

# DRAFT



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## Increasing Performance of the Cassava Industry in West and Central Africa Region (IPCI)

### Mission to Nigeria

5<sup>th</sup> – 16<sup>th</sup> December 2016  
English version

Large Grant  
Agreement:  
2000000473

#### Mission Team:

Jan Priebe, ICT for Development Specialist, NRI



## **Introduction**

The project Increasing Performance of the Cassava Industry in West and Central Africa (IPCI) aims to improve the performance of IFAD financed roots and tuber programmes through technical support and information dissemination.

An element of the IPCI programme is to support the activities of private sector stakeholders in the cassava value chain in order to strengthen the demand for smallholder produced cassava. As part of this element, an interactive equipment database of locally produced cassava processing equipment will be developed to facilitate the emergence of small and mid-scale cassava processors across West and Central Africa. Nigeria is chosen as starting point due to its relatively advanced fabrication industry.

In order to strengthen the marketing activities of local fabricators as well as create information transparency towards (potential) processors, the interactive equipment database will take the form of a marketing platform which fabricators can use to publicise information about their activities. This platform, working title: 'CassavaBook', will be developed and field-tested by NRI before being handed over to a suitable in-country host organisation before the end of the IPCI project period.

Having developed an initial working version of CassavaBook, the purpose of this mission was to introduce the platform and concept to stakeholders of the IPCI project and conduct an initial usability analysis of the platform. Working together with a local cassava expert, content (pictures and reviews) was also gathered throughout the visit which was used to populate the site. Specifically, meetings and field visits were held with representatives of relevant departments of FUNAAB, cassava processing equipment manufacturers, cassava processors and groups working with or representing cassava processing equipment manufacturers and cassava processors. Terms of reference for the mission can be found at Annex 1.

## **Mission formulation**

This initial mission was conducted between 5<sup>th</sup> and 16<sup>th</sup> December 2016. Travelling via Lagos, Jan Priebe was based in Abeokuta for the duration of the visit but conducted field visits to stakeholders in Lagos, Abeokuta, Ota, and Ibadan. Next to meetings at the Federal University of Agriculture, Abeokuta, Nigeria (FUNAAB) with Department of Food Science and Technology and ICT Resources Center staff, five fabricators of cassava processing equipment and four cassava processors were visited, and meetings were held with representatives of three organisations and NGOs. A full list of persons and organisations met is included at Annex 2.

The NRI team consisted of Jan Priebe, Information Systems for Development Specialist in collaboration with Dr Taofik Shittu, Lecturer of Food Science and Technology, FUNAAB and assistance from Mr Hakeem Oyedele, Department of Food Science and Technology, FUNAAB.

## **Report scope**

This report focuses on the actions needed to launch and support the CassavaBook platform. In order to achieve this, NRI requires the support of FUNAAB in the initial population and publication of the platform, as well as on-going support in the form of moderation and updates. Uptake of the platform will hinge on the perceived usability and usefulness of the platform to fabricators and processors. This report will cover the findings of this mission with regards to these two main areas of focus.

## **Key findings**

### ***Collaboration with FUNAAB***

To facilitate long-term sustainability of the platform beyond the remit of the current IPCI project, ownership should ideally be transferred to a suitable local organisation that would be able to provide at a minimum website hosting & maintenance and moderation of uploaded content. Creating content such as third party reviews of processing equipment, advice on cassava processing and periodic newsletters would be additional useful though not critical activities to be carried out by the potential host.

Key criteria for selecting the host are the presence of relevant expertise required to moderate and produce site content, independence from industry organisations to ensure impartiality of information and openness of the platform, and the ability to host and maintain Drupal websites. As FUNAAB fulfils these criteria, is a partner of the IPCI project and has strong established links with NRI, they are seen as most suitable host. During the visit, initial discussions were had around the possibility and practicalities related to FUNAAB hosting CassavaBook.

