

NaCRRI achievements in Period 1

Activities Conducted, & Perspectives

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Collaborator(s): NARL, Uganda

PARTNER Summary

During the past one year (November 2017 to November 2018), NaCRRI participated in implementation of five major activities. First, compilation of state on knowledge report for work packet one (WP1) *“State of knowledge report for boiled cassava. A case of Uganda”* This report highlighted: a) product variations notable boiled cassava, mashed cassava and “katogo”; b) segments for demand of boiled cassava in rural and urban communities; and c) provided profitability estimates for boiled cassava.

Second major activity was conduction of an end-user survey on boiled cassava in two locations: Luwero (central region) and Apac (northern region). Data were collected using individual interviews, focus group discussions and key informant interviews; this survey was conducted following harmonization of tools and sampling methodologies as guided by WP1 leadership. Third, was compilation of state of knowledge report for WP2 and participation in the sensory panel trainings at NARL.

The fourth major activity was under WP3; for this, NaCRRI hosted a five-day training workshop on *“Near infrared Spectroscopy: Theory and Application”* A total of 19 participants attended this training that was conducted by Dr. Davrieux Fabrice. Consequently, it was agreed that the NIRS instrument and competencies at NaCRRI be used by partners to develop HTTPs for the different RTB crops. To kick start this, NaCRRI, through the Nutrition and Bioanalytical Lab partnered with the IITA banana breeding team to provide NIRS services.

Finally, under WP4 NaCRRI compiled and submitted the state on knowledge report *“Cassava State of Art on Breeding Quality Traits in Uganda”* In addition, NaCRRI established two field trials at Namulonge (central region) and Serere (eastern region) for purposes of identifying RTB varieties that meet users’ needs, with a focus on variety (V); user (U); socio-economic environment (E). These trials comprised of both elite and popular landraces. Relevant documents associated with the above-mentioned activities, have all been submitted to respective WP leaders.

It also suffices to note that both RTBfoods and the NextGen Cassava Breeding Projects being implemented by NaCRRI, offer excellent opportunities for sharing lessons, techniques and knowledge. In fact, we have, and continue, to optimally exploit this project partnership for the benefit of stakeholders involved in the cassava production-processing-marketing-consumption continuum.

PARTNER activities

RTBfoods project focusses on boiled cassava, as its flagship product. Accordingly, we are involved in activities associated with WP1, WP2, WP3 and WP4. This project interconnects well with the NextGen Cassava Breeding Project, which has three major divisions, Research, Breeding and Survey.

Major WP1 activities include: 1) compilation of state of knowledge (SoK); and 2) documentation of trait preferences and processes associated with boiled cassava. These activities have largely been implemented; what remains is the processing and/or analysis of data generated by the end-user survey. Additional planned activities to be implemented under WP 1 include capacity strengthening and learning workshops.

Major WP2 and WP3 activities include: 1) conducting sensory characterization of boiled cassava following standardized approaches; and 2) biophysical and chemical analysis of defined traits. Spectra data will also be taken on samples; using both spectra and phenotype data, NIRS will be calibrated. Most of this work will commence during the 2nd year of the project. It also suffices to note that NaCRRRI is providing research services to both NARL and IITA-Uganda that focus on banana. So far, we have scanned ~120 banana samples using the NaCRRRI NIRS platform. The physicochemical characterization of these samples is being done at NARL and at an appropriate time, the physicochemical data will be shared and used for model development.

Major activities under WP4 have involved establishment of field trials at Namulonge (central region) and Serere (eastern region) for identifying RTB varieties that meet users' needs, with a focus on variety (V); user (U); socio-economic environment (E). These trials comprised of both elite and popular landraces. Further, using selected NextGen Cassava Breeding Project trials, we also plan to undertake studies to examine genetic architecture and heritability of selected end-user traits. Most of this work will commence during the 2nd year of the project.

