

Rwanda Super Foods Project



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Jacaranda Hotel

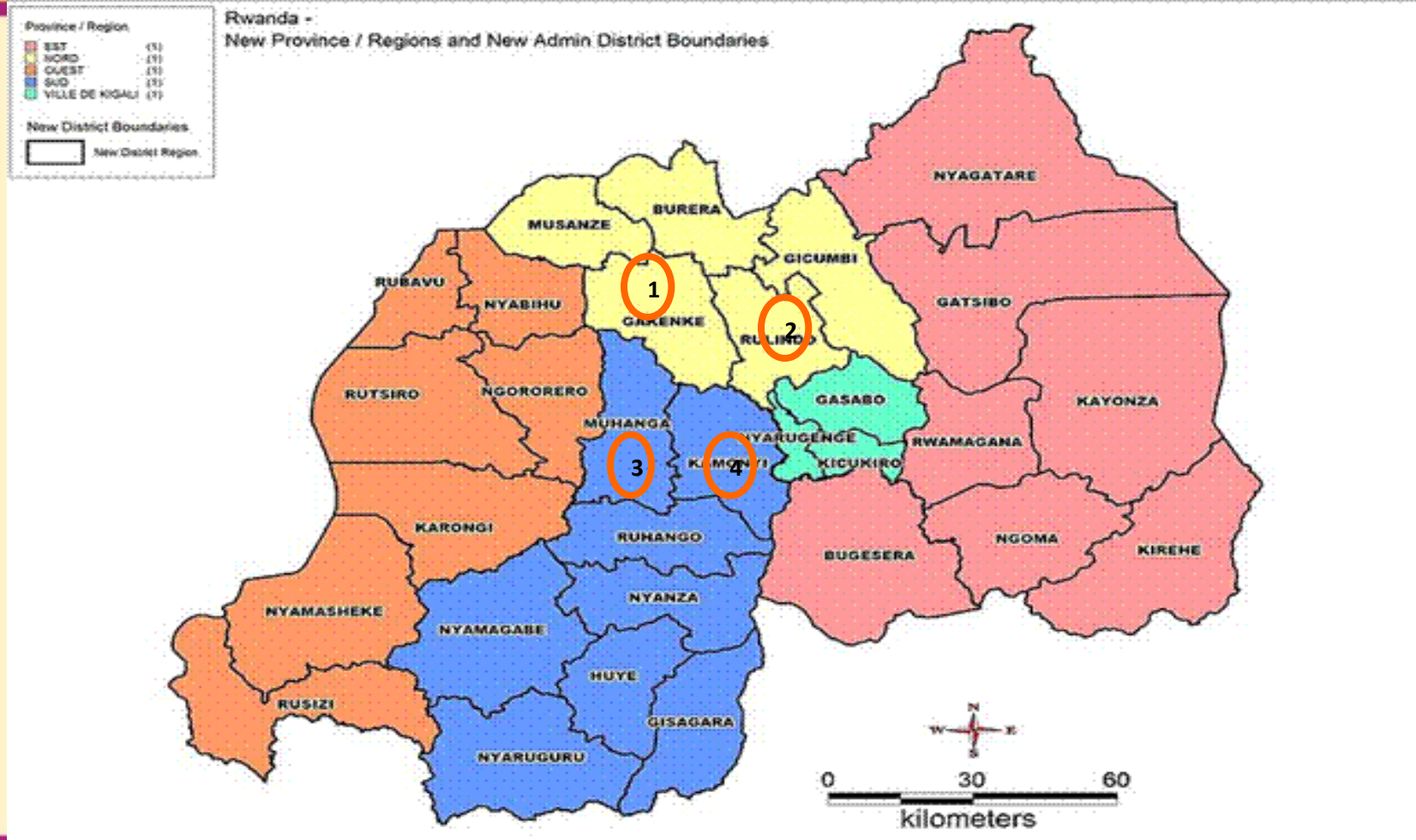
Nairobi September 9-11, 2014

Objectives

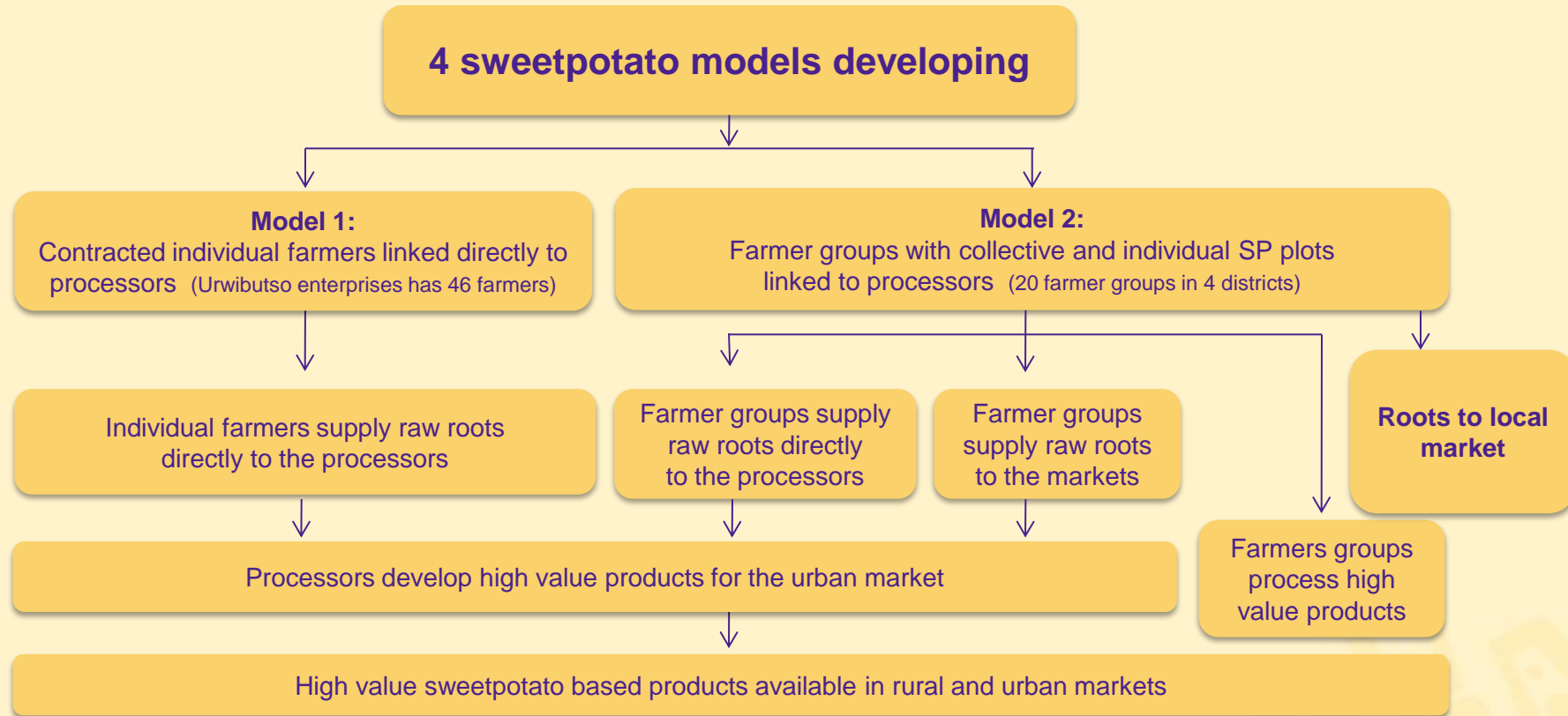


1. To develop, compare, and evaluate the relative efficiency of two sweetpotato product value chains and their potential to increase farmer income with gender equity
2. To re-position white and orange fleshed sweetpotato (OFSP) and its products in the rural, urban and semi-urban consumer markets.

