



Building a Sustainable Sweetpotato value chain: Experience from Rwanda Sweetpotato Super Foods Project

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Importance and challenges

- Sweetpotato is widely grown in almost all agro-ecological zones by most resource-poor farmers as a reliable, low input, food security crop but with limited commercial potential
- Main constraints: bulkiness, lack of processing technologies and lack of market at the peak of sweetpotato production



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Importance and challenges

- SP sector is still largely being farmer-driven from processing a food security perspective and not consumer-driven with a commercial perspective which is linked to inadequate and unsustainable system of multiplication and distribution.
- Rwanda SP market has not developed linkages and economies necessary through inexpensively demand market creation



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Objectives of the study

- Develop, compare and evaluate the relative efficiency of two value chains and their potential to increase farmer/ producers income
- Improving the sweetpotato value chain by including actors along from growers to processors using OFSP varieties through gender consideration
- Assess change in consumer acceptance of OFSP and derived products

Methodology

Sites selection:

- 3 major SP production districts: Rulindo, Muhanga and Kamonyi with high density population (average 320 inhabitants per km)
- Processing of SP products offers the opportunity to increase demand for the crop, create value added, and thereby expand the incomes of smallholder producers.



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Study sites



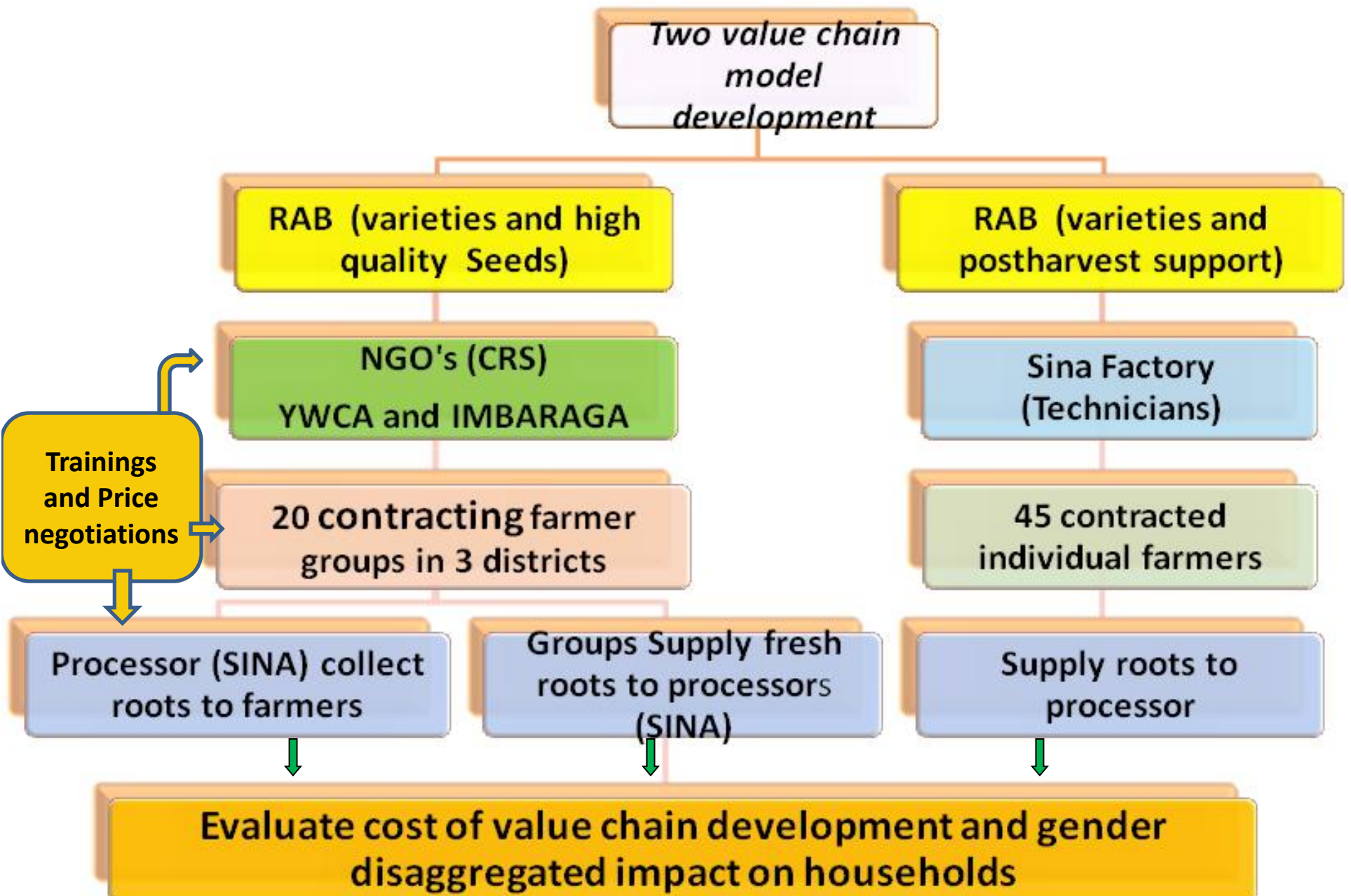
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Key stakeholders involvement and value chains development

