

INDIGENOUS VEGETABLES VALUE CHAIN IN MALAWI: UNLOCKING THE PARTICIPATION OF WOMEN AND THE YOUTH

Abel Sefasi

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Exchange Symposium*

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PRESENTATION OUTLINE

- ✓ A case study of an Indigenous vegetables project in Malawi
- ✓ Current research in indigenous vegetables project
- ✓ Opportunities for the youth and women



SOME PROJECTS IMPLEMENTED IN LAST TEN YEARS

- ❖ Indigenous vegetables under Innovation Scholars Program. MSU-LUANAR
- ❖ Indigenous vegetables under CABMACC at LUANAR. Funded by the Norwegian Embassy
- ❖ Indigenous food under the Frugal Innovation Program. At LUANAR funded by Norwegian Embassy
- ❖ CCRP project at LUANAR supported by McKnight Foundation. NUS seed Systems
- ❖ TRANSFORM project on horticultural crops.
- ❖ FoodMA Project on commercialization of indigenous vegetables. Supported by Norwegian embassy and Malawi Governments



GOAL OF RECENT INDIGENOUS PROJECTS

To improve nutrition security and resilience to climate changes through production and conservation of indigenous vegetables for smallholder farmers by improving access to quality seed and good agronomic practices.



COMMON OBJECTIVES OF THE RECENT PROJECTS

- ❖ To assess potential of local communities in contributing to development of sustainable seed systems for indigenous vegetables in Malawi
- ❖ Evaluation of capacity of farmers in addressing challenges faced in the indigenous vegetables value chain
- ❖ To assess variation among different amaranth accessions using morphological traits.
- ❖ To identify amaranth accessions suitable for variety release based on preference, nutrition, grain and leaf yield or both

KEY STAKEHOLDERS

- **LUANAR: PCO, Horticulture, Food Science, Agri-Extension, Crop and Soil sciences**
- **Farmers**
- **CADECOM**
- **TLC: Total land Care**
- **AG Care**
- **Ministry of Agriculture: DAES, (DARS: gene bank, Seed services unit, horticulture)**



MAJOR BUYERS OF SEED

- **MoA: Crops department, Extension**
- **FAO**
- **CADECOM**
- **CARE**
- **KULIMA Program: Self help Africa**



Project team

- Prof Moses kwapata
- Prof Moses Maliro
- Prof Weston Mwase
- Prof Kingsley Masamba
- Dr Eric Chilembwe
- Sibongile Chimzinga
- Jacinta Nyaika
- Charity Chonde
- Dr Rowland Kamanga
- Mr Mvuyeni Nyasulu
- Dr Lawrent Pungulani
- Dr Nolipher Mponya



INDIGENOUS VEGETABLES AS PART OF THE SOLUTION

- ❖ Due to rapid urbanization and food systems transformation most of the youth feel that indigenous solutions are obsolete
- ❖ However indigenous vegetables have potential to overcome various challenges including undernutrition and negative effects of climate change
- ❖ Definition: Indigenous vegetables are plants that are native or introduced which have been used over a long time
- ❖ Sometimes called Traditional vegetables or African Indigenous vegetables



Background

- Examples of Indigenous/African Vegetables?



Amaranth



Spider plant (*Cleome*)



Cowpea leaves (*Vigna spp*)



Jute Mallow (*Chorchorus spp*)



Black jack (*Bidens pilosa*)



Roselle (*Hibiscus sp*)

Special Attributes of Indigenous vegetables

- ❖ Highly nutritious, medicinal properties
- ❖ Less inputs (fertilizers and pesticides) required
- ❖ Have short production cycle
- ❖ They are adaptable to the local growing conditions:
Droughts, floods, degraded soils
- ❖ Adaptable to current production systems
- ❖ They are naturally aligned to NAP2016, MIP-1 and MW2063, CAADP



