



Product Profiling and Gender in Cassava Breeding: An integrated approach

Béla Teeken

26 JULY 2017

Contributors

Peter Kulakow
Hale Ann Tufan
Abolore Bello
Durodola Owoade
Olamide Deborah Olaosebikan
Olabisi Ogunade
Béla Teeken
Peter Iluebbey

Chedozie Egesi
Tessy Madu
Maria Justin-Okoro
Joseph Onyeka
Ugo Chijioke
Dominique Dufour
Chinelo Ezeocha



Research
Program on
Roots, Tubers
and Bananas



Outline

- **Background: preferred cassava traits in Nigeria**
- **The need for tacit evaluation**
- **Field trials as platforms of communication and interaction**
Facilitating the social science
- **Future preferences in relation to anticipated modes of production and processing for different (gendered) groups.**
- **Intersectionality**
- **The current setup**
- **How to choose participants? A task group focus**
- **Preliminary insights**
- **Ways forward**

Background: cassava traits in Nigeria

- In Nigeria cassava is used to make a great variety of food products such as gari.
- Farmers add value to the crop by processing it.
- Processing is mainly done by **women**.
- Research on preferred variety traits in Nigeria showed that men and women prioritized similar traits such as early maturing, in ground storability and food quality traits. Ease of peeling and root size were mentioned more by women.
- 90 % of cassava food products is produced by smallholder farmers



Processing cassava into gari in Ogun state Nigeria

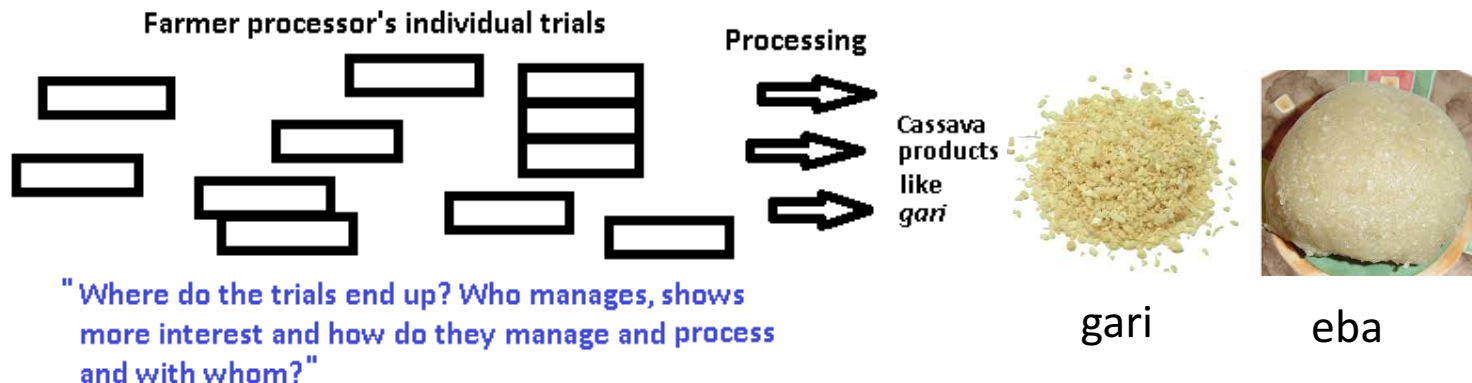
- ⇒ **Reasons of men and women to prefer varieties and traits differ but do not contradict, but rather complement each other**
- ⇒ **These reasons largely relate to the different cassava related work of women and men**
- ⇒ **Traits are often described in a very general terms: 'good to make gari' or 'good taste', so difficult to express verbally**

Collaboration between breeders and social scientists through field trials:

1. Tacitly accessing traits and varieties that different people like, by letting them evaluate and **rank most widely grown varieties** in Nigeria from cultivation to processing along with **new improved** and **local ones** and inquire into important traits such as taste and suitability for different cassava products => Focus on Gari-Eba and Akpu/Fufu

=> **Participatory Gender Product Profiling Trials in two locations in Nigeria**

Main demonstration 'mother' trial in a farmer's field



Physio-Chemical Food science analysis and sensory evaluation will then investigate the preferred varieties to look for what measurable parameters make up the valued traits.



