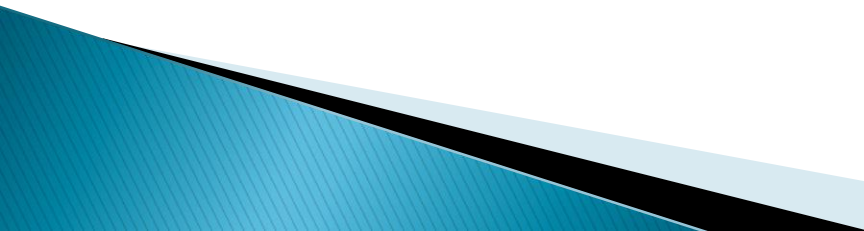


How Profitable is the Private Sector Investment in Biofortification? A Case Study of Firms in Nigeria

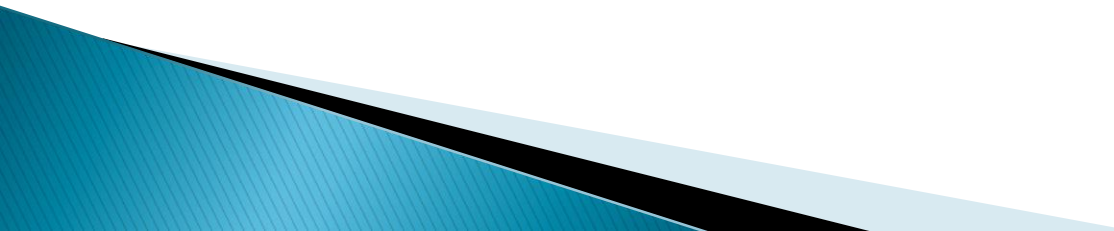
Presenter:– Ayodeji Ogunleye

Collaborators: HarvestPlus Washington DC, IITA, and OAU, Nigeria.