FUNAAB recognises the value of the CassavaBook platform and its potential to encourage growth in both cassava processing equipment manufacturing and cassava processing. As such it is willing to take on hosting of the CassavaBook platform and the tasks related to that. However, further discussions must take place to formalise the activities and responsibilities of staff that will be involved, and a business case needs to be developed during the course of the current IPCI project in order to ensure funding for the platform beyond the IPCI project. Both commercial (via advertisements, subscriptions and cross-financing) and donor-based funding opportunities will be explored. The visit of FUNAAB representatives to NRI in late January presents the first opportunity to continue these discussions.

Regarding the ability of FUNAAB to take on both the essential and non-essential activities in the running of CassavaBook, initial meetings indicate that they have the in-house capacity to take these on. FUNAAB currently use US-based website hosting provider 'Hostgator' and could use this host for CassavaBook. Whether the domain would be a sub-domain of FUNAAB (e.g. CassavaBook.unaab.edu.ng) or an independent domain (e.g. www.CassavaBook.com) needs to be clarified.

FUNAAB currently has two staff specialised in Drupal web development that could take on periodic maintenance and ad hoc development work.

FUNAAB, with its established expertise in food science and technology around cassava in particular will be well positioned to curate content as it has PhD's or junior staff that could moderate content, communications staff to write newsletters, as well as more senior staff to conduct and write reviews and guides around cassava processing. In addition, FUNAAB has several media channels; website, radio stations and TV shows that could be used to advertise the platform to the general public once it is ready to be fully launched.

### ***Cassava Processing Equipment Manufacturers***

During the mission, 5 cassava processing manufacturers were visited, ranging in size and sophistication so as to provide a representation of the types of such businesses currently active in Nigeria. These ranged from Deban Faith, a small scale manufacturer in Abeokuta to large scale fabricators Niji Lukas and Nobex that are able to produce more sophisticated machines such as flash dryers.

Much of the business of the interviewed processors has been driven through connections to donor-funded projects that have generated relatively large orders for machines to be used in the context of development projects in Nigeria as well as other African countries. Another driver of business has been processing organisations that have won Nigerian Bank of Industry loans at favourable rates that have allowed for the investment in cassava processing lines. FUNAAB has typically facilitated the connection project/buyer and fabricator. Starron and Niji Lukas are two exceptions as the former quotes the Federal Institute of Industrial Research (FIRO) website as being a major source of business while the latter using speaking slots at conferences as another way to develop his business.

While the sources described above currently account for the majority of large orders, these fabricators typically started and are still serving customers that find them through word of mouth. Marketing via websites or other channels is rarely done as buyers want assurance of the quality of machines and typically make orders after seeing similar equipment in action at another processor's location. Advertising is not seen as useful since information provided by fabricators about their own equipment online can easily be faked or embellished.

Fabricators reactions to CassavaBook were positive, with some immediately uploading information and equipment to their profile. Especially smaller fabricators without websites welcomed the initiative as it enabled them to promote themselves more widely at no cost and minimal investment of time. They felt that much of the distrust around online information would be mitigated by reputable third party hosting and moderating of the platform. Knowing that FUNAAB is watching over the platform means fabricators would be wary of the reputation loss associated with having misinformation exposed by knowledgeable moderators.

None of the fabricators indicated that they would have a problem with their equipment being reviewed by users or experts. Many indicated that they already work closely with their customers to provide advice on choice of equipment, installation on-site and maintenance. For example, Nobex and Open Door have an on-going relationship where Open Door provides feedback to Nobex regarding use of his equipment. The online review process is seen as an extension to such relationships.

All fabricators were given a CassavaBook account and briefly shown how to upload content. In most cases basic profile information was uploaded during the visit along with one or two pieces of equipment if pictures were available. Fabricators are now able to add more information and equipment to their profiles as they see useful.

### ***Cassava Processing Organisations***

As the target user group for the CassavaBook platform, a number of processors was visited in order to understand their current sourcing activities and information needs.

In concurrence with the information gathered from fabricators, processors generally source their equipment through word of mouth and after seeing equipment from a fabricator in use at another processor's factory. Talks with the Nigerian Cassava Processors and Manufacturers Association (NCAPMA) Secretary indicated that members also request recommendations on fabricators from NCAPMA, while Starron indicated that customers would find him via the FIIRO website. As such, processors typically know of less than a handful of sources for equipment that are also often relatively close to their business.