- Key stakeholders (RAB, CRS, Urubwitso Enterprise and local authorities)
- 2 OFSP were selected based consumer preference
- RAB provides high quality clean planting material
- Secondary multiplication sites are organized in collaboration with CRS and Urwibusto.
- CRS and its implementing partners (YWCA and IMBARAGA) organized and supported farmers into groups that produce roots for sale to the factory



Results

➤ In vitro & field multiplications



In total, 3,000 to 5,000 plantlets of Gihingamukungu, Cacearpedo were produced monthly



Around 1,928,300 cuttings were produced in primary multiplication at Rubona and Karama research stations

Seeds multiplication and roots production at cooperatives



Positive selection and netting tunnels construction at farm level for low cost technology for preservation of clean planting material/ Photo J.C



High yielding Gihingamukungu variety in Muhanga cooperative / Photo Kirimi

Capacity training of sina technicians and pilot farmers



Training of Sina contracting farmers on quality roots handling



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OFSP products taste testing with gender consideration

Location	Male	Female	Total
Lycee Notre Dame	0	50	50
KIST	36	4	40
SINA elementary school	33	19	52
General public			98*
%	49%	51%	

* Gender was not consider for general public and that data was analyzed separately



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Product t-test results

Product	Type	Mean score	T-test	df	Significance level
Bread	Flour of SP	2.81	-5.81	77	***
	Control	3.73			
	Flour of sp	2.81	-6.96	78	***
	Puree	4.08	2.36	77	*
Doughnut	Control	3.73			
	Flour	3.75	-2,28	71	
	Control	4.14			
	Flour	3.75	-3.76	70	***
	Puree	4.34			
Biscuits	Control	4.14	-1.60		
	Flour	3.96	-0.1807	80	
	Puree	3.99	-2.23	80	
	Control	3.60			

* significant at 10%; ** significant at 5%; *** significant at 1%

Results con't

- Urwibusto production cost per product has reduced significantly by using sweetpotato puree.
- The savings in costs per unit product are: biscuits by 14%, doughnuts (Mandazi) by 15%, and bread by 7%.
- Frequency of sweetpotato consumption by gender showed that women consume more SP than men with 50% and 41%, respectively



