen@cgiar.org | |
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| 12 | Nancy | Rapado | Programme Director | VEDCO | P.O. Box 1244 | Kampala | Uganda | | +256 777545828 | | rapsando@yahoo.com vedco@vedco.or.ug | |
| 13 | Agnes | Namutebi | Senior Lecturer | Makerere University | P.O. Box 7062 | Kampala | Uganda | | +256 712958736 | | asnamutebi@agric.mak.ac.ug | |
| 14 | Michael | Kirya | Business Development Advisor | African Innovations Institute | P.O. Box 34981 | Kampala | Uganda | +256 414 530288 | +256 772347925 | | MichaelKirya200@yahoo.co.uk | |

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|----|--------------------|---------------------|---|------------------------------|----------------|---------|--------|-------------------|-------------------------------------|-----------------|--|--------------------------|
| 15 | Simon | Byenek Ogwal | Project Manager | Africa Innovations Institute | P.O. Box 34981 | Kampala | Uganda | +256 414530288 | +256 772969648 | | byenza@yahoo.co.uk | |
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