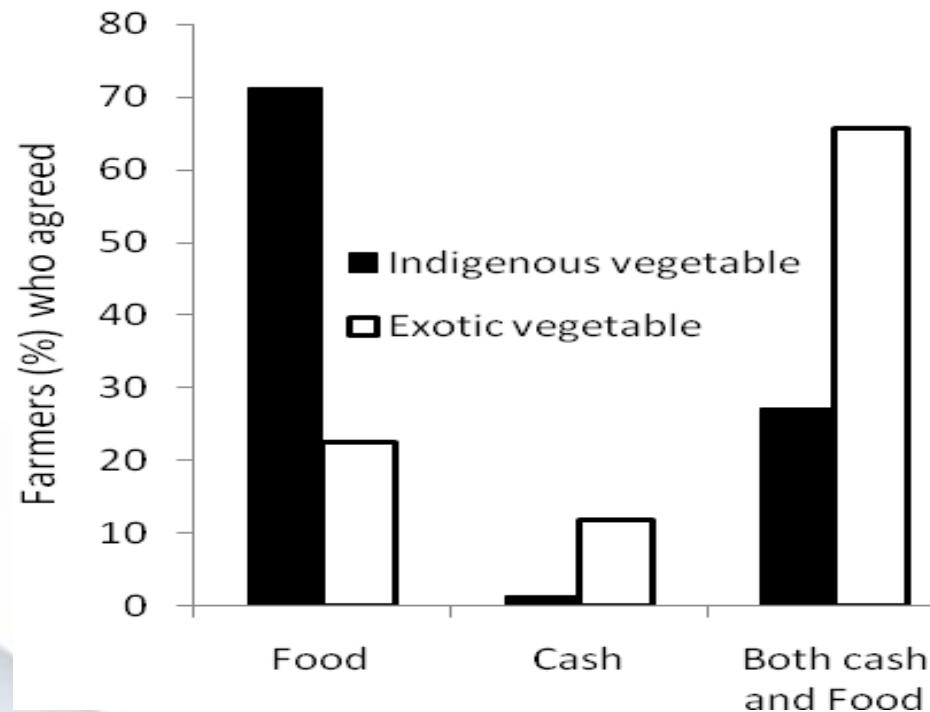
CASE STUDY INDIGENOUS VEGETABLES PROJECT:



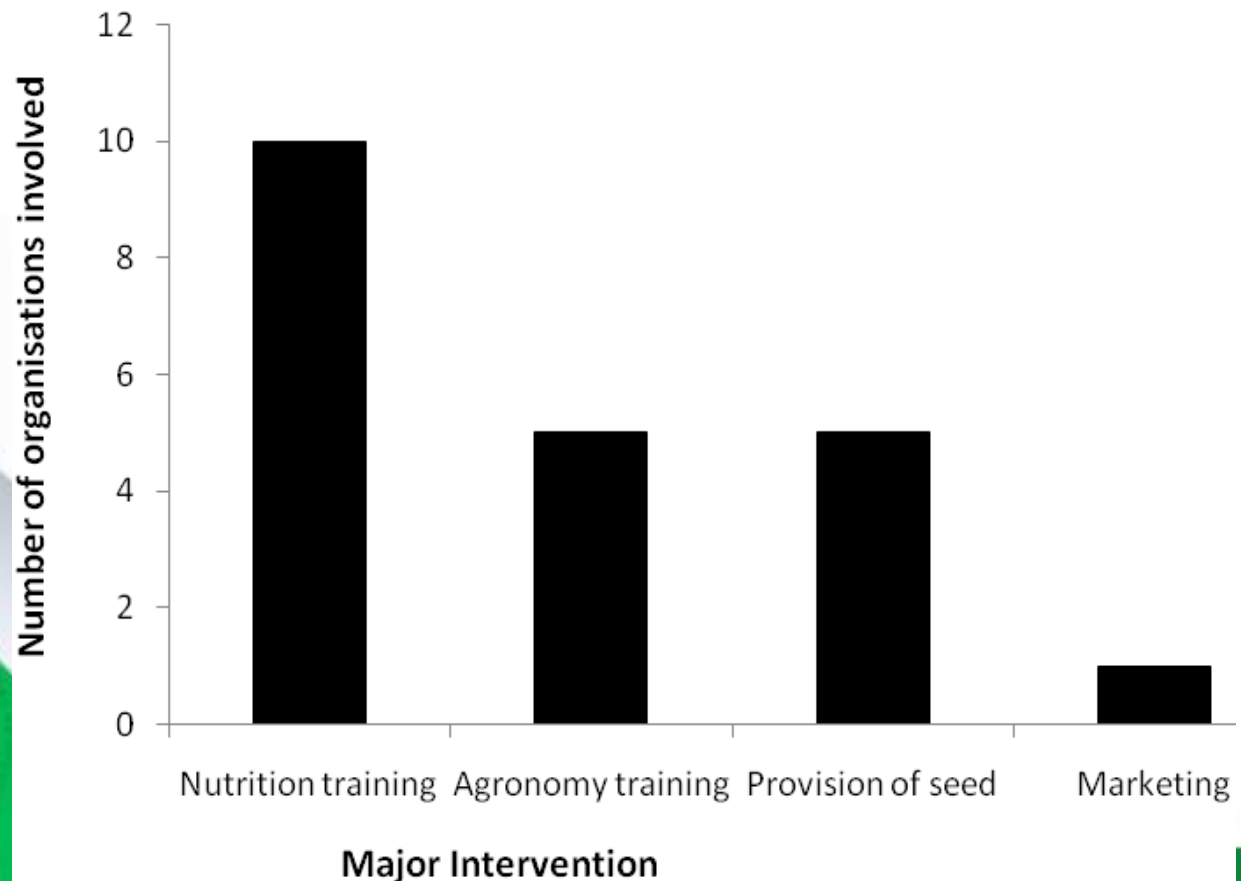
PROMOTION OF INDIGENOUS VEGETABLES
SEED PRODUCTION, CONSERVATION AND
UTILISATION IN MALAWI



