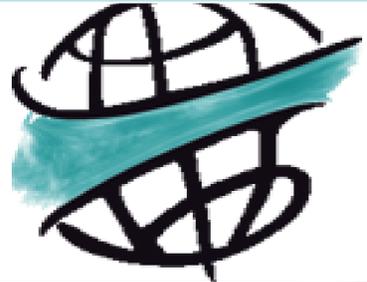




Measurement of Technical Efficiency and Value Addition of Hybrid Tomato Variety Production Under Urban Homestead Farming in Southwest Nigeria.

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Introduction

Tomato (*Lycopersicon esculentum Mill.*) is one of the most important fruit vegetables grown in Nigeria. It is rich in minerals, vitamins, essential amino acids, sugars and dietary. The world produce 186.821millionmT of tomatoes on 5,051,983ha in 2020 with China being highest with 64,865,807 followed by 6,247,910(FAOSTAT, 2022; FAO, 2019).



Figure 1: Typical Hybrid Tomato Farm



Figure 2: Displayed Sorted & Graded Tomato

Problem Statement

Local varieties of tomato in Nigeria does not give maximum yield. Poor yield may in part lead to low resistance to some diseases.

Based on this, there is a need for the varieties that can perform optimally under the same environment to satisfy consumers' utility in both quality and quantity terms .

Specific Objectives

- To describe the socioeconomic characteristics of the respondents.
- To identify prevalent hybrid tomato varieties grown by the respondents.
- To estimate the profitability of hybrid tomato business actors.
- To determine the efficiency of tomato business actors.
- To examine the perceived constraints in hybrid tomato production

Activities of Operators in Value Addition to Tomato

Some activities of tomato operators are: Grading, Sorting, Branding, Packaging, Processing, Standardization e.t.c

Study Area, Source of Data, Instruments of Data Collection, Sampling Technique & Analytical Tools

Study Area

- Southwest Nigeria.
- Located mainly in the rainforest belt.
- Represented by Osun and Oyo State.
- Have agriculture as predominant job.
- The land is moderately weathered and Endowed with bimodal rainfall.

Source of Data

- Primary & Cross Sectional.

Instruments of Data Collection

- Copies of well-structured questionnaires & Interview guide

Sampling Technique

- A multistage sampling procedure (Use of Purposive and random sampling)
 Total Sample= 316

Analytical Tools

- Descriptive Statistics
- Gross Margin Analysis(GMA=R-VC; R=Revenue, VC=Variable Cost)
- Stochastic Frontier Production Function: $TE = \exp[-E\{v|\epsilon\}]$ - Meeusen and van den Broek (1977)
- Likert Scale Rating.

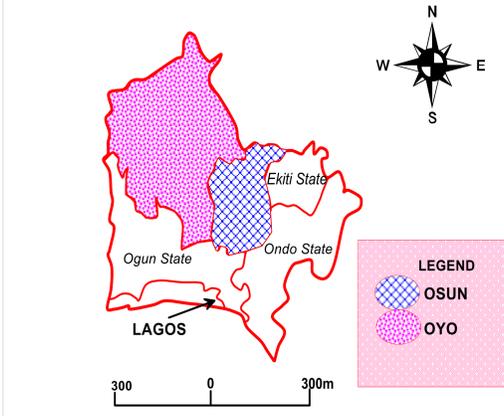


Figure 3: Map of the Study Area
 Source: Ministry of Information & Culture, Oyo & Osun States, Nigeria

Results & Discussion

Table 1: Socioeconomic Characteristics of Hybrid Tomato Farmers

Characteristics	Input Supplier	Farmer	Wholesaler	Retailer
Age (in years)	51	47	49	36
Experience(in years)	15	19	16	15
Household Size(No)	5	7	7	6
Ass. Membership(%)	71	63	88	55
Credit Access(Yes)	82%	38%	36%	32%
Gender(Male)	30%	32%	36%	32%
Monthly Income(in	66,843.00	40,566.00	73,061.00	86,554.00

Source: Field Survey, 2023

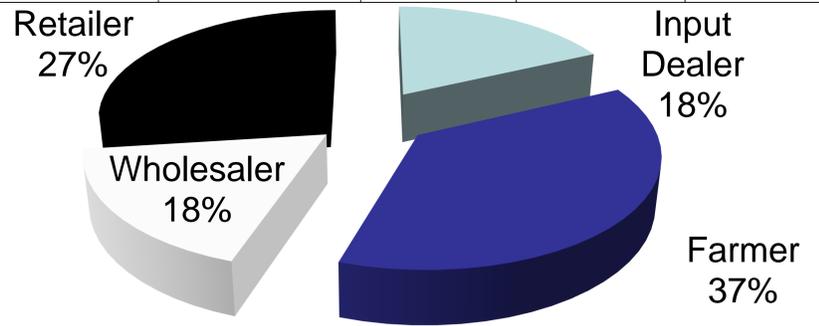


Figure 4: Actors Along Value Addition Chain

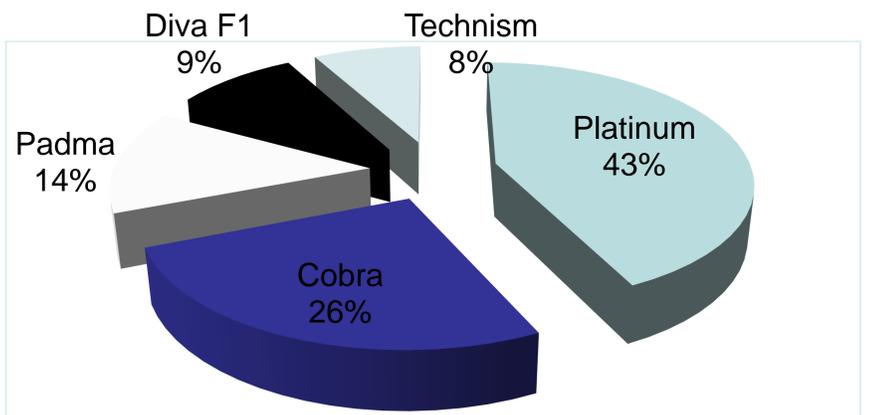


Figure 5: Prevalent Hybrid Tomato Varieties Grown Among Farmers

Table 2: Performances of Operators Across Stages of Tomato Value Addition

Evaluators	Input Dealer	Farmer	Processor	Wholesaler	Retailer
Total Revenue	N804,764	N543,350	N623,232	N854,254	N554,933
Profitability Ratio	2.59	1.22	1.13	1.46	2.31
Mean Technical Eff.	83	67	56	72	92

Source: Field Survey, 2023

Table 3: Constraints to Exotic Tomato Production

S/N	Perceptive Statement	SA	A	U	D	SD	MS	MW	Rank
1.	Insufficient labour supply	49.4	26.4	12.5	8.3	3.3	777	4.10	1 st
2.	Large number of middlemen	37.9	32.1	17.1	9.2	3.8	939	3.91	2 nd
3.	Bad road network	30.0	30.8	32.1	11.7	5.4	884	3.68	3 rd
4.	Pest and diseases	23.8	31.7	25.8	14.2	4.6	873	3.64	4 th
5.	High cost of input	25.0	32.1	23.8	14.6	4.6	860	3.58	5 th

Source: Field Survey, 2023

SA: Strongly Agreed; A: Agreed; U: Undecided; D:Decided; SD:Strongly Disagreed; MS:Mean Score; MW: Mean Weight

Conclusion

From the findings, despite all challenges faced by the operators in the hybrid tomato varieties value addition, they were found to be technically efficient and made optimal revenue and profit.

Acknowledgement

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