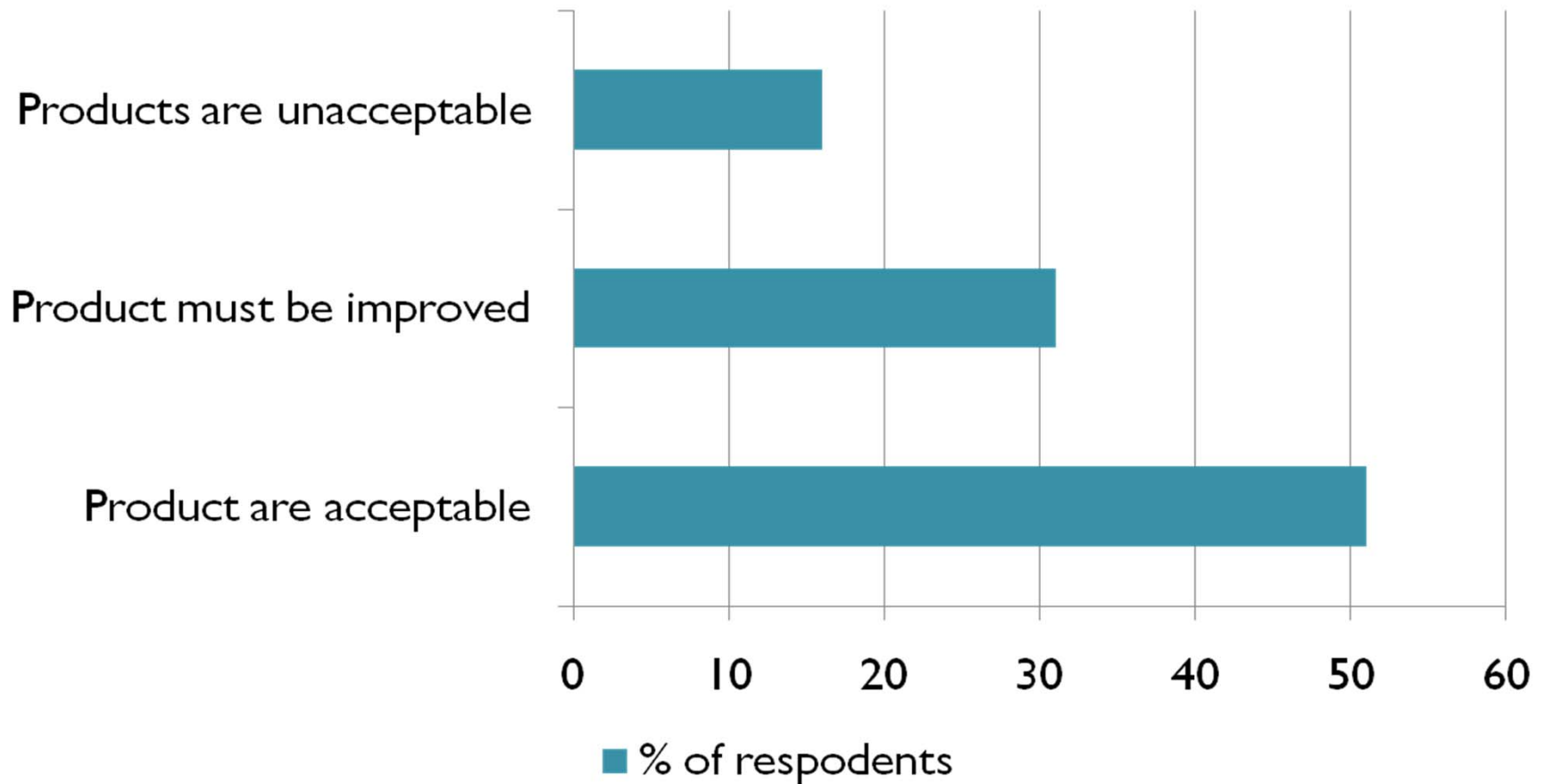
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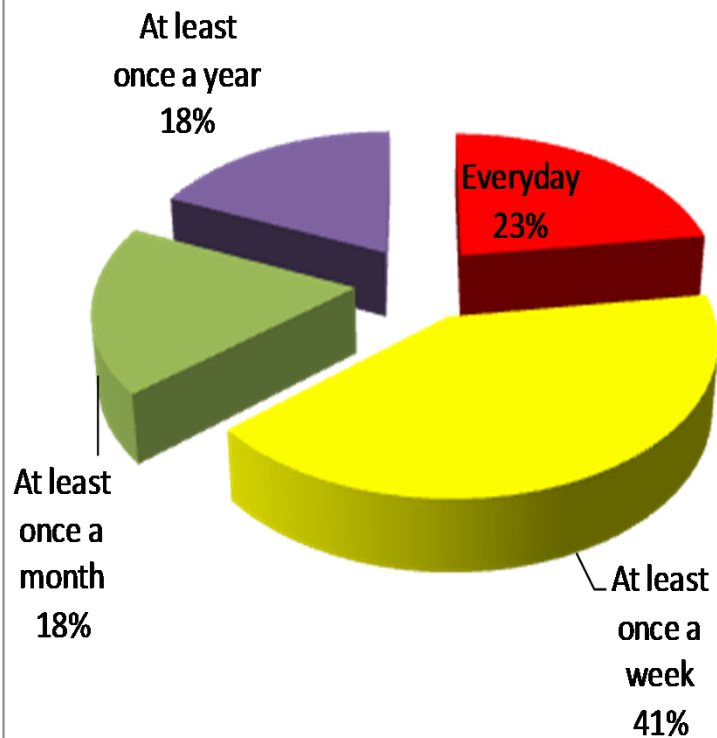
Results of the general consumers survey

