



MALAWI GOVERNMENT



Building a Sustainable Sweetpotato Seed System and Linking to the Scaling-Up Nutrition Effort in Malawi: Experiences from the “Rooting out Hunger in Malawi” Project

Prepared by

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**for the visit of Irish Aid team on 30 October 2012 to Dedza District
in Malawi**

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Presentation layout



- Introduction, Challenges and Opportunities in Malawi
- Strategies determined
- Results and Evidence
- Concluding Remarks

MALAWI is a landlocked country in Africa



Challenges in Malawi



- White-fleshed sweetpotato varieties are predominantly grown
- A shortage of sweetpotato planting season in the onset of the rainy season



- Climate change –
→ maize is a staple food



- Declining soil fertility
→ picture: finger millet

Challenges in Malawi



Small sized landholding



**High levels of poverty,
under-nutrition
and 59 %VAD under 5 years**

OPPORTUNITIES IN MALAWI



- ▶ **Food diversification is in the core of Agriculture's policy**
- ▶ **The SUN 1000 Special Days initiative was launched in July 2011**
- ▶ **High population → hard working people → potential manpower and eager to adopt technology**



“Rooting out Hunger in Malawi with Nutritious Orange-Fleshed Sweetpotato (OFSP)” Project



- was launched in October 2009**
- is in line with the Agric Sector Wide Approach (ASWAp) to reach the Millennium Development Goals (MDGs)**
- is also aligned with the Scaling-up Nutrition (SUN) 1000 Special Days Initiative**



The overall objective of this 4.5-year project is to improve vitamin A and energy intake for at least 70,000 rural households with women and young children using OFSP-based approaches and to ensure that at least 20% of households growing OFSP earn at least US \$100 per year from OFSP sales and increase their average sweetpotato yields by 50%.

→ To date: we are finalizing the third year of project implementation

The principal target groups are

- poor, rural women with young children (6 months-5 years of age) in sweetpotato producing areas
- attention is also paid to men to assure:
 - 1) they understand the importance of Investing in nutritionally rich foods
 - 2) good care giving practices as they influence
 - what decisions are made
 - how well decisions are implemented



The secondary target group:



- **urban consumers**
 - many of whom rely on purchased foods
- **Slums in major Malawian cities & their associated peri-urban areas**
- **Poor urban women & children**
- **People with HIV and AIDS**

Conceptual framework for an integrated, OFSP-led food-based approach (source:

Low, et al., 2007. *Journal of Nutrition* 137: 1320-1327)



AGRICULTURE

Introduce new source of Vitamin A and Energy: Biofortified OFSP

Mechanisms

1. Substitute white with orange
2. Improve agronomic practices
3. Improve storage practices

Outcomes

1. Increased supply of beta-carotene & energy
2. Sustained yields
3. Increased supply in off-season

NUTRITION

Demand Creation and Empowerment through Knowledge

1. Create awareness of Vitamin A problem
2. Create awareness of Vitamin A-rich foods
3. Empower caregivers to change practices

