



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

## 6<sup>th</sup> ANNUAL SWEETPOTATO FOR PROFIT AND HEALTH INITIATIVE TECHNICAL MEETING

SEPT 29-OCT 2, 2015.

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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 fleshed 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**

**Post-harvest handling and marketing**

**Agronomic- Improved production practices to increase yield**

**Packaging of selling vines**

**Processing and utilization**

**Seed systems- access to quality vines timely**





# 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



Chunfwa

Olympia







## 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)





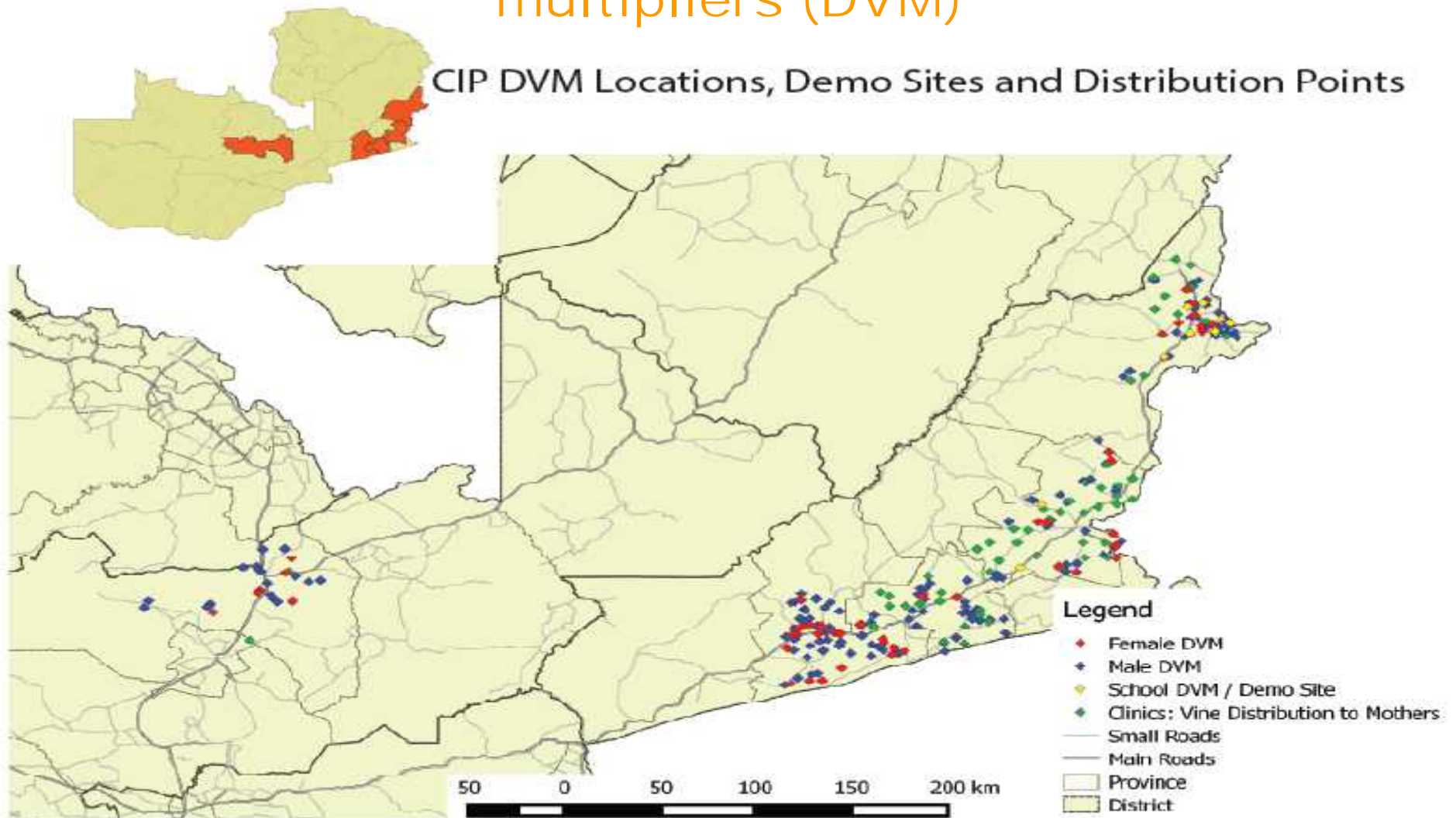
## Achievement...