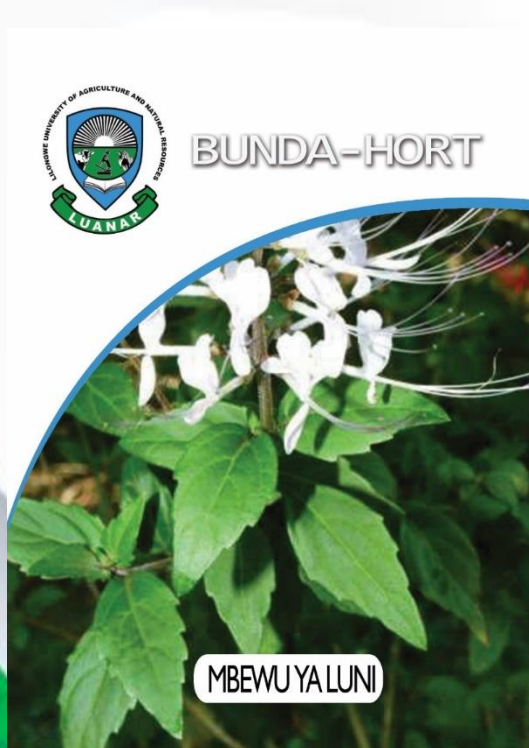
Proportion (%) of farmers who gave a reason for growing Indigenous and exotic vegetables



Major interventions by stakeholders promoting of indigenous vegetables



Sample of seed pack



KADZALIDWE KA MBEU YA LUNI (CAT WHISKERS SEED)

Mapando/Spacing:	45cm X 45cm
Mbeu/Seed	3 - 5 pa Phando/Station
Fertilizer wa Chitowe:	23:21:0
Katsidwe/rate	1 bag per ha, 50kg/bag 2-3 weeks zitamera Mbeu
Manure	1 kg pa sikweya mita
Makonzedwe a Mbeu	Kuwika m'madzi ofunda kwa mphindi 30-40/ Soak in boiled water for 30min

Germination; 90%

Packed by:
Lilongwe University of Agriculture
and Natural resources
Department of Horticulture
PO Box 219
Lilongwe
Phone: 01 277 222
Email: horticulture@bunda.luanar.mw

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Contribution to policy in commercialization of IVs



Norwegian University
of Life Sciences

PROMOTING PRODUCTION OF INDIGENOUS VEGETABLES IN MALAWI: RECOMMENDATIONS FOR POLICY



Key messages

- Consumption of indigenous vegetables like Amaranthus (bonongwe0 and Cats whiskers (Luni) can improve nutrition and health of Malawians, especially mothers and infants who require large supplementation of vitamin A and minerals like iron and calcium
- Smallholder farmers face challenges in accessing quality seed and advice on cultivation and consumption of indigenous vegetables
- To benefit from the nutritious and climate-resilient vegetables, more effort needs to focus on building capacity of farmers in production and sustainable utilization of climate resilient indigenous vegetables within their communities
- There is need for strong policy support for research and building indigenous vegetables seed systems, including releasing them as varieties.

KEY FINDINGS

- ❖ Various Indigenous vegetables (IV) are cultivated in Malawi
- ❖ Indigenous vegetables demonstrated to be better climate adaptation crops
- ❖ Indigenous vegetables demonstrated potential as an income source for farmers
- ❖ Poor access to quality seed and poor extension services targeting IVs were the main challenges
- ❖ However, farmer linkage to the market by farmers was limited due to poor skills in entrepreneurship
- ❖ Access to formal market by LUANAR was constrained since the indigenous vegetables (IVs) are not yet released as varieties

CHALLENGES

- ❖ Challenges identified: lack of quality seed, poor agronomic practices and frequent dry spells
- ❖ Lack agribusiness skills among farmers
- ❖ Poor knowledge on disease management: early leaf bright and bacterial wilt. Other diseases: rust, blossom end rot, leaf bright, maize streak and leaf chlorosis
- ❖ Pests: red spider mite, *Tuta absoluta*, cutworms and aphids. Slow activity of most indigenous methods for managing pests
- ❖ Gender issues: only 2 of 10 groups under TRANSFORM project were led by women.
- ❖ Actual demand for Indigenous vegetables not established. But private sector (SeedCo) has shown interest in picking up released varieties
- ❖ Seed policy favours formal seed system