1. Knowledge in local community
2. Increased demand for Vitamin A-rich foods
3. Increased intake Vitamin A & energy

MARKETING

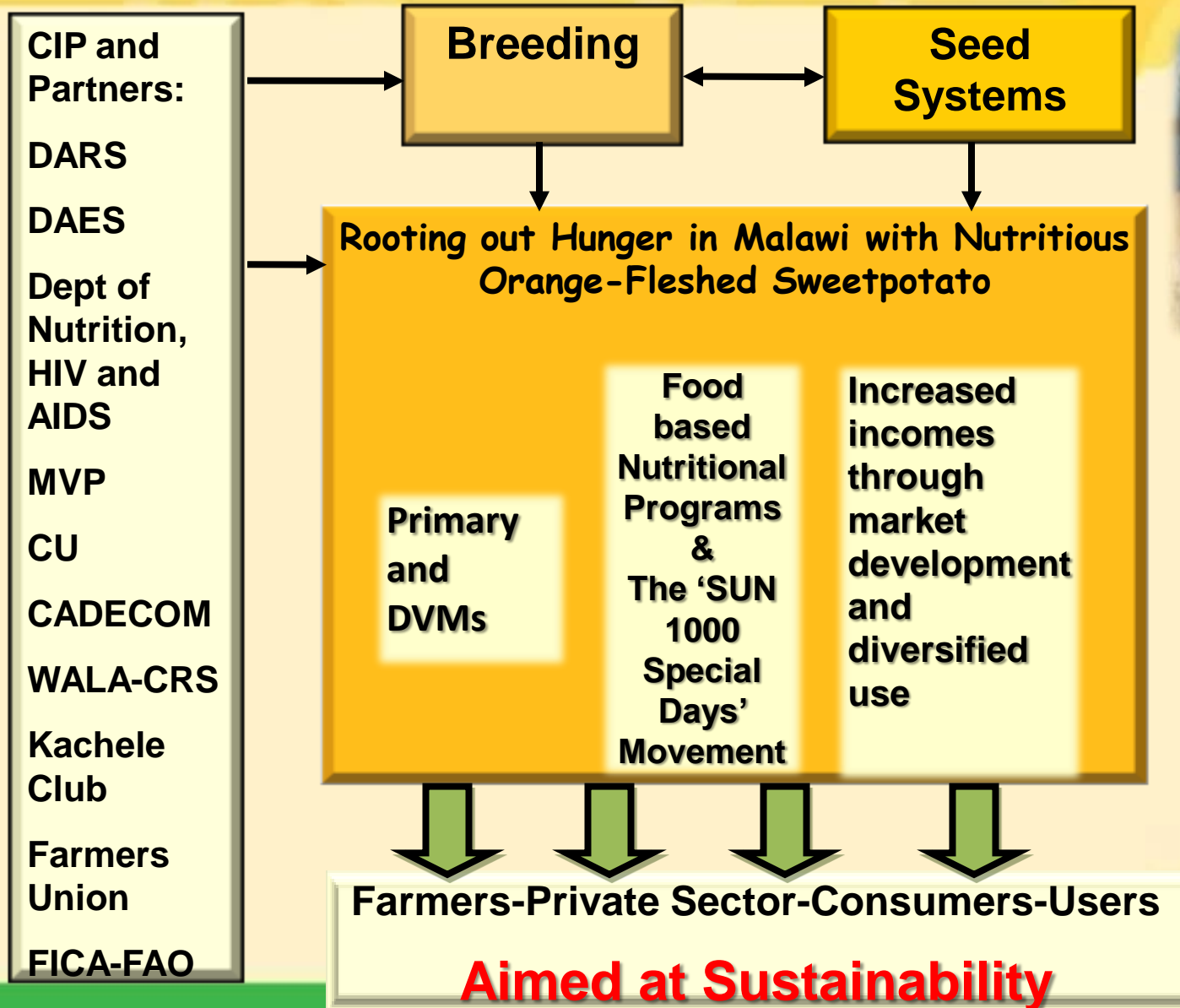
Market Development for OFSP Roots and Processed Products

1. Link to markets to earn income
2. Diversify use through development of products using OFSP

1. Increased household income for growers
2. Sustained OFSP cultivation over time

Increased Serum Retinol Levels

CIP is working with multi-partners and Irish Aid is funded the project



Strategies determined



1. Working in partnership with relevant Government departments, NGOs, private sector and farmers' association
2. Building up a 1-2-3 sweetpotato seed system (access to irrigation scheme)
3. Training of trainers with 3 modules:
 - Sweetpotato multiplication, production and pests and diseases
 - Postharvest Handling
 - Orange-fleshed sweetpotato processing
 - Small-scale marketing
4. Using a Voucher scheme
5. Awareness/demand creation campaign, sensitization, meetings, etc



**In the first 3 years of
implementing the project,
we have focused on:**

**Sweetpotato Seed System,
Food Security and Nutrition**

A defined 1-2-3 (primary, secondary, tertiary) Sweetpotato Seed System



Vine Flow

Primary

- Bvumbwe Research Station – 6 ha plus tissue culture, screen house, and breeding activities for new varieties
- Clean planting materials; managed by Researchers (DARS and CIP)

Secondary

- DVM based on Group Village Head, supervised by extension and NGOs; act as demos; clean vine producers
- Using a standard bed of 1 m × 20 m with rapid multiplication technique
- Access to irrigation scheme