Some larger-scale processors are starting to import equipment from overseas with mixed success. Niji Lukas (both a fabricator and processor) has created partnerships with Dornow, an equipment manufacturer in Germany (peelers), Sonalika in India (small tractors) and Bruce in China (starch extraction machines) and uses their equipment in his own factories and farms as well as acting as distributor for them in Nigeria. He has worked with Dornow to help them develop a peeler specifically adapted to cassava and is currently using one in his factory. Jog and Lamy have had less success sourcing fryers from China; next to very long lead times in delivery of the equipment and parts (due to ebola, political unrest and the need to re-build equipment) they found it unfit for use once installed.

Processors see value in the platform and are interested to learn about alternative equipment manufacturers and the equipment offered. We received a mixed reaction to questions around posting reviews; business owners generally seem ready to provide critical feedback while managers and engineers reacted more tentatively. Since purchasing is typically done by owners, they may feel less inhibited since they already have a relationship with the fabricator.

Regarding village scale processing groups, purchasing equipment that would be listed on CassavaBook is generally perceived to be out of reach due to cost and restrictions in financing. This was confirmed by VCDP which works closely with such groups. However, government and donor-funded programs have provided seed financing in the past to enable groups to purchase equipment; typically mobile graters as a first step. The VCDP representative cited one case where a group was able to successfully leverage this equipment to an extent where now it is looking to buy more equipment with its own financing.

An additional area that NCAPMA highlighted was the general lack of knowledge of processors around choosing equipment, setting up production lines, optimising production, maintaining the equipment and running a business. Also there is typically a lack of knowledge of the importance of the former. He felt including this type of information on the platform would be a unique and valuable resource. NCAPMA also indicated an initial willingness to financially contribute to the platform in order to ensure its continuity.

### **The way forward**

#### Development & Pilot (current) – by end February 2017

- Development of ‘minimum viable product’ cassavabook platform (complete)
- Field trip to engage stakeholders and introduce platform (complete)
- Share platform with small group of processors via NCAPMA (complete)
- Populate platform with content; fabricator profiles & reviews (ongoing)
- Conduct Search Engine Optimisation
- Ongoing development and monitoring of use
- Migrate to final domain (e.g. [www.cassavatech.com](http://www.cassavatech.com))

#### Finalisation & Soft launch – by end July 2017?

- Field trip to re-engage fabricators and processors and test platform
- Share with all members NCAPMA
- Share with all members AMEFAN
- Publicise via VCDP website & extension workers
- Share via conferences and project partners
- Connect to other related projects for linking & collaboration; e.g. GIZ, IITA
- Ongoing development and monitoring of use
- Start moderation by FUNAAB (as necessary)
- Newsletters and updates toward site members

#### Full launch – by December 2017

- Publicise platform to public via:
  - o Trade shows
  - o FUNAAB media channels
  - o General media interest via press releases and official launch at trade show/IPCI wrap-up meeting

- Ongoing development and monitoring of use
- Moderation by FUNAAB
- Newsletters and updates toward site members
- Research viable business plans based on site usage