Project sites



Models developing



HOW DID WE DO IT?

First start by developing a quality “clean” seed system

Plantlets hardening →



↑
In-vitro plantlets multiplication at Rubona lab we are multiplying 10 OFSP and 1 WFSP



↑
Transfer of plantlets to the field



←
Farmers have access to quality planting material

Over 50,000 plantlets were produced and hardened at Rubona

Vines distributed



- About over 8 million cuttings were produced from primary multiplication
- A further 1,199,200 cuttings were distributed to 2nd tier partners like NGOs, Local governments, and large scale private growers
- **Hence a total of over 9,199,200 cuttings were produced and distributed to different partners**

Is this seed system development worth its?

Yield assessment trials last season at farmers condition



	Cacearpedo		Vita		Kabode		Gihingamukungu	
	SPVD	YFSR (T/ha)	SPVD	YFSR (H/ha)	SPVD	YFSR (Kg/plot)	SPVD	YFSR (Kg/plot)
Location 1	1	11.75	1	12.78	1	12.1	3	8.29
Location 2	2	8.52	1	8.98	1	9.79	2	6.1
Location 3	-	7.71	-	11.86	-	9.21	-	5.41
Location 4	3	14.63	1	8.17	1	9.9	1	15.89
Average	2	10.65	1	10.45	1	10.25	2	8.92

The yields trials were affected by long dry period

SPVD scale 1-Lowest 9- Highest

Previous trials had an average of 12 t/ha

What is the results so far from our seed system effort

	Highest production Kg/ha	Average yields in three crop cut sites average Kg/ha
Cacearpedo	19,366.39	12,539.74
Naspot 9	18,606.44	13,279.87
Naspot 10	19,578.31	15,446.78
Gihingamukungu	16,529.29	12,575.50
Local variety	15,849.12	10,285.89



Vines conservation strategies



- Farmers were taught on how to keep clean planting materials through negative selection and this improved the ability of farmers keeping vines from season to season
- 45 tunnels were constructed and are still being maintained by farmer groups with 3 maintained by SINA for his contract farmers

Vine Conservation tunnels in Rwanda



Building tunnels



Planting



Covering with anti-aphid netting



Finished tunnel



Inspecting the tunnels

Product development



- Can we develop commercially viable products based on Orange Flesh Sweetpotato?
- What are the necessary conditions that will attract private sector to spearhead incorporating OFSP into their commercial products?

Necessary conditions



1. Raw material need to be available throughout the year
2. OFSP products must be acceptable by targeted consumers because they are **better** or at **least equally as good** as competing products
3. Private sector need to make money from the OFSP based products (check the bottom line)
 - a) **By lowering cost of production**
 - b) **Or/and increasing their bundle of attributes (selling point)**
4. Technology developed must be easy to adapt

Products are as good as the raw material



1. Roots quality
 - Time of harvesting (Too early or too late)
2. Grading before delivery
 - Trainings are necessary
3. **In time** roots delivery to the processor
4. Farmers trainings and commercial processing, assist in understanding roots quality and supply chain concerns

How do you choose private sector collaborator?



- Several considerations
 - Experienced Vs New (creation)
 - Large Vs Small
- All these have consideration in the level of investment
 - Machinery, technical backstopping, supply chain development, marketing support
- *With all collaborators you cannot be hands off, for a successful project you have to be engaged as needed*

Does it make economic sense to incorporate OFSP sweetpotato puree into bakery products?