Tertiary

- DVM based on Group Village Head, and trained by the trainers
- Using adjusted conventional multiplication and access to irrigation
- Producing vines and storage roots

To Producers

Note: DVM = Decentralized Vine Multiplication; 169 DVMs (28.04 ha)

Primary Multiplication at Research Station managed by Researchers: i.e. presently at Bvumbwe Research Station



➤ Assuring to produce clean planting materials with high yield

➤ through breeding programmed by NARS with a strong CIP 's backstop

Currently Available:

➤ 6 ha: **Zondeni** (Expanding to North and Centre)

➤ 0.5 ha: **5 new OFSP**

➤ Rapid multiplication & irrigation with multiplication rates/yr: 1:30



In 2011 (Jan to Dec) this land provided 2,640,300 Zondeni vine cuttings (4400 bags of 50kg volume of each bag containing 8 kg)
Through March '12: 2,903,400 vine cuttings (4839 bags of 50kg) to various requests



Secondary Multiplication Sites

A rapid multiplication technique was practiced, 2-3 nodes planted in a distance of 10 cm by 20 cm



Chikwawa District



Dedza District



Salima District



Phalombe District



Zomba District

Tertiary multiplication sites

Adjusted conventional multiplication was applied



Method:

- Length of vine cutting: 30 cm
- Planting in ridge (5 m long)
- Planting distance:
 - Within plants: **15** cm
 - Between ridges: 75 cm

**Below: Tertiary
Multiplication with flood &
control irrigation**



Above: Mr. Menard Winesi (0.7 ha – Tertiary DVM + 0.2 upland – home consumption), in Phalombe District, Malawi

What have been the results of applying the 1-2-3 seed system technology?