Explicit Knowledge:

- Data, Information
- Documents
- Records
- Files

Questionnaires

⇐ Focus Group Discussions

Tacit Knowledge:

- Experience
- Thinking
- Competence
- Commitment
- Deed

The "Iceberg" metaphor describes the relationship between Explicit & Tacit Knowledge

(After Polanyi, 1966)

2. Regular cooperation over time with communities through field trials and processing
 - >> mutual confidence
3. A concrete shared activity, a performative interaction*
 - >> entry point to discuss the social issues around cassava work
4. Shared attention for cassava cultivation and processing creates an epistemic or learning culture that facilitates more horizontal and open communication.
5. We can actually evaluate how different participants act and find a role in the PVS trial maintenance (action research): we can evaluate their restrictions and possibilities and how **gender** is shaped and articulated through **other social sections** that provide people with identity.

**Richards, P. (2007) How does participation work?
Deliberation and performance in African food security. IDS
Bulletin 38(5): 21–35*



Future preferences in relation to anticipated modes of production and processing for different (gendered) groups.

- Changes in division of labor and gender roles in processing (mechanization)
- Greater geographic and/or social distance between processing and cultivation, potentially limiting women's participation
- Mergence of processing and cultivation benefiting a select group
- Conflicting sales?
 - Big quantity of fresh roots sold at low price to have an immediate considerable sum of money
 - Processing adds value but processing goes little by little bringing in smaller amounts of money spread over time because of small local processing capacity

Intersectionality

Intersectionality: analysis stating that race, profession, social class, gender, sexuality, ethnicity, nation, and age form mutually constructing features of social organization, which shape the experiences, possibilities and limitations of individuals and are also shaped by these individuals and confer identity to them.

Within this intersectionality certain matrixes of domination can take place without there being clear victims or oppressors because everybody gives shape and contributes to these matrixes:

“In essence, each group identifies the oppression with which it feels most comfortable as being fundamental and classifies all others as being of lesser importance. Oppression is filled with such contradictions because these approaches [that define clear victims and oppressors] fail to recognize that a matrix of domination contains few pure victims or oppressors. Each individual derives varying amounts of penalty and privilege from the multiple systems of oppression which frame everyone’s lives. **Individual biographies** are situated within all domains of power and **reflect** their interconnections and contradictions.” (Collins, 2000)

“pathways”!

Collins, P. H. (2000). Black feminist thought: Knowledge, consciousness, and the politics of empowerment (2nd ed.). NY: Routledge

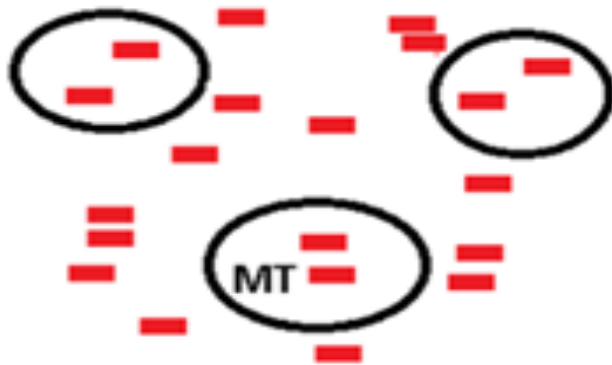
Intersectionality: Gender is shaped and articulated by the different social identities people are part of.

- Need to include participants from different local groups
- Need to include participants from different socio economic class.
- Need to include participants from different age.
- Each group might represent a different mode of production (more or less mechanized and using different labor sources)

The current setup

Imo State (Southeast)

Location 1



Osun state (Southwest)

Location 2



MT = "Mother trial"

○ = Village

■ = Individual trial

Currently a total of 40 ("baby") individual trials and 2 mother trials are set up divided over Osun and Imo state. Mother trial includes 15 varieties. The individual trials each contain 3, plus a breeders check and a local check. Individual trials have 2 replications.

The categories of PVS participants in Imo state (Southeast)

1. The farmers who own farm land and their major occupation is farming/ processing and trading as a secondary occupation
2. The farmers whose primary occupation is teaching but are utilizing school farms for their private farming and to demonstrate agriculture to students because they are not regularly paid their monthly salary.
3. Farmers who no longer have enough farmlands because their land is been taken up by the Federal Government for the established of Anambara /Imo River Basin development Authority. Every farming season the women from the host community approach management of the River Basin to lease farmland to them.



The categories of PVS participants in Osun state (Southwest)

1. Autochthonous Yoruba farmers who often rent land out to immigrants and also use the immigrants' labor.
2. Immigrants from other states (Benue, Cross River, Anambra, Delta, Kogi) who initially came as labourers but have managed to built up a good relation with their landlords and acquired land from them to establish their own farms.
3. Immigrants from Benin and Togo who initially came as labourers, mostly Ewe speaking, who initially came as laborers but have managed to built up a good relation with their landlords and acquired land from them to establish their own farms. Youths from Benin- Togo continue to come in as seasonal laborers.





