INTEGRATING ORANGE IN ZAMBIA:
Farmer-to-farmer linkages to sustain access to a vitamin A rich food that earns income

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Integrating orange in Zambia: combating vitamin A deficiency and food insecurity through the effective use of orange-fleshed sweetpotato in eastern and central provinces

• Is a project, implemented by CIP in Zambia from 2011-2015
• Funded by USAID- Feed The Future initiative
Why the project

- Vitamin A deficiency (VAD) is prevalent in Zambia which is at 54 percent in children under 5.

- Sweetpotato varieties traditionally grown and consumed in Zambia are white fleshted and lack beta carotene
GENERAL PURPOSE

- To contribute to increased frequency of intake of vitamin A rich foods, especially of women and children under 5

- To improve overall household food security and diet diversification through dissemination of OFSP

- To improve production, conservation, and utilization techniques linked to increased nutritional knowledge
SPECIFIC OUTCOMES

- 15,000 households growing and consuming OFSP
  - 75% women, children
- Improved foundation “seed” management
  - Vine conservation
  - Decentralized multipliers
- Empowerment of women in rural households
- Establishment of active, knowledgeable sweetpotato community
Implementation: Identification of technologies and technology gaps

Varieties- Improved OFSP varieties

Agronomic- Improved production practices to increase yield

Seed systems- access to quality vines timely

Post-harvest handling and marketing

Packaging of selling vines

Processing and utilization
Implementation approach

Identification of working partners and roles
Working area
Variety development and release

In collaboration with ZARI

Variety evaluation trials and preference tastes

Released 4 varieties; yield range of 19 to 25t/ha
Vine dissemination

• To increase access to the improved orange fleshed sweetpotato varieties by farmers

• And ensure timely access to high quality ‘seed’

Vines were sent for cleaning in Nairobi and Maputo; cleaned vines grown in a screen house at ZARI-Msekera
Vine multipliers

Identified within communities- villages/agricultural camps

Done in partnerships mainly MAL in each District

To multiply vines during the dry season under irrigation
Specific activities included

Trainings of multipliers and partners on rapid multiplication, agronomic practices and disease management

Vine distribution from ZARI screen house to farmers and partners for nursery establishment

Some multipliers were facilitated with treadle pumps, bicycles, net tunnels, and sign posts

Facilitation of vine dissemination to beneficiaries
These farmers were also empowered to:

- Source vines intended for multiplication from ZARI
- Rapidly multiply vines for timeliness and quantity during the dry season, under irrigation
- Commercialize vine production and circulation through promotions to create demand for vines and root
Bundling and packaging of vines

A bundle is 5 Zambia (K5.00)
Achievement...
Generally, technical Information has been delivered to multipliers- gardens had trenches and fences around to deter animals, mulching nursery beds, and effectively using net tunnels
Achievement...number of decentralised vine multipliers (DVM)
## Vine dissemination and sales

-CIP facilitated dissemination for CIP vine multipliers

<table>
<thead>
<tr>
<th></th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of new multipliers</td>
<td>280</td>
<td>160</td>
<td>358</td>
<td>798</td>
</tr>
<tr>
<td>established</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>No. of continuing multipliers</td>
<td></td>
<td></td>
<td>78</td>
<td>238</td>
</tr>
<tr>
<td>No. of direct beneficiaries</td>
<td>1895</td>
<td>5296</td>
<td>10608</td>
<td>17802</td>
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<tr>
<td>% of beneficiaries who paid</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>for planting materials</td>
<td>100</td>
<td>100</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

Use of vouchers, marketing promotions and loan repayment of equipment in 2014/15
Achievement- Beneficiary of OFSP vines

436 (97F, 328M) multipliers in 73 Agricultural Camps across six implementing districts of Eastern and Central Provinces

Project has surpassed its goals, directly reaching 17,802 households with improved orange-fleshed sweetpotato (OFSP) planting vines through CIP, partners and vine multipliers.
# VINE PROMOTION AT KATAMBALALA MARKET IN KATETE DISTRICT

<table>
<thead>
<tr>
<th>Camp</th>
<th>Vine multiplier</th>
<th>Number of Bundles Sold</th>
<th>Amount in Kwacha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chimtende</td>
<td>Eliward Banda</td>
<td>201</td>
<td>1005</td>
</tr>
<tr>
<td>Mphangwe</td>
<td>Chenekani Banda</td>
<td>60</td>
<td>300</td>
</tr>
<tr>
<td>Chilembwe</td>
<td>Yobe phiri</td>
<td>75</td>
<td>375</td>
</tr>
<tr>
<td>Chilembwe</td>
<td>Fiindani Banda</td>
<td>30</td>
<td>150</td>
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<tr>
<td>Kangwelema</td>
<td>Edward Mvula</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Mphangwe</td>
<td>Estere Banda</td>
<td>50</td>
<td>250</td>
</tr>
</tbody>
</table>
Challenges

- Drying off of water sources for the multiplication due to the delayed onset of rainy season
- Non performance farmers
  Vines drying off before planting and some fields in weeds
Vines protected from livestock but not from disease transmitting insect pests as aphids

Use of used sleeping nets for vine production in place of net tunnels made of screen cloth

Information delivered?
Innovations, yes
Grazing animals - the goat

- Local laws not effective in some areas
- Measures labour intensive, fencing, trenches and physical guarding
Way forward

Farmers do make money from vines when empowered and this should be encouraged for sustainability

Large scale vine multipliers

Can vine multipliers be linked to Agro dealers?
Acknowledgements