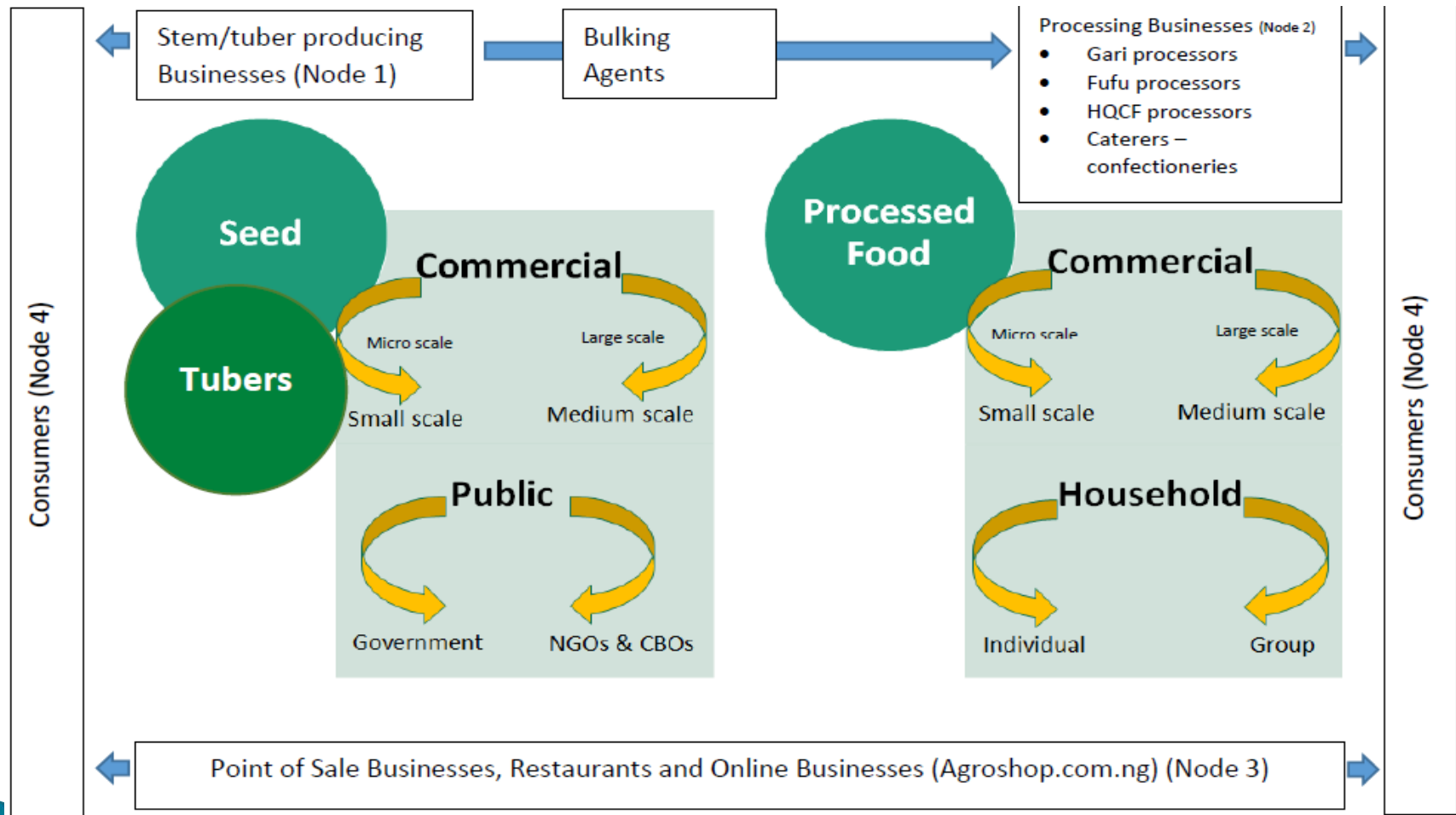
Background to the study

- ▶ Biofortification of commonly consumed staples is an urgently needed intervention to overcome Vitamin A deficiency (VAD) in Nigeria.
 - ▶ HarvestPlus Nigeria has intensified efforts to attract more private sector investments into vitamin A cassava value chain since 2015.
 - ▶ One of the barriers to the uptake of this new technology by the private sector is lack of empirical knowledge about return on investment
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Study objectives

- ▶ Broadly: To attract more private sector investment in Vitamin A cassava value chain.
 - ▶ Specifically:– Examine the integration of biofortified vitamin A cassava among investors and level of investments in cassava value chain.
 - ▶ Analyze net profit by each sub-sector and by level of investment.
 - ▶ Compare the profitability of vitamin A yellow cassava products with white cassava.
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Vitamin A cassava value chain