- The 1-2-3 Seed System fits well with the Malawian sweetpotato crop calendar

Current Rainy Season

Winter/dry

Dry/hot season

Last Year

Present Year

Nov Dec Jan Feb March Apr May Jun Jul Aug Sep Oct Nov

Primary Multiplication at Research Station: 3 nodes, 10 x 20 cm

Dambo (Lowland) - sweetpotato production

Upland - planting distance 30 x 75 cm, Vine cutting 's length 30 cm

Sweetpotato production

3 nodes, 10 x 20 cm

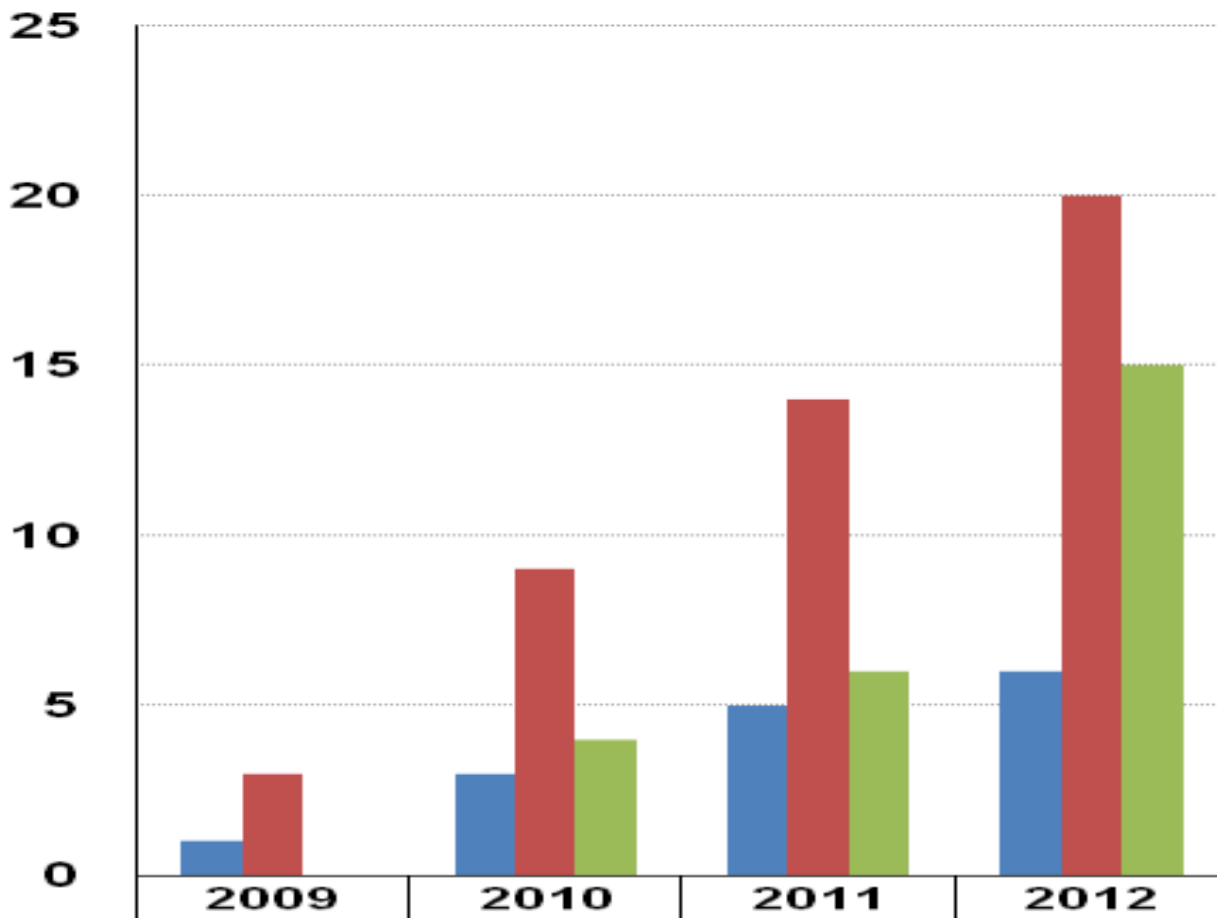
Secondary DVM

30 cm , 15 x 75 cm

Tertiary DVM

Training of Trainers: 4075 were trained*

“Multiplication (1), Production (2), pest and disease management (3), postharvest handling (4), processing (5) & drip irrigation installment (6)”



■ types of training	1	3	5	6
■ no of organization incl lead farmers	3	9	14	20
■ no of districts	0	4	6	15

* NGOs, government extension staff and lead farmers; 47% females and 53% males

Drip Irrigation technology was introduced to keep producing a good quality of vines during dry season



Left picture: during the Open Day organized by CU-Mulanje held in April 2012 - a demo on how to implement drip irrigation at the secondary multiplication covered by Zondeni variety

Right picture: Salima district experiences frequent severe dry-spells, but the Zondeni OFSP does well. Irrigation is needed in this area!



Training of Agriculturists (Extension and Farmers) on Postharvest Handling



Training of Agriculturists (Extension and Farmers) on OFSP utilization for value chains