How to choose the participants? A task group focus

Instead of letting the “elite” chose the participants we discussed this leadership effect and the social makeup of the community with the “elite” and we took into account the following points with regard to the participants:

- People with hands on experience in cassava farming and processing.
 - We made sure that the person was involved and interested and experienced in farming and processing, we checked this by discussing with them detailed farming and processing work.
- We also include people who are less better of and are hard working farmers-processors but are verbally not strong or assertive.
- We made sure to choose villages where we know the extension service would not “hijack” the project for their own interest.
- We never choose a participant based on one interview or encounter
- We stressed from the beginning that there would not be any benefit other than the yield, stems and knowledge acquired during participation.
- We regarded distrust and restraint as healthy attitudes and exercised extra patience and provided extra effort and explanation and respect in such cases

We never used sex as a direct criteria for selection! => **but focus on task groups (see first point)**



Preliminary insights

- Some participants had difficulty in maintaining their trials, they were suspicious of our intentions. When some participants fell ill and we gave attention to that they started to care for the other participants field, and issue was solved
- Husbands of the participants also became informants because all the husbands of the participants are cooperative and initiated the communication between the participants
 - ⇒ good entrance to get information on mechanisms of intra-household decision making and opportunities for women in relation to men within different groups
- Differences in preferences for gari seem little, all different groups Southwest location live up to the local demand for gari, fufu and lafun.

- Participants become more and more free to communicate. First open ended questionnaire on the determination of harvesting time of cassava in relation to processing has given important insights.

⇒ In the southwest processors described in detail that change in harvesting time has little influence on the suitability to make different cassava products.

Lesson learned

- Things that go wrong during the maintenance of the trial are **opportunities** to create unity among the group of participants and shapes the action research.



Ways forward

- Approach connects to prominent ongoing initiatives that focus on demand driven approaches in which the goal is to breed and select for varieties that have the quality properties desired by the processors and consumers.
- Approach complements to approaches that focus on increased cooperation with end users (farmers) on a large scale through statistically clever approaches such as the TRICOT * approach that will facilitate the **tacit** evaluation and especially the **ranking** of larger sets of varieties while farmers only evaluate 3 varieties at a time.
- Approach connects to the necessity to identify the way the modes of processing and production develop and study mechanisms of inequity and gender inequality within these and how these issues do or do not relate to breeding.
- Approach can identify key farmers/groups for dissemination and as entry points for agribusiness initiatives, building upon already existing initiatives by farmers, especially from a gender and equity responsive viewpoint.

**Van Etten et al. (2016) First experiences with a novel farmer citizen science approach : crowdsourcing participatory variety selection through on-farm triadic comparisons of technologies (tricot). Experimental agriculture. Online first 21 December pp. 1-22
doi:10.1017/S0014479716000739*

Illustrative interview with an autochthonous farmer- processor in Osun state bringing together the issues discussed

Mrs R. narrated that she liked the variety Isunikankiyan, because ‘it is good to eat and very mealy, most labourers could identify it on the field and it is a good snack to be consumed roasted before food is brought to them. She said that the variety called IITA is no longer in the village because it is not good for eba, the mouldability is very poor and buyers complained to the farmers about it. Therefore, farmers no longer plant it. She expressed how good another variety the “Fulani variety” is in terms of preparing eba, because it swells and you cannot run at loss if you cultivate and process it into fufu or garri: “*O ma wu gann, ti e ba fi se gari tabi fufu , e le je gbese laye*” Another advantage she said was that the variety smoulders grass and yields very well. She emphasized that poor mouldability of *eba* depends on the variety not on the processing or expertise of the processor. She is a maize miller and palm oil processor but usually employs labour to carry out garri and fufu processing though she has a lot of experience. She narrated that the last time she fried garri and prepared fufu was in 1989. It was from the frying of garri the couple saved the money to buy their maize milling machine. She said both of them would fry garri from 5:00am to 7:00pm and averagely, they both fried 20bags of garri to market within 5days: “There were no processors like us in the community” she said enthusiastically. During that time our children used to lie on the table beside us, but now they have all gone to school. The bitter part of it was that we were both very thin and looked lean as we could not feed ourselves well. People used to pity us and tell us to go and rest, she narrated. She said her husband still continues his maize and cassava farming. Most of the time they both sell their cassava fresh in a truck and this mostly depends on the rate and the demand in the market. Prices vary from as low as 20,000Naira and as high as 120,000Naira per truck. (source: informal discussion with a participant in Osun state while discussing the trial setup)



Thanks for your attention!