DATA COLLECTION METHOD

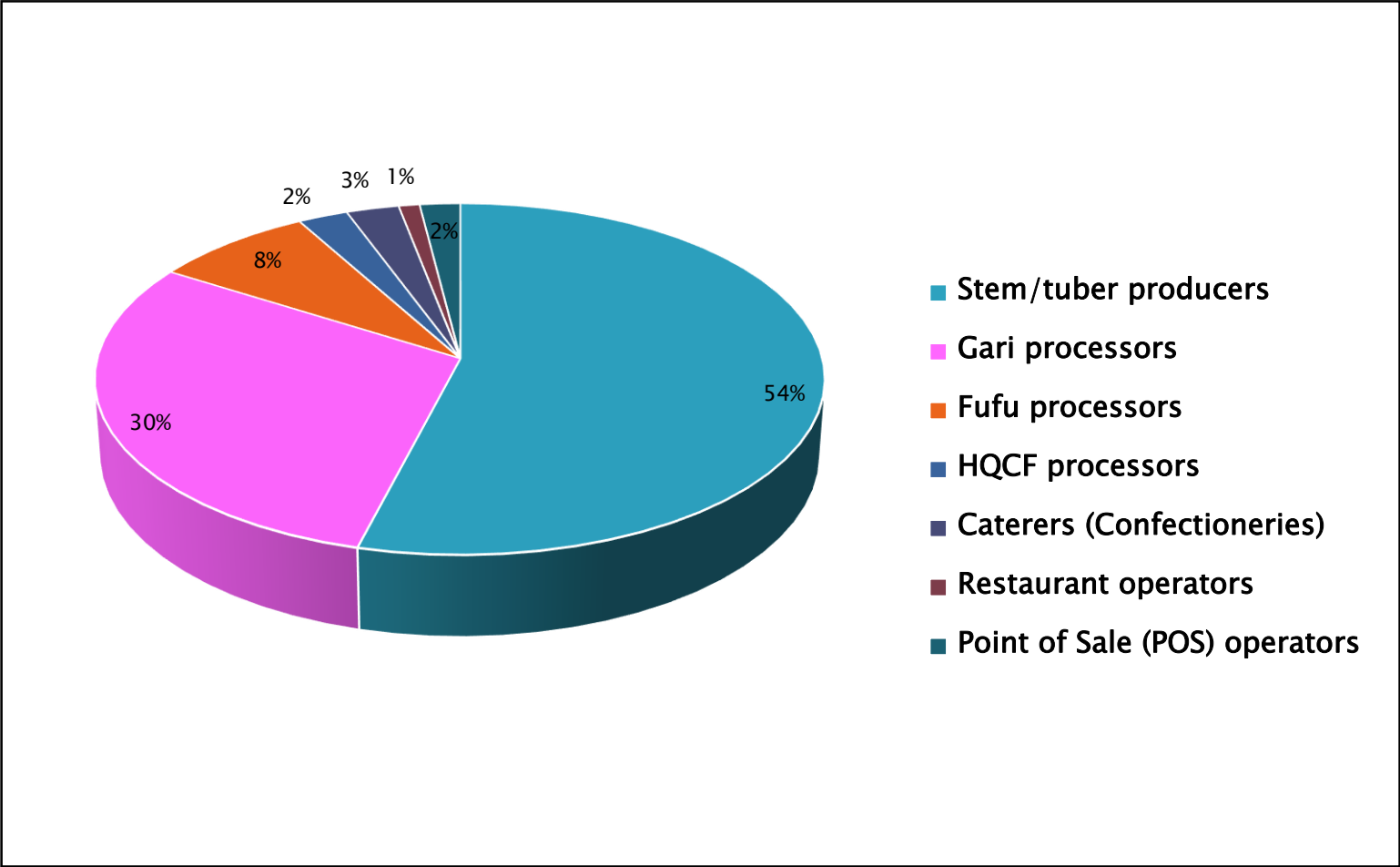
Survey questionnaire:

- Stem & Tubers
- Processors
- Value Addition
- Marketers

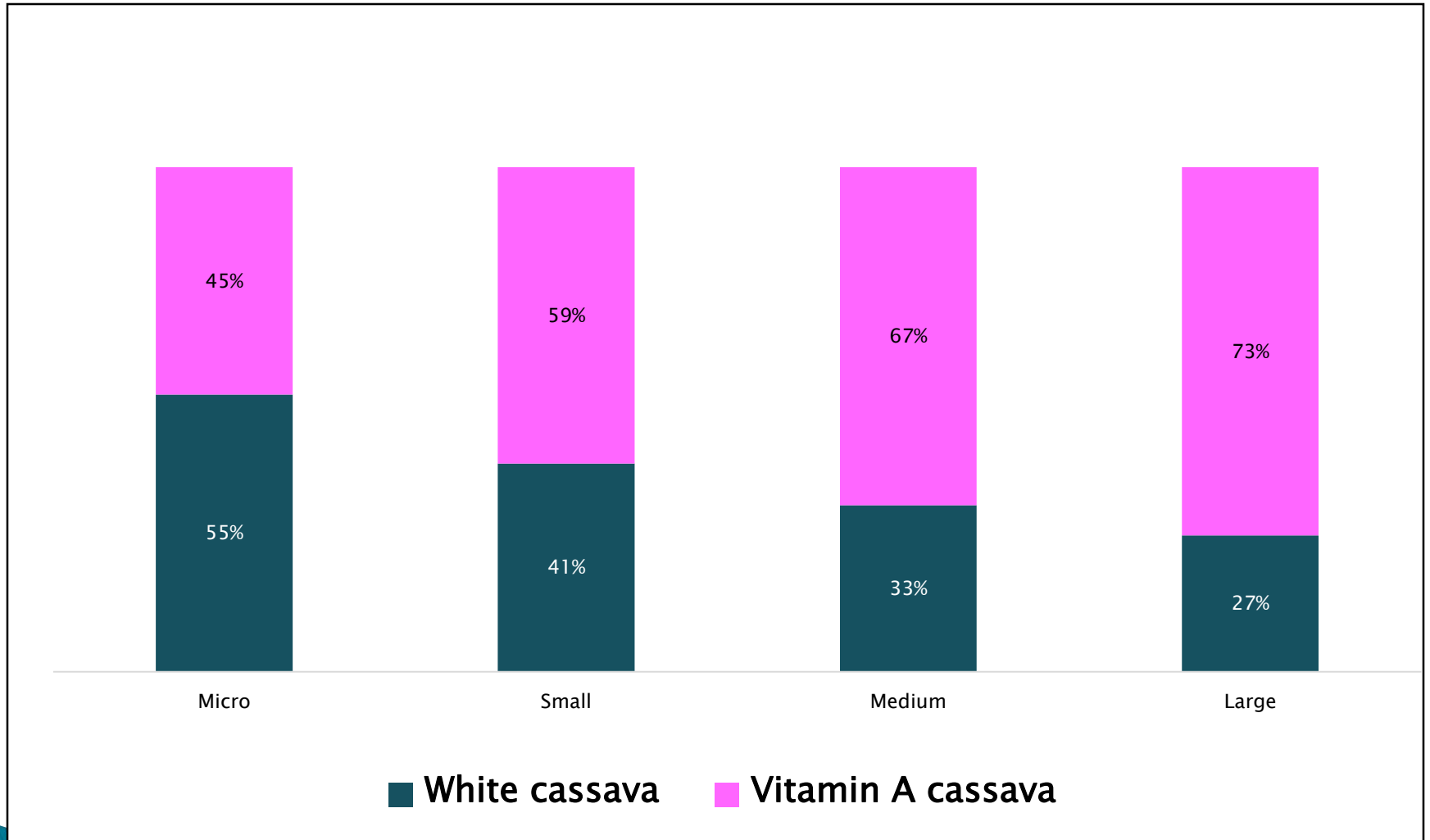
Visual observation:

- Processors
- Value Addition

Result:- Market share for all products by business type



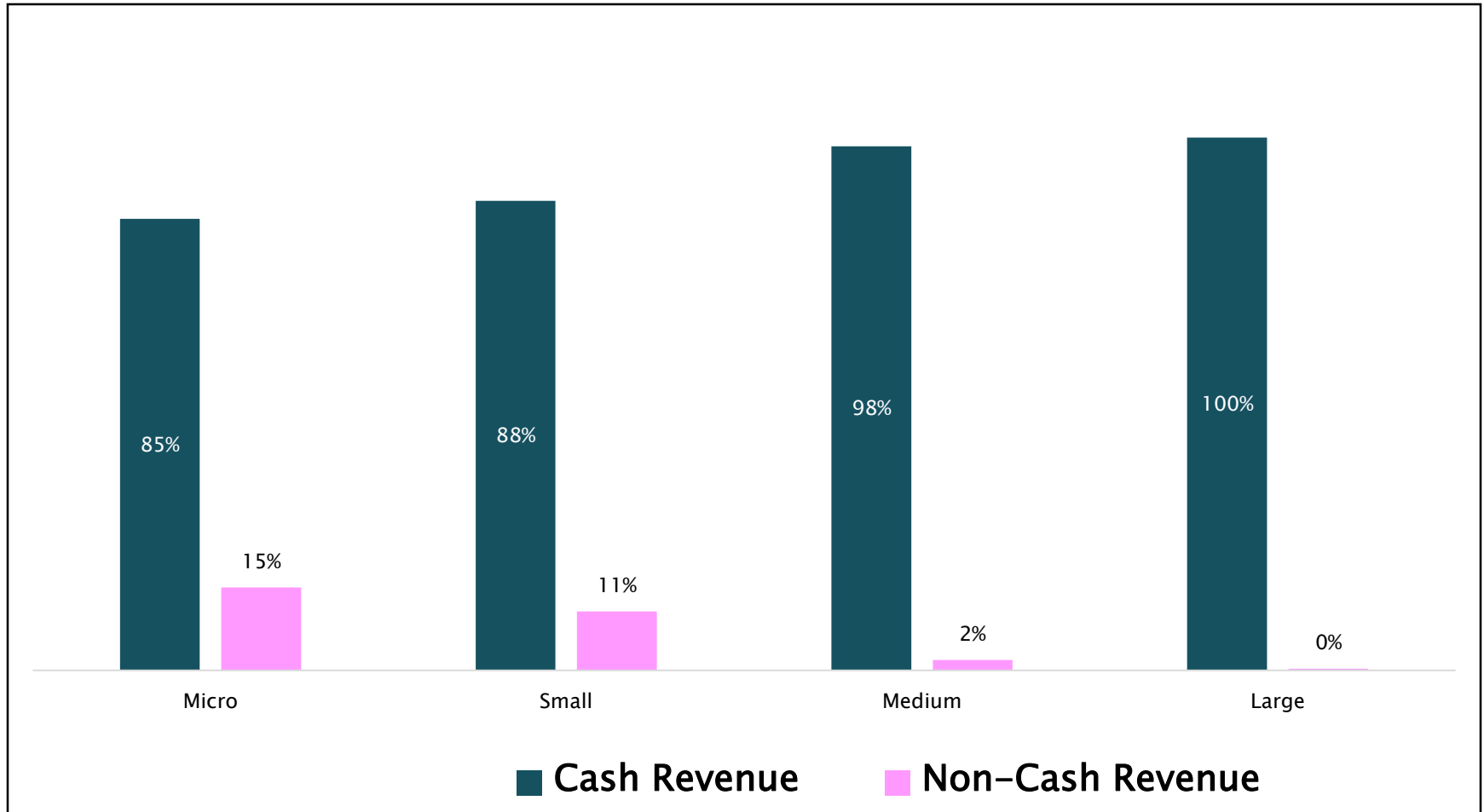
Results:- Share of vitamin A cassava in total cassava trade volume by scale of investment



