



○ Making a Difference with Orange-fleshed Sweetpotato-led Nutrition Interventions

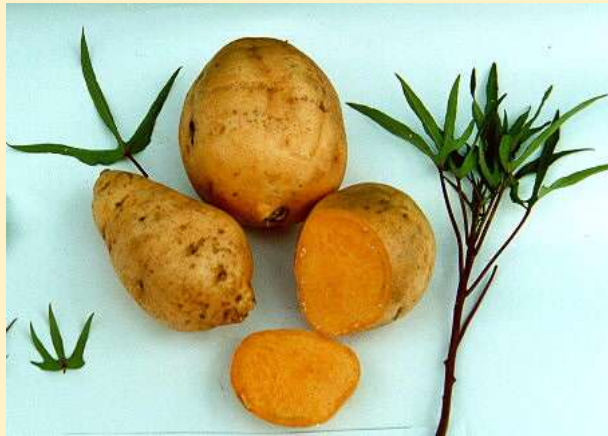
Southern Africa Regional CAADP
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The Challenge

No one wakes up & says...
Hmmm I am feeling vitamin A deficient
today....



125 grams of most OFSP varieties can supply the recommended daily allowance of vitamin A for children and non-lactating women

Through exploiting its multiple roles in the food system, OFSP can make a difference



Southern Africa has been at the forefront for developing the evidence base



Efficacy study in South Africa



Integrated Agriculture-Nutrition-Marketing in Zambézia, Province Mozambique

Low, JW et al., J. of Nutr. 137: 1320-1327, 2007

Hotz, C. et al., Brit. J. of Nutr. 1-14, 2011

van Jaarsveld et al., AJCN 81, 1080-87, 2005.

Major Phases in the OFSP Story

1) Phase I: Confronting conventional wisdom (1995-2000)

Case of texture not color...

2) Phase II: Building the evidence base (2001-2009)

- Efficacy study in South Africa
- Towards sustainable nutrition improvement in Mozambique
- Reaching end users (REU) in Uganda and Mozambique

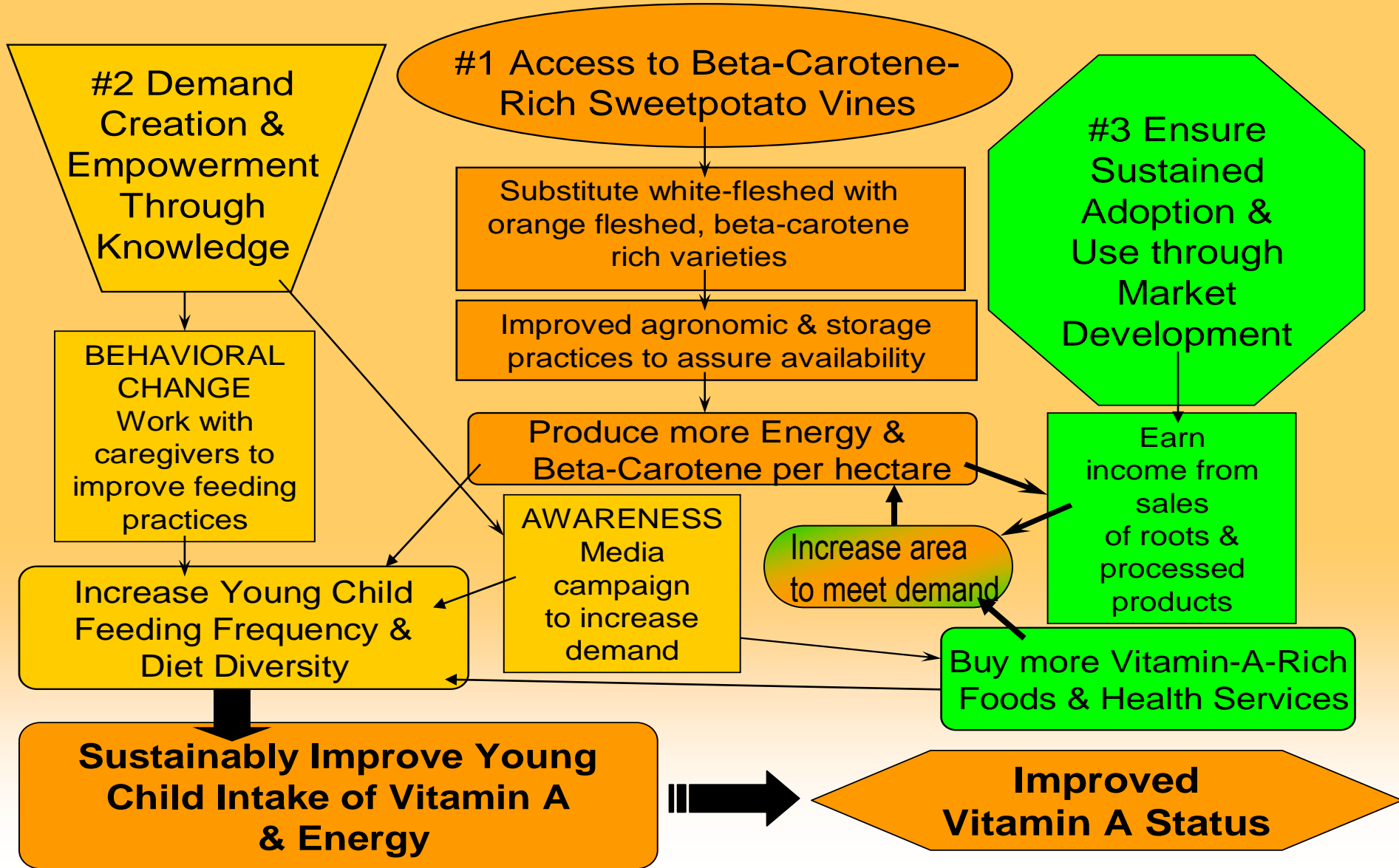
Clear published evidence of impact of using OFSP as part of an integrated approach leads to increased vitamin A intakes and status



