





Leveraging scale up of biofortification through small and medium enterprises in Uganda: What are governance challenges?

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#### Background

- Consumption of biofortified crops increases micronutrient intake that may lead to reduction of micronutrient deficiency. [1,2]
- Scaling of interventions like biofortification through partnership with small and medium enterprises has gained popularity in the policy agenda.

# ii) Governance challenges

- Smaller household land allocation for biofortified crops
- Corruption in the supply of OFSP vines
- Maintaining the quality of biofortified products
- Low willingness to pay a premium price for biofortified crop products

• Current evidence seem to suggest governance challenges in scaling of mechanization, global value chains and development programs [4, 5]

#### **Objectives**

- To identify peculiar governance challenges in the value chain actors of biofortified crops in Uganda.
- To determine the effect of training on iron bean attributes on Identification of their varieties.

#### Methods

- The study used both qualitative and quantitative approaches
- 63 Process Net Maps were conducted in 3 regions with value chain actors to elucidate the governance challenges.
- 85 farmers participated in the field lab experiment, 42 treatment and 43 in control.

• Problems in the modular governance system

## iii) Percentage of farmers that can identify HIB



### iv) Effect of training on identification of HIB

Variables	Coefficient
Training	0.092
Access to extension service	-0.173*
Access to credit	0.185*
Distance to the nearest agrodealer	0.095***
Location-Kakumiro	0.227*
Location-Kamuli	0.366***
Ν	340
Wald chi2	-137***
aic	316

- A total of 22 samples of iron beans and non-iron beans were prepared each weighing 100grams.
- Correlated random effects model was used to analyze the effect of training on identification.

### Results i) The process net map



\* p<0.05, \*\* p<0.01, \*\*\*p<0.001. Covariates age of the farmer, household size, TLU, income, land, sex, district, education, distance to the nearest road, and distance to the output market

# **Conclusions & Policy recommendations**

- Aggregators and individual consumers were found to be influential in scaling up of biofortified crops in Uganda.
- Heterogeneous governance challenges exist among the various SMEs participating in the biofortified crop food chain
- Training of farmers need to be combined with other interventions such as certification and subsidies to scale biofortified crops.

HarvestPlus supports breeding, varietal release &certification of HIB	19.	Financial institutions lend money to	
HarvestPlus supports multiplication of HIB seeds		processors	and products
Seed company supply seed multipliers with foundation seed	20.	Financial institutions lend money to retailers	
HarvestPlus/NGOs train seed multipliers	21.	Financial institutions lend money to	> Flow of capital
Government certifies seed from multipliers		aggregators	
NGOs/HarvestPlus distribute HIB seed and train farmer groups	22.	Transportation of HIB grain for retailers	>Flow of
Seed companies/agrodealers sell HIB seed to farmers	23.	Financial institutions lend money to retailers	information and seed
Seed multipliers sell HIB to farmers/farmer groups	24.	HarvestPlus/NGO partners train and	
Government under different programs distribute HIB seed to farmers		provides market linkage to aggregators	Flow of services
HIB grain is sold to middlemen by farmers/groups	25.	Financial institutions lend money to seed	
Farmers sell HIB grain to consumers-hotels, individuals etc		multipliers	$\frown$
Iron beans is sold to processors by farmer groups/farmers	26.	Market authorities collects fees from	( I Perceived
Farmers sell HIB grain directly to aggregators in their stores		processors	influence
Village collectors sell HIB grain to processors and aggregators	27.	Financial institutions lend money to seed	level
Farmers supply supermarkets with HIB grain		transporters.	_
Processors supply supermarkets with processed products of HIB	28.	Transportation of HIB grain for aggregators	X Governance
Farmers sell to retailers HIB grain	29.	Transportation of HIB seed for seed	challenges
Seed multipliers sell grain to retailers		multipliers	
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#### References

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