### Time estimates

Activity	Time	Additional involvement
<b><i>Development &amp; pilot (complete Feb 2017)</i></b>		
DrupalGap	4 days (covered)	
Post mission development	2 days (covered)	
Search Engine Optimisation (SEO)	1 day	
'Tips and techniques' development <ul style="list-style-type: none"> <li>- Create space on site</li> <li>- Develop first content</li> </ul>	3 days	Julie Cren
Migrate to final domain	1 day	Purchase of domain name & hosting space
<b><i>Soft launch (complete July 2017)</i></b>		
Field trip & preparation <ul style="list-style-type: none"> <li>- Task-based platform testing</li> <li>- Develop communications plan</li> <li>- Re-engage NCAPMA, AMEFAN</li> </ul>	7 days	FUNAAB communications specialist
Promote platform through conferences, partners, projects <ul style="list-style-type: none"> <li>- Preparation of presentation</li> </ul>	1 day	Ben Bennett, Louise Abeyomi, Prof Adebayo, Prof Sanni
Tips and techniques <ul style="list-style-type: none"> <li>- Development of content</li> </ul>	1 day	FUNAAB, Lousie Abeyomi, Marcelo, Julie Cren ??
Newsletters & updates	2 days	FUNAAB comms
Development & maintenance	3 days	
Moderation	1 day	
<b><i>Full launch (complete December 2017)</i></b>		
Develop PR materials	2 days	FUNAAB comms
Launch via available communications channels		Ben Bennett, Louise Abeyomi, Prof Adebayo, Prof Sanni
Launch at IPCI trade show		Ben Bennett, Prof Adebayo, Louise Abeyomi
Newsletters & updates	1 day	FUNAAB comms
Development & maintenance	3 days	

Field trip & preparation - Hand-over moderation - Hand-over ICT dev & maintenance	7 days	FUNAAB ICT resource center, FUNAAB dept of Food Science & Tech
Formulate viable business plans for site	5 days	Ben Bennett, Prof Adebayo, Prof Sanni

*Translating the site into French would require approximately 3-5 days, plus the services of a translator.*

## **Conclusions**

FUNAAB is the most likely host for CassavaBook in future with the capacity to act as host and content curator. Discussions are needed around the roles and responsibilities required to make this happen. Sources of funding for the platform beyond the IPCI project need to be explored.

Fabricators currently typically depend on contacts with universities such as FUNAAB and government institutions, and word of mouth for business development. Online marketing is currently not seen as a viable option due to the lack of reliability of information found online. An expert moderated platform is seen as a possible answer and fabricators welcome the opportunity to reach wider market.

Cassava processors typically source equipment through word of mouth recommendations and seeing working equipment at other processors, and typically know less than a handful of Nigeria fabricators. Online research is currently only done to source equipment from abroad. A lack of knowledge of (the importance) of good processing practices has been identified, and could be an important gap CassavaBook could fill. Village processing groups probably won't be able to benefit from the equipment on CassavaBook as it too costly, but clear information regarding production may also benefit them.

## **Follow-up:**

Finalisation of mission report – 20<sup>th</sup> January.

Action: JP

All other follow up actions are mentioned above in the way forward.



## **Annex 1: Mission terms of reference**

### Purpose

The aim of this work is to develop and field-test an online & mobile platform 'CassavaBook' (working title) to allow the sharing of information about cassava processing equipment manufacturers in order to allow buyers of such equipment to be better informed of its availability and quality. CassavaBook will be populated with key information by cassava equipment manufacturers and then curated and developed by the wider community of cassava equipment buyers, users and independent experts.

CassavaBook shall be accessible via internet browsers and suitable for viewing and contributing to via pc and/or smartphone. Equipment manufacturers will be able to create their own profile and upload information about themselves including contact information, pictures & videos, as well as providing detailed information about each type of equipment they are selling (again providing specifications, pictures, price information etc.). Potential buyers of such equipment will be able to browse contents by location or equipment type. Buyers and independent expert reviewers will be able to rate the manufacturers and equipment on offer. Reviews will be subject to a screening process before posting on the site.

CassavaBook will be hosted on a (preferably West African) web hosting service during development, testing and initial deployment of the system in order to guarantee uptime, and a suitable domain name (e.g. [www.cassavabook.co.ng](http://www.cassavabook.co.ng)) will be purchased. Beyond the scope of the IPCI project, CassavaBook may be transferred to be hosted with a suitable local host organisation such as the Federal University of Agriculture, Abeokuta, Nigeria (FUNAAB).

In order to ensure the platform is suitable for its intended audience and to introduce it to its key stakeholders, a mission to meet with the intended users and wider stakeholders will be conducted once the platform has been created. During this mission, the system will also start to be populated with manufacturer information and reviews.

### Scope

This piece of work includes development of the online (web-based) platform using the Drupal CMS system. This platform will be scalable to mobile devices.

