

Gender in Crop Improvement:

Developing Gender Research Tools for Crop Breeding Programs

Hale Ann Tufan

Gender Summit Africa

28-30th April 2015



Cornell University

Gender In Crop Production



Research
Program on
Roots, Tubers
and Bananas



- Gender groups relate to food production and value chains in distinct ways-
 - ✧ Do these result in gendered preferences and needs?
 - ✧ How do gender roles/relationships drive these?
- Gender roles and relationships determine access to resources (planting material, inputs)-
 - ✧ Who will receive improved planting material?
 - ✧ High input requirement- disadvantaged gender groups don't benefit?
- Gender roles and relationships determine labor loads, control of income-
 - ✧ Do new technologies impact labor loads? Who's labor load? How?
 - ✧ New technology increases income- Who controls? Shift benefits?



Food for Thought for Variety Development



Research
Program on
Roots, Tubers
and Bananas

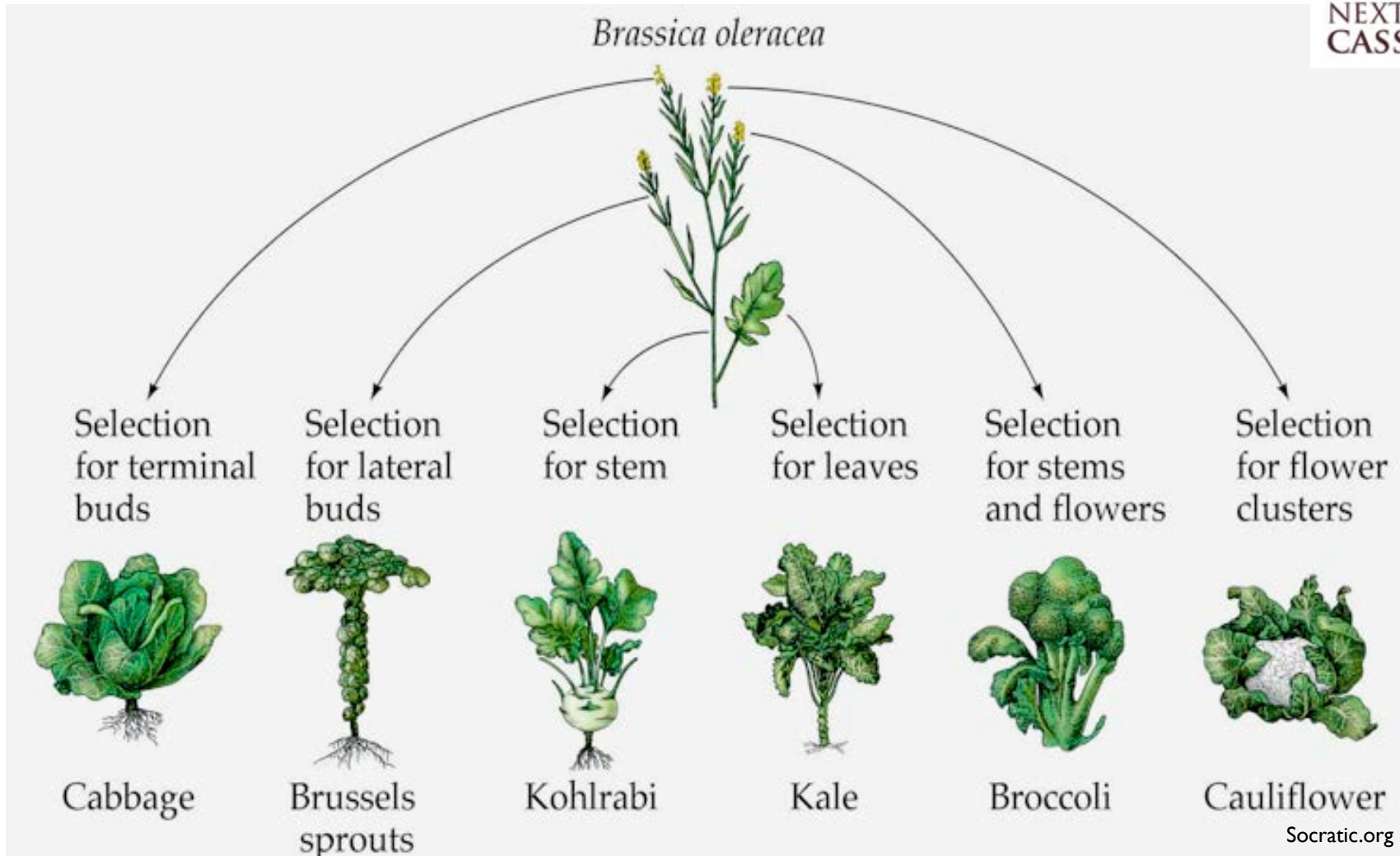


- “Women” are not a single market segment: The interests and opportunities of different women vary with poverty, region, culture and roles in farming
- Always consider women in relation to men: gender differences are embedded in gender relations and larger socio-cultural context.
- Characterization of users and preferences is fragmented and localized: can we determine market segments (users) and target them?
- Typologies of male and female farmers/end users?
- Common gender differentiated preferences and traits that reoccur across mega-social- environments?