3) Phase III: Addressing the bottlenecks to exploiting OFSP's full potential (2009 to date)– SASHA project

4) Phase IV: Going-to-scale with adapted OFSP (2011 onwards)

INTEGRATED CONCEPTUAL FRAMEWORK



What is essential on the agricultural side?



- 1) Varieties that produce as well as the best local *and* taste good
- 2) Access to quality planting material – a challenge in drought prone areas
- 3) Better knowledge of disease (virus) & pest (weevil) management



Breeding *in Africa for Africa*

of new OFSP since 2009

15 in Mozambique

5 in Malawi

3 in Zambia

2 in South Africa

7 in Angola

3 in Madagascar



Triple S Method

Storage in Sand & Sprouting

What kind of investments are needed on the nutrition side?



1) Investment in community-level nutrition education

Repetition of consistent messages alongside demonstrations

Group based sessions for a year sufficient for OFSP uptake & incorporation into the young child diet

2) Men matter--- don't ignore them as they often control land access & also influence diet choices

3) Extension personnel need **quality job aids**

4) Sometimes can save costs by **using existing farmer or social groups as an entry point**



Essential messages to include in the nutrition component

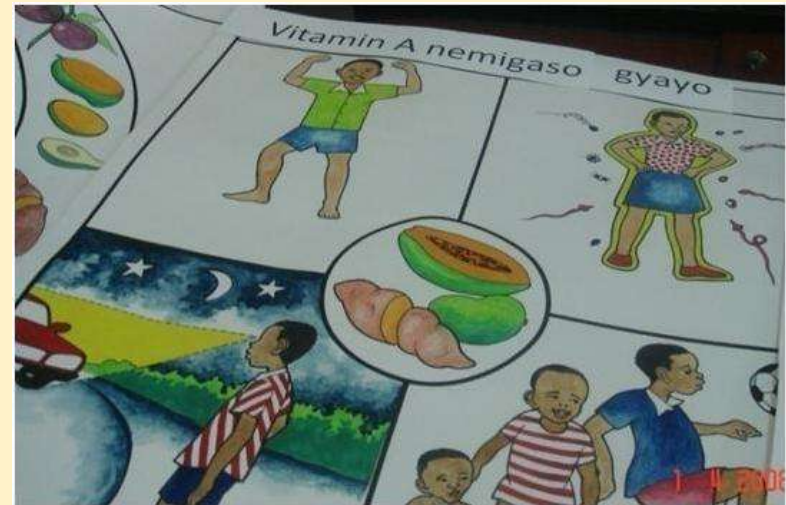


OFSP has vitamin A. Vitamin A is good for your health.