In order to further simplify entry of profile information via mobile devices, the possibility for using DrupalGap (a software that allows conversion of an online website to a mobile application) to create a basic Android application for CassavaBook will be explored.

A short presentation will be prepared for relevant international conferences, seminars and stakeholders to communicate CassavaBook activities in Nigeria.

This presentation will be used at the Regional Cassava Consultation in Cameroon, December 2016.

Finally, a mission to Nigeria will be conducted to field-test the platform with user groups, present the project to relevant local stakeholders and populate the platform with

Specific tasks are inter alia:

1. Develop web-based platform 'CassavaBook' from existing system specifications
  - a) Locate and contract West-African based web hosting company which supports Drupal CMS.
  - b) Purchase suitable domain name(s).
  - c) Configure website information architecture and layout/design, including the following functionality:
    - a. Ability for cassava processing equipment manufacturers to upload information about themselves and the equipment they manufacture
    - b. Ability for potential users to browse available equipment by manufacturer, equipment type or geographic location
    - c. Ability for buyers and independent reviewers to post reviews of pieces of equipment offered on the site
    - d. Ability for equipment manufacturers and potential buyers to comment and discuss information listed
    - e. Ability for general discussions around cassava processing to take place
2. Explore use of DrupalGap to create CassavaBook Android app
  - a) Write specifications and estimate development time for an Android app using DrupalGap
  - b) If this time is approximately 3 days or less, go ahead and develop the app, otherwise reassess specifications or allocated time.
4. Develop short presentation describing CassavaBook activities for Regional Cassava Consultation, Cameroon December 2016.
3. Mission to Nigeria to introduce the initiative and field-test the platform
  - a) Meet with Nigerian Cassava Processors and Manufacturers Association (NCAPMA) to introduce the platform, receive feedback, gain support.
  - b) Work with IPCI local cassava expert to upload reviews into the platform
  - c) Meet with a suitable sub-set of cassava equipment producers and users/buyers of cassava equipment to pilot-test the platform
  - d) Identify suitable human resources at FUNAAB (or elsewhere?) that would be able to host (IT dept), and moderate (domain specialists) CassavaBook.
    - a. Develop TOR for these roles. Provide outline of tasks and estimate time required.
  - e) Present CassavaBook and findings of mission to IFAD/VCDP country office Nigeria.

### **Time requirements**

<b>Activity</b>	<b>Days</b>
Develop web-based platform 'CassavaBook' (including 2 days post-mission to implement modifications)	7
Explore use of DrupalGap` to create CassavaBook Android app	4
Mission to Nigeria to introduce the initiative and field-test the platform (including 2 days preparation for TORs & presentation)	7

### **Proposed itinerary**

*During period: 5/12/2016 – 16/12/2016*

*Definite dates to be determined according to availability of involved parties*

<b>Day</b>	<b>Location</b>	<b>Activities</b>
1	Abeokuta, FUNAAB	<ul style="list-style-type: none"> <li>- Arrive in Lagos</li> <li>- Liaise with IPCI local expert</li> </ul>
2	Abeokuta, FUNAAB	<ul style="list-style-type: none"> <li>- Work with local expert to upload reviews</li> <li>- Discuss possible CassavaBook moderation &amp; hosting by FUNAAB</li> </ul>
3	Lagos, various	<ul style="list-style-type: none"> <li>- Visit NCAMPMA</li> <li>- Visit manufacturers &amp; processors</li> </ul>
4	Lagos, various	<ul style="list-style-type: none"> <li>- Visit manufacturers &amp; processors</li> </ul>
5	Lagos, various	<ul style="list-style-type: none"> <li>- Visit manufacturers &amp; processors</li> </ul>
6	Abeokuta, FUNAAB	<ul style="list-style-type: none"> <li>- Debriefing with FUNAAB</li> <li>- Update CassavaBook with collected data</li> <li>- Training of FUNAAB CassavaBook moderators</li> </ul>
7a	Abeokuta, VCDP	<ul style="list-style-type: none"> <li>- Debriefing of mission to VCDP office Abeokuta</li> <li>- Departure from Lagos</li> </ul>
7b	Abuja	<ul style="list-style-type: none"> <li>- Debriefing of mission to IFAD office Abuja (will necessitate additional day for travel)</li> <li>- Departure from Abuja</li> </ul>