From Jacqueline Ashby

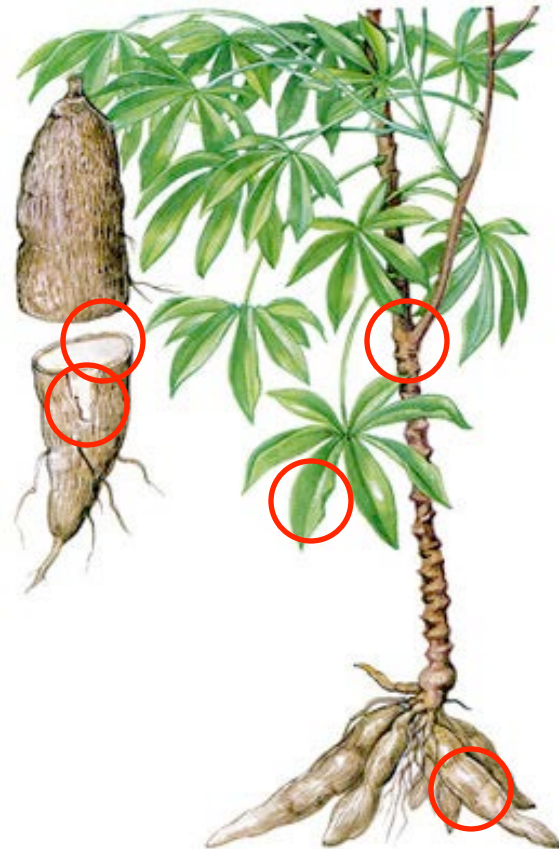


A Suite of Selections



Socratic.org

A Suite of Selections-Cassava



- Cannot breed for everything!
- How are priorities determined?

redesementeslivresbrasil.org

Rationale



Research
Program on
Roots, Tubers
and Bananas



- Do varieties cassava primary developed for yield, disease resistance:
 - ❖ fail to meet end user preferred quality and food security traits, such as taste, texture and storability, which are poorly understood?
 - Does less attention paid to end user preferences, especially those of women, drive variety disadoption?
 - ❖ favour more “visible” preferences of men rather than women - primary food preparers and carers?
 - “Gender blind” variety development contributes to the marginalization of women in ag. research?

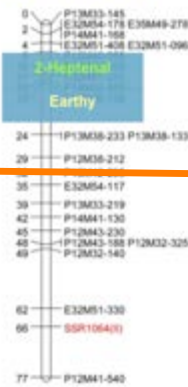


Thought Process

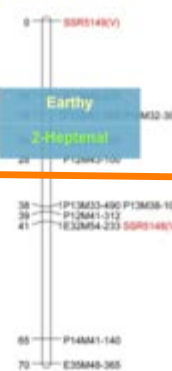
- How do we capture the preferences of diverse user groups?
- How do we understand underlying traits?
- How do we “weight” these? (tradeoffs)
- How do we breed for these?



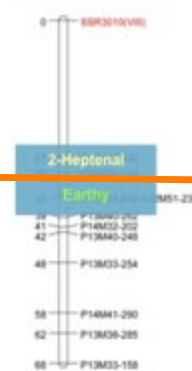
Chromosome II



Chromosome V



Chromosome VIII



Frameworks

- Sex disaggregated analysis of gender roles and responsibilities. Access and control of resources, who benefits (March, 1999)
- Strategic and practical gender needs. Women's triple role: production, reproduction and community (Moser, 1993)
- Social relationship (of power). Which men, which women (Kabeer, 1999)

