

# The African Leafy Vegetables value chain: Organisational linkages

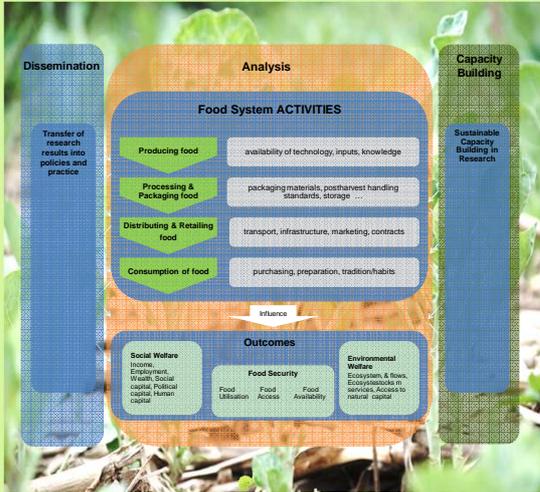


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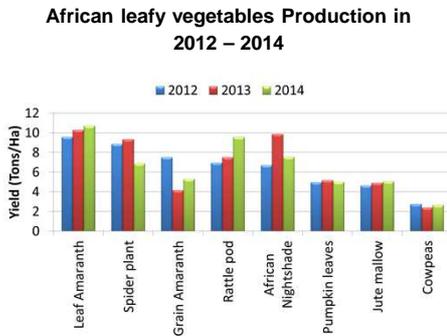
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## HORTINLEA Framework



## Importance of African Leafy Vegetables



Source: AFFA, 2015

- Contributes to food and nutrition security;
- Source of household income;
- Contributes to environmental services.

## What is the Problem?

- Low Productivity;
- Uncoordinated research efforts;
- Disconnect in the innovation dissemination pathways;
- Poor linkages among and between the actors along the value chain;
- No stand alone policy guidelines for African Leafy Vegetables (ALVs).



Source: omafra.gov.on.ca

## Material and Methods

**Graph Theory** (Pemmaraju and Skiena, 2003; Gross and Yellen, 2005; Biswal, 2005);

- The Linkage Matrix maps cross-component linkages relating to a specific goal;
- The goal of this system is to develop, diffuse, and apply new or improved technologies.

Linkage Matrix : 7 X 7 matrix

$$L = \begin{bmatrix} P & PR & PE & PM & PVA & PF & PP \\ RP & R & RE & RM & RVA & RF & RP \\ EP & ER & E & EM & EVA & EF & EP \\ MP & MR & ME & M & MVA & MF & MP \\ VAP & VAR & VAE & VAM & VA & VAF & VAP \\ FP & FR & FE & FM & FVA & F & FP \\ PP & PR & PE & PM & PVA & PF & PP \end{bmatrix}$$

(Key categories of Actors: Producers(P), Research (R), Extension (E), Marketing (M), Value addition (VA), Financial (F) and Policy (P)).

**Fuzzy set theory** (Chen and Hwang, 1992): relative importance criteria: crisp scores

$$\mu_{max}(x) = \begin{cases} x & 0 \leq x \leq 1 \\ 0 & \text{otherwise} \end{cases} \quad \mu_{min}(x) = \begin{cases} 1-x & 0 \leq x \leq 1 \\ 0 & \text{otherwise} \end{cases}$$

Strong	1
Above average	0.75
Moderate	0.5
Weak	0.25
Non-existent	0

## Summary

### Linkages between Organisations

- Linkage between Policy, Research and Marketing and Value addition is strong. This is attributed to the regulatory relationship that these organisations have;
- Producers have strong linkages with Research and Financial services; most of the farmer groups interviewed were part of/or as a result of a research project initiative.

### Importance and Influence

- Policy has the lowest influence on other organisations along the value chain and receives minimal feedback from the other organisations;
- Research and Financial services are important, however, Marketing and Value addition have a higher influence
- Extension Service has an optimal relationship with other organisations.

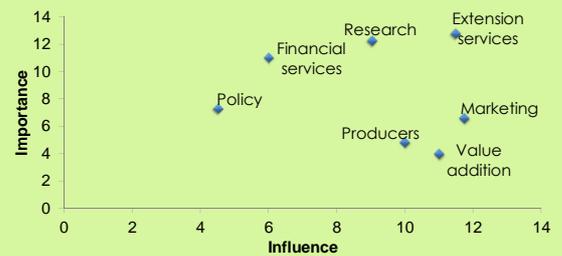
Dissemination pathways do exist however, they do not provide for a feedback mechanism

## Results

### Strength of linkages between Organisations

	Producers	Research	Extension services	Marketing	Value addition	Financial services	Policy
Producers	Producers	Strong	Above average	Above average		Strong	
Research	Strong	Research	Strong	Strong	Moderate	Strong	Strong
Extension services	Above average	Above average	Extension services	Strong	Above average	Strong	Moderate
Marketing	Above average	Moderate	Strong	Marketing	Strong	Moderate	Strong
Value addition		Moderate	Strong	Moderate	Value addition	Strong	Strong
Financial services	Strong	Strong	Strong	Strong	Strong	Financial services	Above average
Policy		Strong	Above average	Strong	Strong	Above average	Policy

### Importance and Influence



## Conclusion

- The ALVs value chain organisations require dissemination pathways that provides mechanisms for feedback.
- Strengthen/Empower the Marketing and Value addition organisations will influence the diffusion of innovations along the value chain.
- Policy is critical and its role needs to be emphasised.
- Policy guidelines will be useful in promoting production and utilization of these vegetables.



### References

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Project HORTINLEA (Horticultural Innovation and Learning for Improved Nutrition and Livelihood in East Africa) is funded by the German Federal Ministry of Education and Research (BMBF) and the German Federal Ministry of Economic Cooperation and Development (BMZ) within the framework of the program GlobE – Global Food Security,