## Annex 2: List of persons met and programme of visits

Date	Action/Location	Person	Designation
5 <sup>th</sup> Dec	Priebe arrives in Lagos		
6 <sup>th</sup> Dec	Lagos – Abeokuta		
	Meeting at FUNAAB; presentation of website and discussion of mission plan and possibility to host with FUNAAB in future	Prof Kolawole Adebayo	Project Director, FUNAAB
		Prof Taofik Shittu	Professor of Food Science and Technology, FUNAAB
		Prof Folorunso	Director, Centre for Innovation and Strategy in Learning and Teaching, FUNAAB
		Mr. Babarinde Seyi	ICT Resource Centre, FUNAAB
		Mr. Babatola Abayomi	ICT Resource Center, FUNAAB
		Ms. ...	Communications Expert, FUNAAB
	Visit to Deban Faith, small scale fabricator in Abeokuta	Mr. Niyi Ogunkoya	Director, Deban Faith
7 <sup>th</sup> Dec	Abeokuta – Lagos		
	Visit to Nobex Tech Limited; large-scale fabricator in Lagos	Mr Idowu Adeoya	Managing Director, Nobex Tech company ltd
	Visit to Open Door; Producer of gari and fufu in Ota, Ogun state	Mr Aderemi	Managing Director, Open Door
	Lagos - Abeokuta		
8 <sup>th</sup> Dec	Abeokuta - Okeho		
	Visit to Niji Agro Allied Ventures; farms, fabricator and producer of gari and fufu. Visit was to production and farm sites in Okeho, Oyo state.	Mr. Kola Adeniji	Managing Director / CEO
	Okeho - Abeokuta		
9 <sup>th</sup> Dec	Abeokuta - Lagos		
	Visit to Starron Agricultural Machines, mid-scale fabricator in Lagos	Eng. Ayo Ojutiku	Managing Director, Starron Nigeria Ltd
	Meeting at FIIRO, Lagos with representative of NCAPMA (Nigerian Cassava Processors and Manufacturers Association)	Dr. W. B. Asiru	Deputy Director, FIIRO
	Lagos – Abeokuta		
12 <sup>th</sup> Dec	Visit to Hay Country Foods; producer of gari & fufu, Abeokuta	Mr Hakeem Oyedele	Production Manager, Hay Country Foods
	Meeting with VCDP, Abeokuta	Mr Samuel Adeogun	State Programme Coordinator Ogun State (IFAD/FGN assisted) Value Chain Development Programme

13 <sup>th</sup> Dec	Abeokuta – Ibadan		
	Visit to Fataroy; mid-scale fabricator in Ibadan	Mr Oseni Olayiwola	Executive Director, Fataroy Steel Industry Limited
	Visit to Jog & Lamy; producer of cassava and fufu on Abeokuta – Ibadan road	Mr Peter Akeju	Chemical Analyst & Factory Manager, Jog & Lamy
14 <sup>th</sup> Dec	Meeting with ICT staff at FUNAAB	Mr. Babarinde Seyi	ICT Resource Centre, FUNAAB
		Mr. Babatola Abayomi	ICT Resource Center, FUNAAB
	Return to UK		

**Annex 3: Selected photographs**



Visit to Deban Faith, Abeokuta



Production of 'six-cyclone' flash dryers at Nobex, Lagos



Testing cassava grater at Open Door, Ota



Milling at Niji Agro Allied Ventures, Okeho



Visit to Starron, Lagos



Discussion with NCAPMA representative at FIIRO office, Lagos





Traditional Gari fryers at Hay Country foods, Aboekuta



Discussion with VCDP representative, Abeokuta



Creating a fabricator profile via smartphone at Fataroy, Ibadan

*All images by Jan Priebe*