Laundry List of Tools



Research
Program on
Roots, Tubers
and Bananas

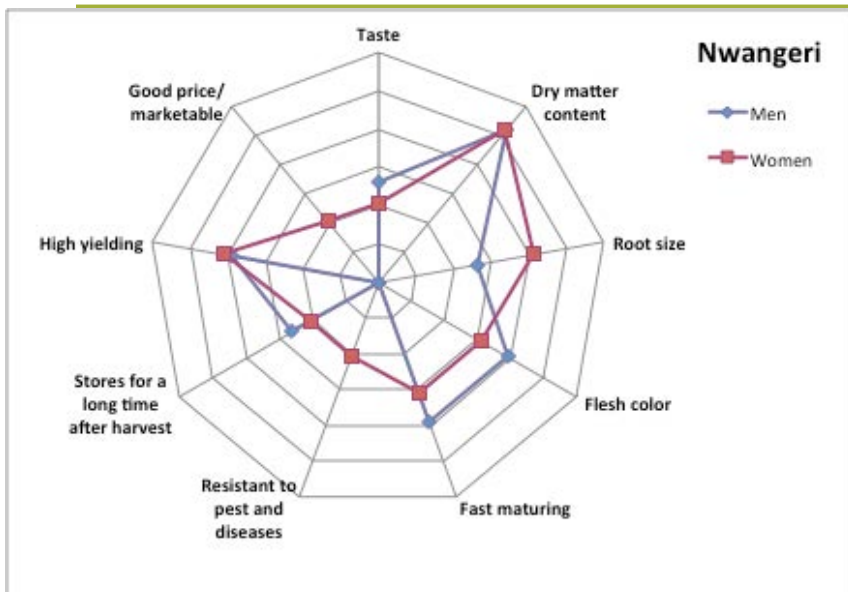


NEXTGEN
CASSAVA

- Key informant interviews
- Semi-structured or informal individual interviews
- Household surveys
- Intra-household bargaining tools
- Focus group discussions
- Wealth ranking
- Transect walks
- Timelines/time use
- Community/ farm mapping
- Preference classification and ranking

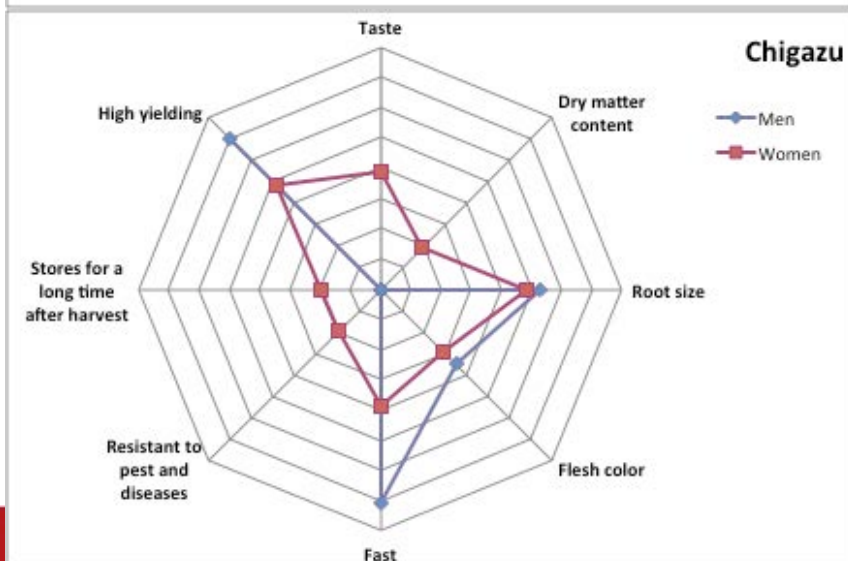


Nigeria –Imerienwe Results



NWAGERI (*child will eat*)

- **Women:** Ranked 1st High yielding, “the fufu draws” (ie elastic fufu), produces many tubers enough for household feeding
- **Men:** Ranked 4th Produces plenty of roots. Good quality garri and fufu for consumption and sale.



CHIGAZU (*God can provide for my children*)

- **Women:** Ranked 2nd “Not watery” (high dry matter and high starch). “The garri and fufu from this variety swells and draws very well” (doubles in size when prepared)
- **Men:** Ranked 2nd Early maturing: quick cash for our women and food for our children.