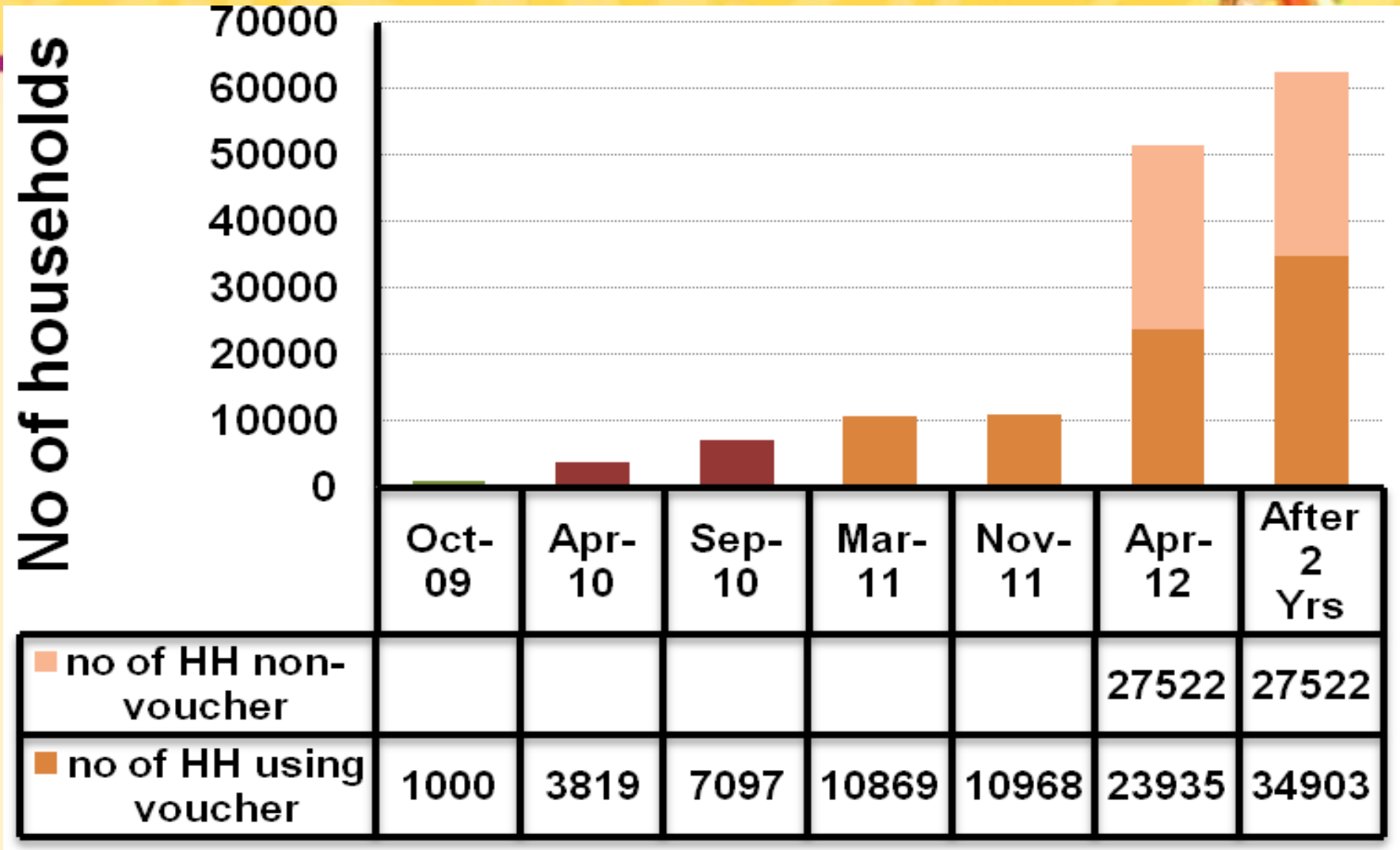
SPHI



Awareness Campaign/Sensitization on Food diversification from OFSP



Results and Evidence



➔ **Income generated by primary multiplier (Research Station): US \$ 15,710 and Secondary and Tertiary Multipliers: US \$ 58,237 (44% from non-subsidized voucher)**

Indication of Adoption of Zondeni: -expansion of the areas -having more IPs



Implementing Partners and project area since Oct 2009

1. Chikhwawa under Cadecom
2. Phalombe under CU
3. Zomba under MVP
4. Dedza under CU

Implementing Partner and project area since Jan 2011

5. Mulanje under CU

Implementing Partner and project area since Sep 2011

6. Salima under Kachele Club (farmers club)

Implementing Partners and project area since Nov 2011

7. Balaka under WALA
8. Machinga under WALA
9. Zomba under WALA
10. Chiradzulu under WALA
11. Thyolo under WALA
12. Chikhwawa under WALA
13. Nsanje under WALA

Implementing Partners and project area since Jan 2012

14. Dedza under FUM
15. Lilongwe under FUM
16. Dowa under FUM
17. Kasungu under FICA-FAO
18. Mzimba under FICA-FAO

Ref: Nsanje- Blantyre: 183 km; Blantyre – Lilongwe: 311 km; Lilongwe-Mzimba: 278 km

Market Orientation



Above: a woman sold veggies Zondeni leaves in Chikhwawa @ Mk 20 (6 cents US\$)/bundle (22 Dec 2011)



Right: Mr. Kapenuka, a Secondary DVM in Phalombe earned Mk 67,735 (US\$406.8) from 437 subsidized vouchers and Mk 10,484 (US\$62.97) out of selling vine cuttings @ Mk 60 (36 cents US \$)/kg (info: 14 March 2012)