PARTNER geographic implementation / strategy

The bulk of the RTBfoods project activities will be implemented in central, eastern and northern Uganda. These regions represent major cassava growing and consumption areas in Uganda, and thus where most project impact will be witnessed.

PARTNER Product Profile participation

NaCRRRI identified boiled cassava, as its flagship product profile.

PARTNER Personnel involved & Students activities

During period 1, the following persons were involved in the meetings and training activities supported under RTBfoods project:

Name	Activity
(1) Ms. AnnRita Nanyonjo, (2) Dr. Nuwamanya Emphraim (3) Mr. Julius Baguma	Inception meeting in Cameroun
(1)) Ms. AnnRita Nanyonjo,	WP1 Training in Benin
(1) Ms. AnnRita Nanyonjo (2) Ms. Hamba Sophia (3) Mr. Micheal Kanaabi	Sensory Panel Training at NARL
(1) Ms. AnnRita Nanyonjo (2) Ms. Hamba Sophia (3) Mr. Micheal Kanaabi (4) Mr. Amenet Justin	Meeting with Lora Forsythe to review Survey tools
(5) Dr. Robert Kawuki (6) Dr. Esuma Williams (7) Dr. Nuwamanya Emphraim (8) Mr. Enock Wembabazi (9) Mr. Katungisa Arnold (10) Mukasa Yusuf	NIRS Training at NaCRRI

Following the approval of both NextGen and RTBfoods project, interviews had to be conducted to identify personnel to attach and/or appoint to the respective projects. Consequently, AnnRita Nanyonjo (M.Sc. Plant Breeding) and Julius Baguma (M.Sc. Plant Breeding) were appointed as Research Assistants under the NextGen Project. On the other hand, Micheal Kanaabi (M.Sc. Plant Breeding) and Hamba Sophia (M.Sc. Agriculture Economics) were appointed as Research Assistants under RTBfoods. Drs. Robert Kawuki, Nuwamanya Emphraim and Esuma Williams, provide technical support to the RTBfoods.

Despite AnnRita being attached to the NextGen project, she does provide support to RTBfoods project as witnessed by the activities she has implemented under WP1. Further, NextGen PhD students (Enock Wembabazi and Leah Nandudu) also provided significant technical support towards RTBfoods's, particularly in taking spectra data.

It does suffice to note that whenever demand for more technical support is needed, other experienced personnel notably Amenet Justin and Stephen Angudubo, are invited to participate. We do not have any students associated with RTBfoods.

PARTNER Travels: Participation to RTBfoods meetings& International Eventson RTBfoods budget

(For more accuracy you can refer to: Tab “3b) TRAVEL COSTS” of Partner Financial Report)

Number of People orList of NAMES	RTBfoods meetings	International / Regional Conferences	Dates
3	Kick-off meeting in Cameroun		22-28 Jan, 2018
1	WP1 Training in Benin		15-26 April, 2018

PARTNER Capital Equipment or investment (co-investments)

No capital equipment was purchased

PARTNER Training participations (within RTBfoods framework and other trainings)

Training Title / Topic	WP concerned (if training within RTBfoods framework)	Country	Dates	List of Participants NAMES
Field data collection tools and methodologies	WP1	Benin	15-26 April, 2018	Ms. AnnRita Nanyonjo,
Sensory Panel Training	WP 1 and 2	Uganda	16-22 September, 2019	Ms. AnnRita Nanyonjo Ms. Hamba Sophia Mr. Micheal Kanaabi

PARTNER Sub-awards& Consultants

No sub-awards have been made.

PARTNER Other Sources of Support for RTBfoods activities

Next Generation Cassava Breeding Project

PARTNER List of Publications, Conference communications, Manuals, Leaflets, Posters, etc.

No publicity has yet been made

PARTNER Gaps & Constraints faced

Two major constraints; delay in transfer of funds and the limited funds to implement planned activities

PARTNER Perspective & Internal organization for Period 2

To cope with limited financial resource, we as one of the options, plan to reduce on the scope of work to be implemented. For this we shall notify the leadership in advance.