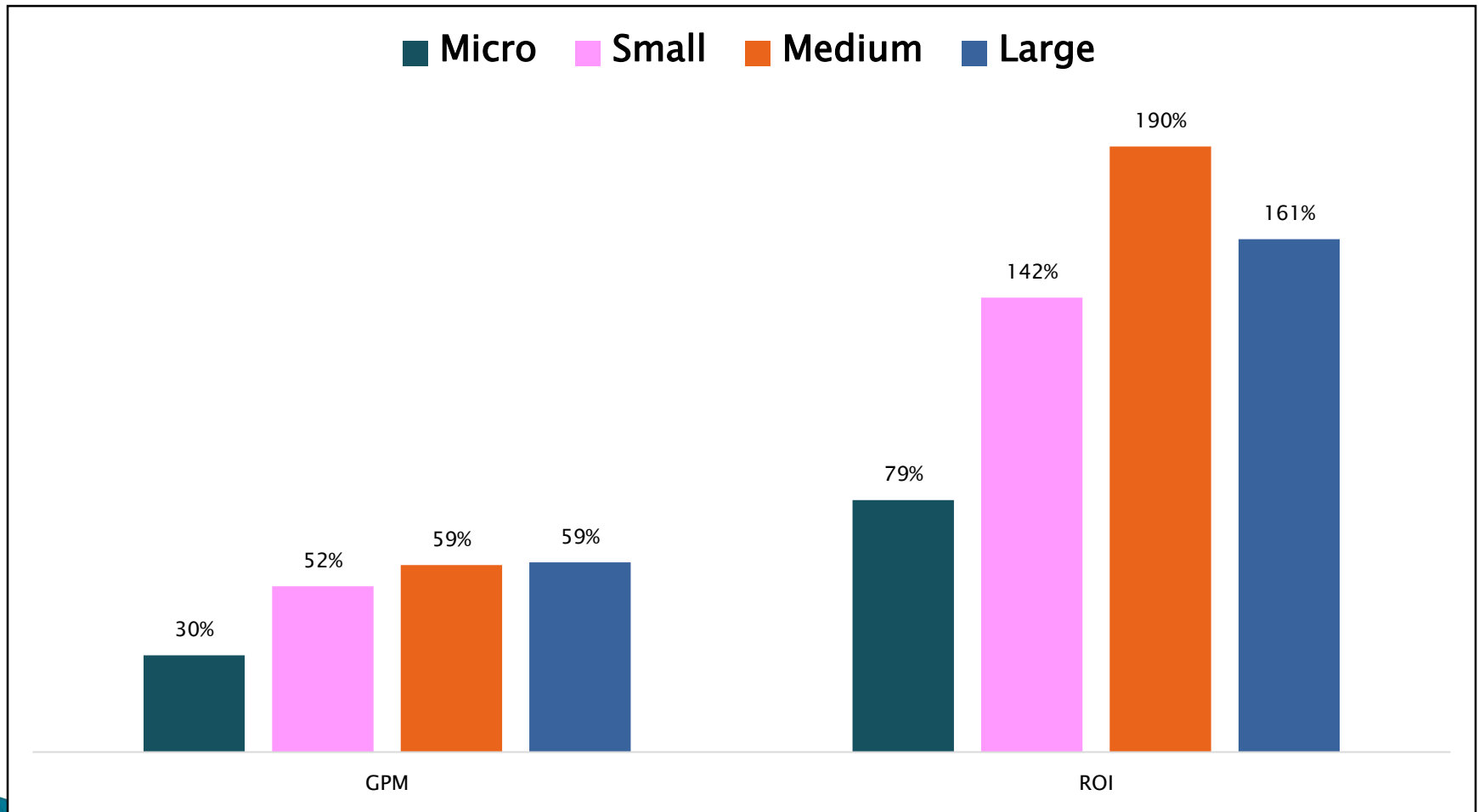
Mean Costs by Scale of Investment (‘000 Naira)