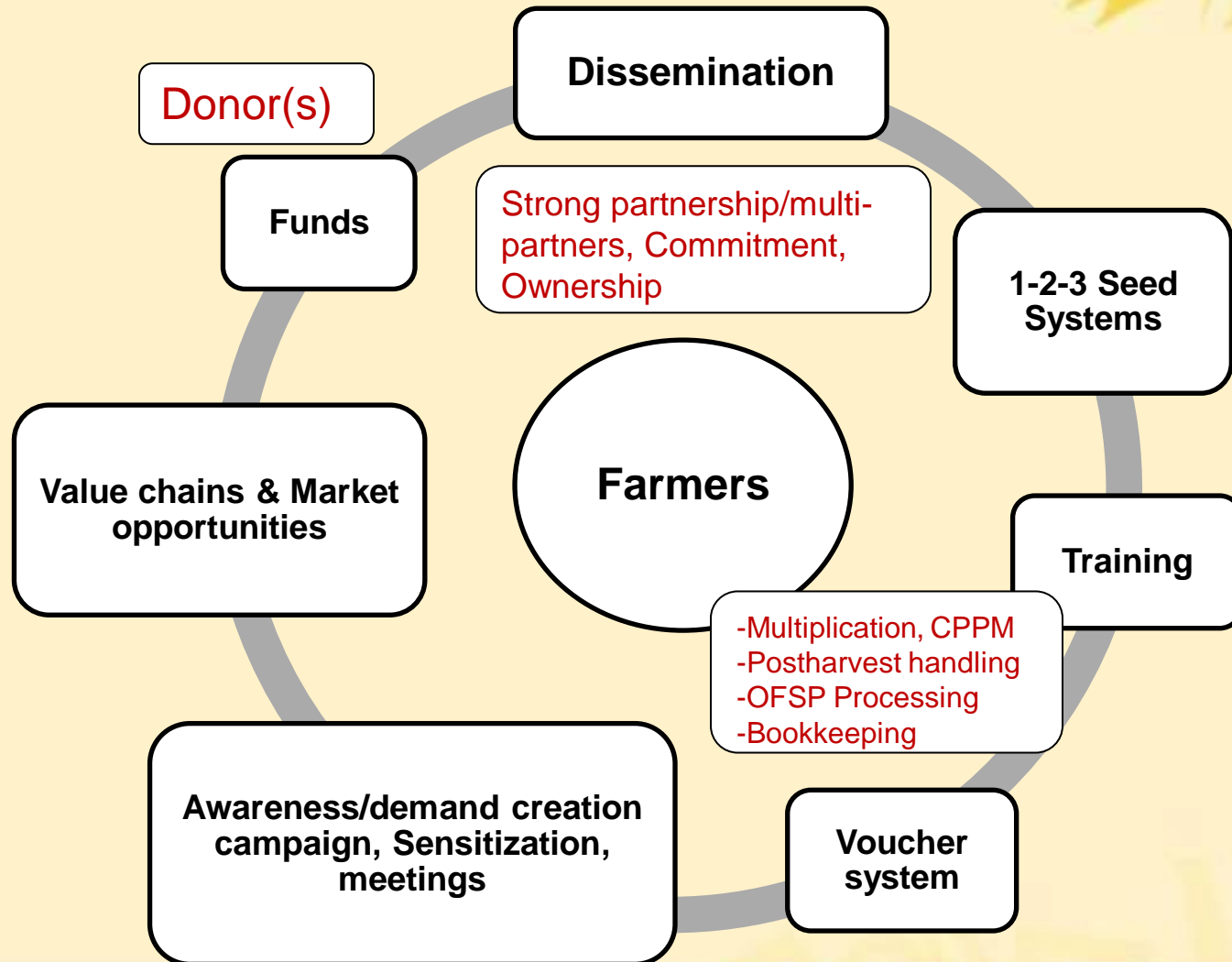
The trained farmers have done their assessment of selling the OFSP products during the Agriculture's Show (taken in Jul and Aug 2012) – the demand was high!



CONCLUDING REMARKS



Components of sustainable seed system



Acknowledgement



- IRISH AID,
- Malawi Government,
- Implementing Partners
- Farmers

For support toward
promoting OFSP
development & promotion
in Malawi



**Thank
you very
much**