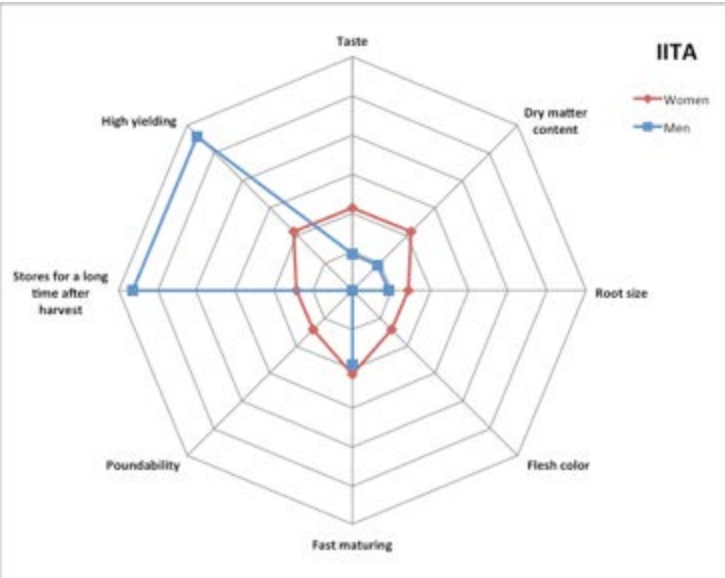


Nigeria- Elere Olegun Results



DANGARIA (TME 419)

- **Women:** Ranked 1st fast maturing (sold for quick money), high yielding, “can be pounded in mortar with pestle like “iyán”. Boiled and eaten fresh. Young leaves could be used to prepare soup.
- **Men:** Ranked 1st gari “swells, moldable” (high starch), boiled and eaten fresh, high yielding, early maturing and the peels were good for livestock. “Did not dewater fast during the wet season for the preparation of gari”



IITA

- **Women:** Ranked 4th Storability (3 to 4 days), it “swells” when used to toast gari” and high yielding. “when I use IITA for fufu, if it gets cold the fufu softens and is not stretchable any longer”
- **Men:** Ranked 2nd “Forms canopy for young cocoa” and has big roots

Nigeria- Iborro Results

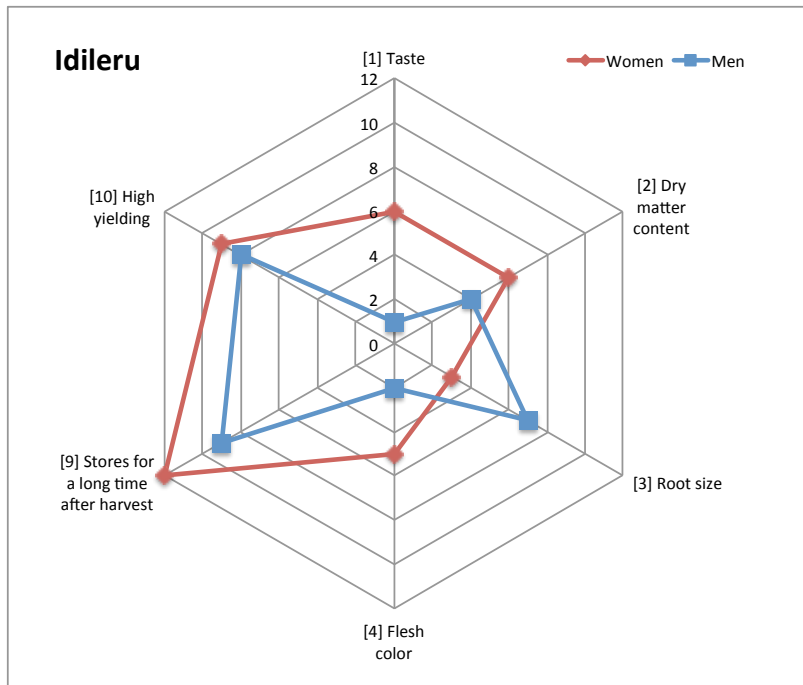


Research
Program on
Roots, Tubers
and Bananas



NEXTGEN
CASSAVA

IDILERU



- Top variety grown by women and men. Although men sell fresh and women process-
trait preferences similar
- All respondents put heavy weigh on in ground storability
“We do not have banks here, our bank is in the soil”
- Livelihood strategies determine preferences?

Is in-ground storability a neglected key food security trait?



Complexity- Place and Social Variation in Preferences!