A. Fixed cost item	Micro	Small	Medium	Large
Building/Trading Space	5.2±9.5	14.4±15.8	52.6±77.4	198.0±170.6
Machinery/Equipment	3.2±10.5	6.0±14.1	104.1±183.6	405.8±242.6
Total Fixed Cost*	6.7±14.2	17.1±23.6	148.0±222.1	603.7±356.3
B. Variable cost item				
Raw material	23±19	61±72	178±278	1110±650
Other costs	37±15	71±32	543±230	2635±1007
Total Variable Cost	58±45	132±94	721±379	3745±2966

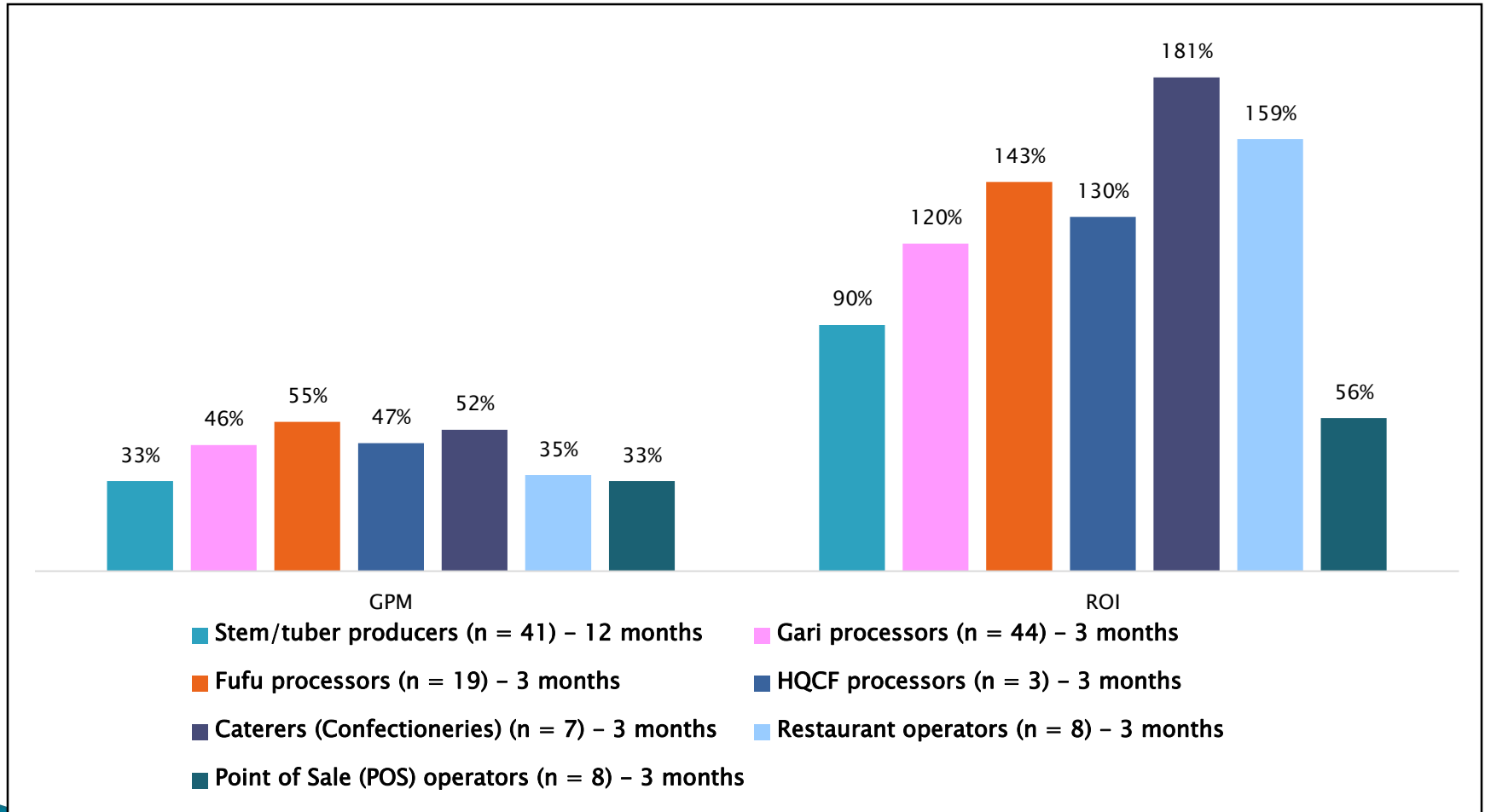
Share of cash and non-cash revenue in total revenue