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 decenntalised vine multipliers (DVM)







## Vine dissemination and sales

-CIP facilitated dissemination for CIP vine multipliers

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

**Use of vouchers, marketing promotions and loan repayment of equipment in 2014/15**



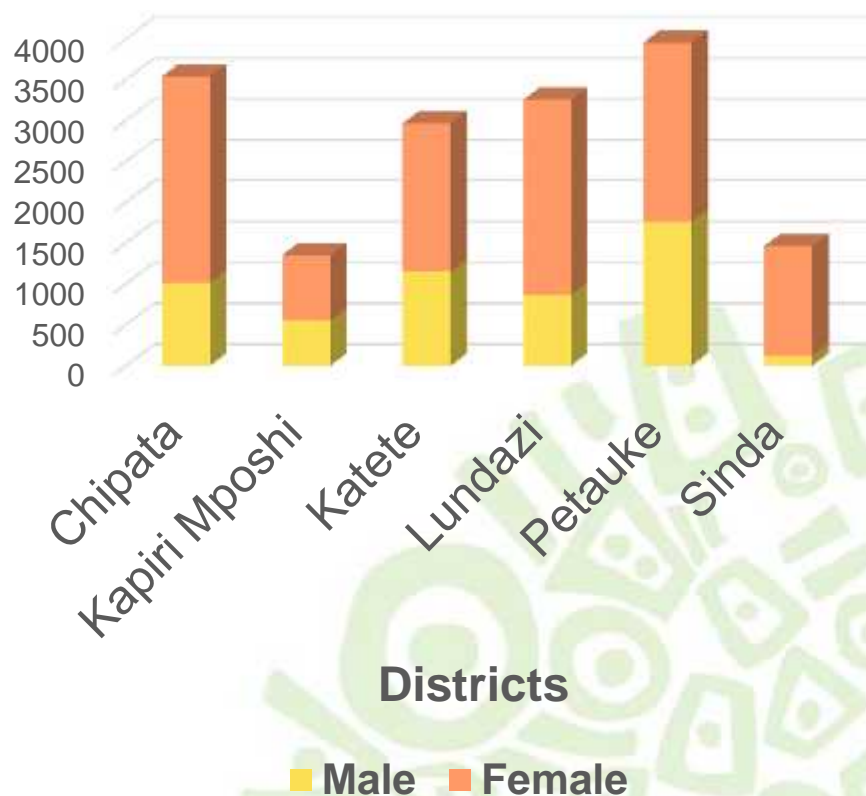


## Achievement- Beneficiary of OFSP vines

**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.**

Number of beneficiaries by district and gender





## Sustainable? Vine sales promotion

### VINE PROMOTION AT KATAMBALALA MARKET IN KATETE DISTRICT

Camp	Vine multiplier	Number of Bundles Sold	Amount in Kwacha
Chimtende	Eliward Banda	201	1005
Mphangwe	Chenekani Banda	60	300
Chilembwe	Yobe phiri	75	375
Chilembwe	Fiindani Banda	30	150
Kangwelema	Edward Mvula	10	50
Mphangwe	Estere Banda	50	250



## 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







Information delivered?  
Innovations, yes

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

**Vines protected  
from livestock but  
not from disease  
transmitting insect  
pests as aphids**





## 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



**USAID**  
FROM THE AMERICAN PEOPLE