Smallholder farmers get their seed from different sources

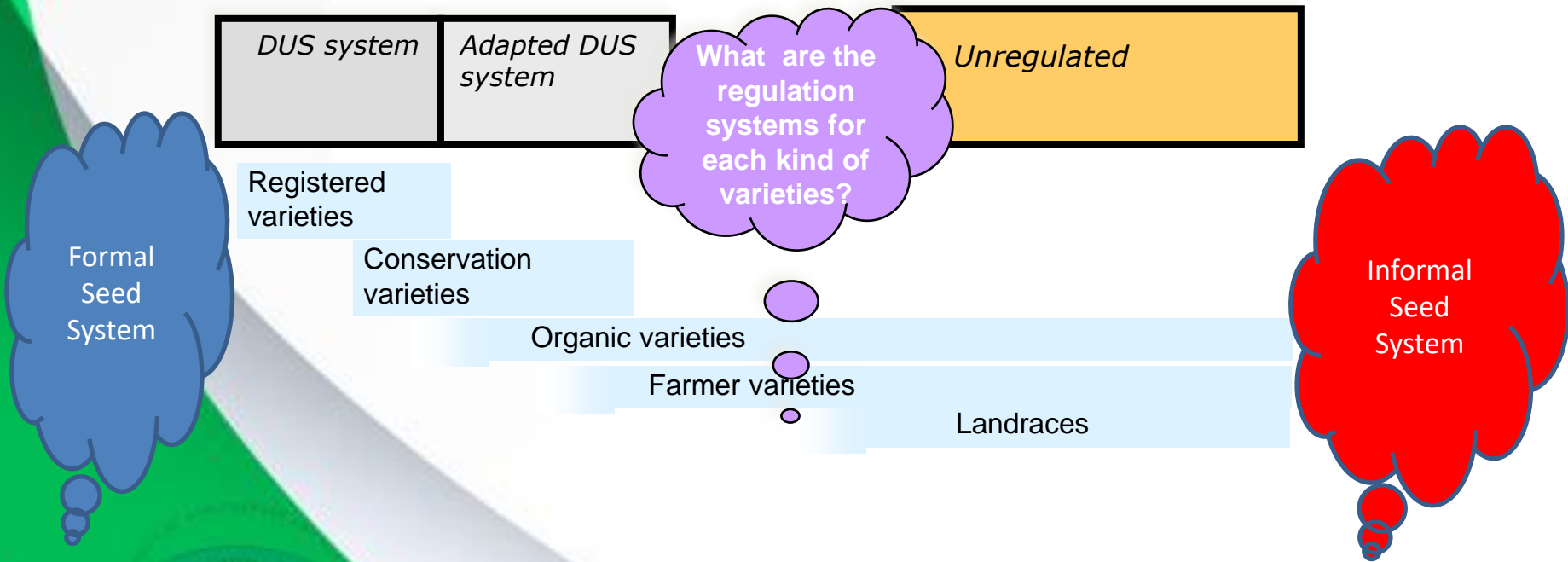
Own field/local market

National & International Companies

NARS



CATEGORIES OF VARIETIES



CURRENT RESEARCH

- ❖ Participatory Evaluation of Amaranth (*Amaranthus* spp) Collections for Commercialisation.
- ❖ This research is about collecting data to support variety release on the following:



CURRENT RESEARCH

- ❖ To evaluate nutritive value of amaranth accessions and farmers preference through sensory evaluation, nutrient analysis and field performance
- ❖ To assess the distinctiveness, uniformity and stability (DUS) of amaranth accessions in selected agro-ecologies and genotype the accessions





OPPORTUNITIES THAT WOMEN AND YOUTH CAN EXPLOIT

- ❖ Opportunities identified: nutrition campaigns, increasing demand of IVs in urban areas
- ❖ Current seed act recognizes horticultural planting materials
- ❖ Seed commercialization. LUANAR is mainly focusing on seed access
- ❖ Interest in indigenous vegetables is growing in urban areas, including in hotels
- ❖ Other departments are willing to collaborate, including Nutrition, Agribusiness, Agriculture extension, Seed Services and Gene Bank of Ministry of Agriculture and NGOs
- ❖ Horticulture Policy finalised

Opportunities that women and youth can exploit

- ❖ Multiple uses and high potential for value addition. Although Amaranths' seeds have been found to be more nutritious than the leaves, there were no farmers involved in processing such seeds.
- ❖ IVs can be also be processed into several products and offering unique products on international market



Thank you