GPM and ROI from running Vitamin A Cassava Businesses by scale of investment



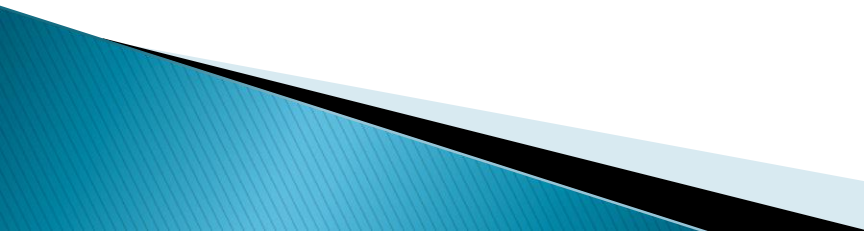
Average GPM and ROI from running Vitamin A Cassava Processing Businesses



Profitability (GPM) of vitamin A cassava businesses compared with that of white cassava businesses

	White cassava		Vitamin A cassava		
Source of evidence	Literature		HarvestPlus/OAU 2015 survey		
No. of studies (obs.)*	15 (a=10, b=8)		130 (a=41, b=73)		
No. of states (All)	11		3		
	Mean White	Range	Mean Vitamin A	Range	Diff in means
a: Stem/tuber production	60.93%	42.5% - 76.0%	33.10%	-135.2% - 82.5%	-27.83%
b: Cassava processing	43.84%	20.9% - 85.7%	52.49%	-63.08% - 80.4%	5.25%

Conclusion

- ▶ Investment in biofortified cassava VC is profitable and the profit level increases with scale of investment.
 - ▶ There is high level of integration of biofortified cassava among investors because the profit level is 9% higher than white cassava.
 - ▶ The most profitable (GRM) business are fufu (56%), HQCF (55%) and gari (53%), while the least are stem/tuber (30%) and POS (33%).
 - ▶ Inefficiency level is highest (31%) within the Stem and tuber businesses and 94% of all inefficient firms are micro and small scale businesses.
- 

Recommendations

- ▶ Training and re-training of farmers and processors who are operating inefficiently to maintain high dry matter content.
 - ▶ Improve supply-side of the market in order to boost the business opportunity on the supply-side of the vitamin A cassava market in Nigeria.
 - ▶ For sustainability, stem and tuber production more need investors via incentives, access to loan, simplify loan procedures, etc.
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