

STAY VISUAL INSPECTION OR GO WEIGHING? INSIGHTS FROM A VALUE CHAIN ANALYSIS FOR COOKING BANANA IN UGANDA

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Introduction

Cooking banana is the main staple crop in Uganda produced mostly by smallholders for food and income (Kalyebara *et al.*, 2005). Lescot (2015) reported an average annual banana production of about 8.9 million metric tons. Haggblade and Dewina (2010) reported an annual per capita consumption of 172kg/person/year, making Uganda the largest consumer in the world. Selling cooking banana by visual inspection without measuring its weight is a common practice in East and central Africa. This system is very subjective and thus considered inefficient as it presents a huge risk of economic losses along the value chain. In some instances, cooking banana is weighed, for instance at wholesale level in Rwanda (Bauer, 2011) and at export level in Uganda (Nalunga *et al.*, 2015). Attempts to introduce weighing at farm level have proved to be futile. This study assesses the perceptions towards and willingness to adopt a weight-based pricing system (WPS) in the cooking banana value chain in Uganda

Materials and Method

- A market study was conducted among different VC actors between July and September 2015
- Two districts in south western Uganda (Rakai and Isingiro) and eight markets were selected for the study; respondents were randomly selected
- A pretested structured questionnaire was administered to producers, traders, and consumers
- Checklists were used to gather information from key informants (including market masters, bicycle traders, brokers, wholesalers, exporters and supermarket representatives)
- Means and standard deviations were used to compare VC actors' willingness to adopt and perceptions towards the WPS
- To determine the factors affecting willingness to adopt the WPS, two model specifications were estimated; Probit regression for producers and retailers and multinomial regression for consumers

Results and Discussion

- WPS is perceived as:
 - A key innovation for more transparent, trustworthy and efficient price setting
 - Great contribution to reducing economic postharvest losses
- 98% of the producers, 40% retailers, 75% supermarkets and 50% consumers were willing to adopt the WPS

Table 1 : Perceptions about the weight based pricing system by VC actor and gender (%)

	Producer		Broker	Bicycle trader	Wholesaler	Retailer		Consumer	
	Male	Female	Male	Male	Male	Male	Female	Male	Female
Efficiency	93	81	37	100	100	54	50	-	-
Fair pricing	96	95	50	100	70	46	25	50	45
Trust	98	88	37	100	70	50	56	55	45
No added cost	40	43	25	53	50	54	75	-	-

- Respondent's age, education, extent of economic losses, experience in banana marketing, existing knowledge about the weight-based pricing system, perceived improvement in trust and perceived improvement in prices had significant positive effects (at $p < 0.05$) in embracing the WPS
- However, distance to the nearest market, stock turn over rate and membership to farmer/trader group had negative significant effects in embracing the WPS

Table 2: Determinants of using the WPS at production level of the cooking banana VC

	Producer
Age of respondent	0.028*** (0.007)
Male respondent (vs. female)	-0.008 (0.144)
At least secondary education (vs. below secondary)	0.089 (0.142)
Distance to the nearest market (km)	-0.050 (0.038)
Length of membership to farmer/trader group	-0.004*** (0.001)
Extent of postharvest losses (%)	0.017** (0.007)
Sell individually (vs. group)	0.315** (0.127)
Number of bunches sold per week	0.0004 (0.0004)
Knowledge about weight based pricing system (vs. no knowledge)	0.100 (0.189)

Table 3: Determinants of using the WPS at consumer level of the cooking banana VC

	Consumer		
	Would not adopt	Indifferent	Would adopt
Age of respondent	0.011*** (0.004)	.002 (.006)	-0.013** (0.006)
Male respondent (vs. female)	0.233*** (0.089)	-0.065 (.104)	-0.168* (0.090)
At least secondary education (vs. below secondary)	0.138 (0.110)	.132 (.123)	-0.270** (0.109)
Married (vs. others)	0.184** (0.079)	-.333*** (.0778)	0.149 (0.093)
Household size	0.002 (0.018)	0.009 (.021)	-0.011 (0.0213)
Knowledge about weight based pricing system (vs. no knowledge)	0.0534 (0.080)	-0.243** (.108)	0.190** (0.096)
Perceived improved pricing (vs. not improved)	-0.153* (0.082)	-0.199* (0.112)	0.352*** (0.086)
Improved trust (vs. not improved)	-.335*** (.095)	0.005 (0.134)	0.331** (0.129)

Conclusion and Recommendations

Generally, value chain actors are willing to adopt the WPS. The WPS for cooking bananas is perceived as key innovation for more transparent, trustworthy and efficient price setting for banana and a tool for reducing postharvest economic losses, thus improving income across the value chain. To enable effective standardization of the cooking banana pricing system, we recommend that all value chain actors' feelings toward the WPS need to be considered, this will provide a basis for developing strategies for its effective and efficient introduction among the cooking banana value chain actors in Uganda. Providing more factual information and understanding of how the WPS works and what benefits it would bring is crucial

Table 4: Determinants of using the WPS at retail level of the cooking banana VC

	Retailer
Age of respondent	-0.020 (0.014)
Male respondent (vs. female)	-0.015 (0.196)
At least secondary education (vs. below secondary)	0.051 (0.166)
Non group member versus group member	-0.554** (0.243)
Extent of postharvest economic losses	0.029* (0.016)
Number of bunches sold per week	-0.0002 (0.0001)
Experience in banana marketing (months)	0.036*** (0.013)
Sells fingers (vs. other presentation forms)	0.326 (0.199)
Weekly turnover rate	-0.168** (0.065)
Loss of value with finger plucking (vs. no loss)	0.154 (0.115)
Perceived improved pricing (vs. not improved)	0.924*** (0.069)
Uncertain with improved pricing (vs. not improved)	0.267 (0.357)
Added costs (vs. no added costs)	0.781*** (0.233)
Uncertain of added costs (vs. no added costs)	0.853*** (0.209)



Figure 1&2: Visual inspection



Figure 3 & 4: Weighing on farm



Figure 5: Weighing for export

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