**Sweetpotato
puree + wheat
flour + other
ingredients**

Bread

(30% SP+70% wheat)+others

7% decrease in per unit
production cost

Doughnuts (Mandazi)

(40% SP+60% wheat)+others

15% decrease in per unit
production cost

Biscuits + other cookies

(45% SP+55% wheat)+other

12% decrease in per unit
production cost

Start at the level of the processor i.e. we build capacities of partners



Making of sweet potato puree

Team having sensory test of products at Urwibutso factory at Nyirangarama, Rwanda



Capacity building process



Urwibutso industry development in four years



Farmer groups processing taken longer but getting there

Urwibutso factory product development and gross sales



- Products development lead time was long and involved scientific work (sensory tests, packaging design tests, product testing)
- Product developed are;
 - Biscuits, Mandazi (doughnuts), Bread, Queen cakes and Sweetpotato juice.
- Factory sales by SINA Enterprises of Golden Power Biscuits and mandazi made with orange-fleshed sweetpotato in the period 2012/2013 attained a gross value of USD \$146,490.
- In 2013/2014 project year, SINA sold OFSP based products worth US \$ 195,384.
- Therefore, in two years the factors had a gross income of US \$ 341,874 from sales of OFSP based products.

Did the project work benefit only a large firm in processing?



- The answer is NO
- *It's difficult to create entrepreneurs*
- **Four farmer groups started processing after trainings and are still selling mandazi**
- The project formed **two cooperatives** that will be used for processing and semi-processing
- The buildings have been set up but the machinery is not yet installed hopefully it will be done in September

Does investing in a value chain lead to most of the production going to the market?



Initial evidence from Rwanda case study

Province	Total harvest (Kg)	Sold to SINA (Kg)	Sold to local market (Kg)	Home consumption (Kg)	Group processing (Kg)
Southern	21,981	5,198	5,343	11,440	
Northern	37,300	15,900	5,700	7,00	8,700
Total	59,281	21,098	11,043	18,440	8,700
% Utilization		36	19	<u>31</u>	14

Home consumption % remains very similar over the years

Product presentation



- Product presentation gives a message
- Generally we buy
 - Dreams
 - Aspirations
 - Image
 - Attributes (healthy alternative vit A)
- Customers and policy makers don't really care about OFSP, they care about
 - Vitamin A
 - food security
 - Incomes
 - Image

Our products packaging



Law #6: Court Attention At All Cost by Robert Greene (48 Laws of Power)



- Participated in the 2nd Global Bio-fortification Conference in Kigali where our products were displayed and given to all participants
- Products distributed in many countries and events
- In total, the team conducted more than 60 media events on Radio, TV, Newspaper and Online media.
- We also have a monthly newsletter, with 23 issues to date.
- Organized road shows and mandazi days and advocacy tools

Please court attention only if you have something to shout about

Launch of Akarabo Golden Power Biscuits



Achievements



- At least two products acceptable to the consumers being processed
- At least 4 groups processing and selling to local markets
- Built two value chains in Rwanda
- Changing perception of OFSP in Rwanda among the local officials, Ministry of Agriculture
- 44 tunnels still operational
- Gakenke mayor has set aside Frw 4 million to assist sweetpotato cooperative as part of the performance contract
- Rulindo Mayor has put OFSP as part of his performance contract with the president to develop road side marketing for OFSP
- Paper on Akarabo sensory test published
- Another paper under review on products development

End line survey



	Control + Baseline	Beneficiaries + Beneficiaries	Spill over	Contract Farmers	Beneficiaries	Group members dropouts	Total
Expected	250	257		45			
Interviewed	207	212	262	39	81	57	858

Currently the first data entry is expected to be finalized this week and next week we start 2nd data entry
We are planning also in the next two weeks to conduct consumer survey and a group survey

Partners



- International Potato Center (CIP)
- Rwanda Agricultural Board (RAB)
- Catholic Relief Services (CRS-Rwanda)
- Young Women Christian Association (YWCA)
- IMBARAGA
- SINA GERARD/URWIBUTSO enterprises
- Kigali Institute of Science and Technology University
- Rwanda Bureau of Standards
- Rwanda Environment Management Authority
- Jomo Kenyatta University of Science and Technology

Murakoze
(Thank you)