- Very easy to introduce if vitamin A known
- Supporting messages on vitamin A role:
 - To fight common infections
 - To maintain normal vision

OFSP should **not** be promoted as a silver bullet; also include:

- 1) Exclusive breastfeeding until 6 months
- 2) Frequency of young child feeding
- 3) Food combinations for young children
- 4) Balanced diet and vitamin A rich foods



Trials for Improved Practices (TIPS) an effective approach for testing different practices with caregivers to determine which are likely to succeed at a group level.

Marketing component more complex

Awareness campaigns about health benefits, also help build market demand..

- Meaningful effort requires 3-5 years to build up surplus root supply and demand.

Lessons learned include:

- 1) Understand existing chains & relative prices
- 2) Health messages linked to the orange color is the demand pull for OFSP
- 3) Must understand preferences of distinct consumer sub-groups
- 4) Facilitate linking farmers to traders & traders to market opportunities
- 5) Train & treat retail traders as change agents
- 6) Include some larger producers from the outset to ensure consistent supply



To reach urban consumers, growing interest in OFSP processed products



- 1) Increased interest in diversified products from OFSP, esp. for urban consumers
- 2) Food processing can improve bioavailability by disrupting plant tissues, etc.
- 3) OFSP puree (boiled and mashed) more economically viable than OFSP flour
- 4) Challenge it to get products highly commercialized



Bread in Mozambique



Chips in Malawi



Power Biscuits in Rwanda

What are the OFSP processed products with the best nutritional value, cont.?



Heat exposure during processing increases bioaccessibility by disrupting cell walls & breaking up the protein complexes in which β -carotene is embedded

Tumuhimbise et al. (2009) studied effect of traditional heat processing on in-vitro bioaccessibility of β -carotene among OFSP varieties in use in Uganda

- Bioaccessibility: raw < baking < boiling/steaming < deep frying
RAE/100 gm fw: 194 224 330 302 472
for Kabode

- *Indicates that fat increases bioaccessibility*

- **Although heat processing reduces β -carotene retention, the loss in retention is compensated for by improved bioaccessibility because of the presence of fat.**
- For young children, best product health wise, still would be mashed OFSP with a teaspoon of fat added and ideally a good protein source.

What about sweetpotato leaves?

- 1) Efforts in SSA focus on roots, not leaves, yet leaves are very nutritious & very popular in some African countries (Zambia, Sierra Leone)
- 2) Higher protein content of SP leaves (16% crude protein) compared to Napier grass (10% crude protein) appreciated by East African dairy industry
- 3) Leaves are moderate source of β -carotene (550 mcg/100 gm), rich source of lutein, higher levels of anthocyanins and phenolic acids that protect against diseases such as cancer, allergies, and cardiovascular disease.



SP leaves with groundnuts

Way Forward: Key recommendations for approaching rural households



- 1) Define which behaviors must be addressed.
- 2) **Target households (i.e. both men and women)**
- 3) Understand the cultural beliefs and practices around certain foods
- 4) **Behavior change messages should be clear, simple, and actionable**
- 5) Repeat behavior change messages frequently
- 6) Identify and promote the use of lowest cost fat source
- 7) **Raise awareness and create a supportive environment for change**
- 8) Focus on the skills that rural consumers need
- 9) Use pre-existing social networks
- 10) Involve structures within the community
- 11) **Build in an operations research component**



There are multiple way to integrate OFSP into ag-nutrition-health efforts



Pregnant women receive OFSP vouchers for vines from nurses at ante-natal care sessions



Integrated with other vegetables in enhanced homestead gardens





**17 priority
countries,
3 sub-regions**

**Now, 12 with
activities under
SPHI
Umbrella
>800,000 hhs
by Dec 2013**

Thanks for your attention! Obrigada!



For more information, consult:

www.sweetpotatoknowledge.org

- 895 registered users as of June 2013 (add your own content!)
- 6,451 content items
- Visited by 35 different African countries