**Perception of respondents
to products (n=98)**

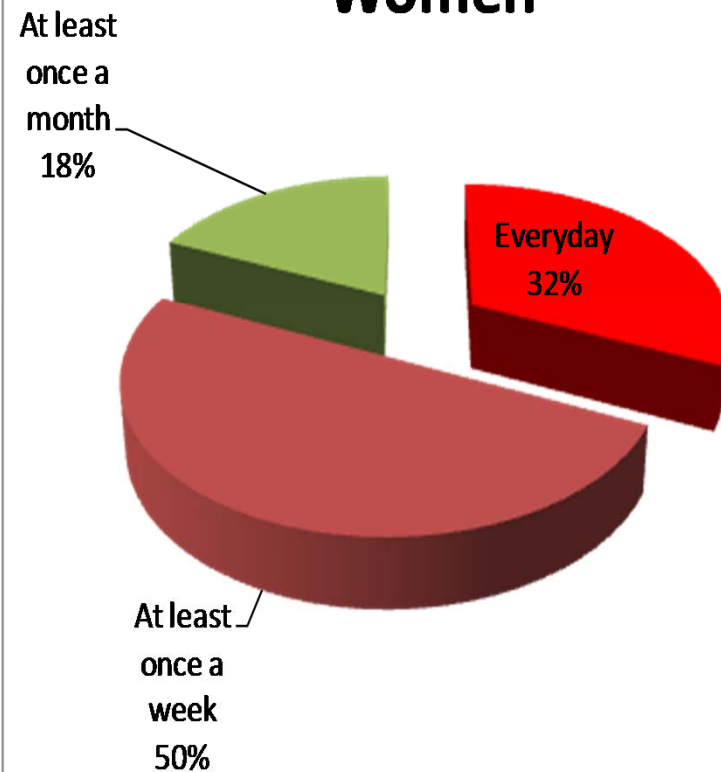


Frequency of Sweetpotato consumption

Consumption of SP by Men



Consumption of SP by Women



CAN WE ADVOCATE OFSP?



Tuzamurane farmer group selling SP Mandazi and YWCA during open day



OFSP can market itself?

RADIO promotion

Lessons learnt

- ✓ Puree can be economically incorporated into various commercially viable bakery products
- ✓ Farmers can participate in a SP value chain either as a group or individual through contracts (with oriented market)
- ✓ Increase of cohesion between farmers with greater participation and high revenues for women farmers
- ✓ Use of quality planting material coupled with proper training increase farmers yield per unit area.

Lessons learnt con't

- ✓ Using evidence based advocacy can positively change policymakers' opinions about the value of SP and improve its image
- ✓ The 2 SP value chains showed that farmers can efficiently increase income with gender equity and re-position SP and its products
- ✓ Farmer groups have now expanded to 20 (80% women). In model one, Urwibutso Enterprise has directly contracted 45 (72% women) farmers
- ✓ The 2 systems provided evidence that Akarabo biscuit and Mandazi doughnut of SP can be profitable and acceptable to rural and urban Rwandese consumers.

Thanks



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