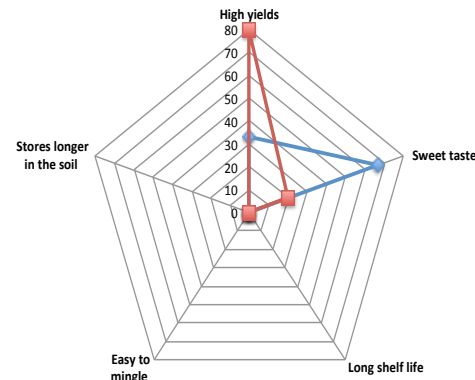
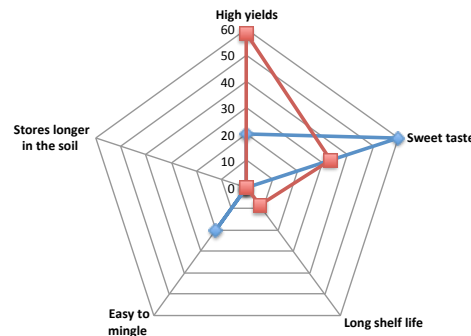
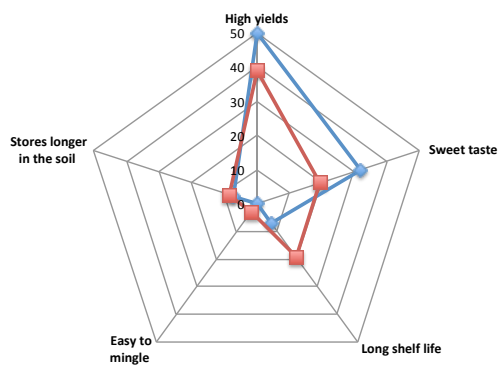
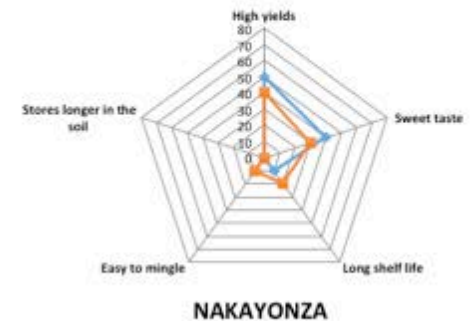
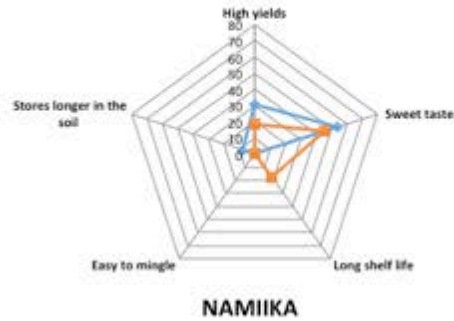
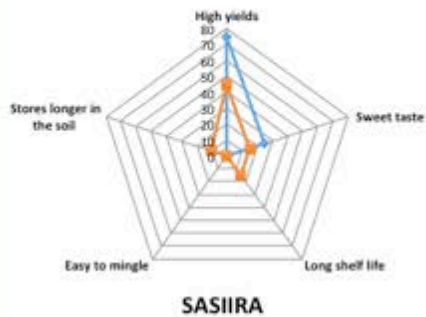
Research Program on
Roots, Tubers
and Bananas



NEXTGEN

Preliminary Data from a related study carried out in Nakasongola, 2014 Cassava Trait Preference by Sex and Parish

— Men
— Women



Married

Single

Widow



Cornell University

Next Steps



Research
Program on
Roots, Tubers
and Bananas



- ❖ Focus on farmer typologies- which men, which women? Do different livelihood strategies shape cassava production choices?
- ❖ Wealth ranking in individual interviews- ladder of life
- ❖ “Translate” farmer evaluation/units of description for breeding programs
- ❖ Incorporate material from farmers into breeding programs- compare with what is being developed- guiding standards
- ❖ Work with farmers to deliver and test new varieties that suit their needs
- ❖ Test “trait trade-offs” with choice experiments



Codifying Local Knowledge



Research
Program on
Roots, Tubers
and Bananas



NEXTGEN
CASSAVA

Is evaluation of cassava at breeding programs representative of farmers own knowledge, preference and processing realities?

“Translate” local knowledge and units of description into standardized measurable trait variables for breeder on station selection

Example: Women prefer cassava that “*draws*” and “*rises*” for garri and starch meals in Nigeria. What does this mean? Benchmark to lab variables?:



Tool Development- Lessons Learned



Research
Program on
Roots, Tubers
and Bananas



- Building ownership with all stakeholders from onset helps with commitment to results
- Qualitative research methodology requires extensive training- invest time to train before going to the field!
- Pilot, re-pilot, re-re-pilot the tools
- Don't try to fit too much! Focus is key



THANK YOU!



Blog.foreignpolicy.com



Cornell University