



# RSM2SNF

Research Supporting African MSMEs  
To Provide Safe and Nutritious Food

## Wholesale Market Survey: Preliminary Findings

December 20, 2024



# Why a survey of wholesale markets?

- Food systems are under immense stress.
- The carefully managed transformation of food systems is viewed as a great opportunity to combat health, environmental, and socioeconomic challenges.
- Accurate and reliable metrics are important for evidence-based policy, management, and allocation of resources.
- Wholesale markets have received less research attention than other nodes of food value chains.
- To understand whether wholesale markets are performing well, metrics are needed to track and evaluate them along various dimensions.

*“What gets measured,  
gets managed...”*

# Thematic dimensions of food markets



Source: "Measurement for Management: Metrics to Characterize Food Markets in Developing Regions" by M. K. Mareid, A. Wineman, and L. S. O. Liverpool-Tasie

# Data collection

- Census of wholesale markets for tomatoes and green leafy vegetables (GLVs) in (or directly supplying) 8 cities.
- Questionnaire designed to collect information at the market level and the level of each product (tomato, amaranth, and another most common GLV).
- Questionnaire administered to a focus group of knowledgeable respondents in each market.



# Data collection

- **45** markets
- **90** product-market levels
  - **37** tomato markets
  - **23** amaranth markets
- **30** markets reported on other GLVs



# Data collection

## Market

A: Type of market

B: Basic information

B1: Geography

B3: Seasonality

B2: Respondents

B4: Market hours

C: Market overview

D: Services in the market

E: Businesses in the market

F: Distances

G: Market leaders (Market level)

## Products/Sections (*if found in the market*)

### Fresh Tomato

H: Catchment area

H1: High season

H2: Low season

H3: Year [*as applicable*]

I: Transport/Quantities

I1: High season

I2: Low season

I3: Year [*as applicable*]

J: Section overview

K: Section governance

L: Product leaders

### Amaranth

H: Catchment area

H1: High season

H2: Low season

H3: Year [*as applicable*]

I: Transport/Quantities

I1: High season

I2: Low season

I3: Year [*as applicable*]

J: Section overview

K: Section governance

L: Product leaders

### Other GLV

H: Catchment area

H1: High season

H2: Low season

H3: Year [*as applicable*]

I: Transport/Quantities

I1: High season

I2: Low season

I3: Year [*as applicable*]

J: Section overview

K: Section governance

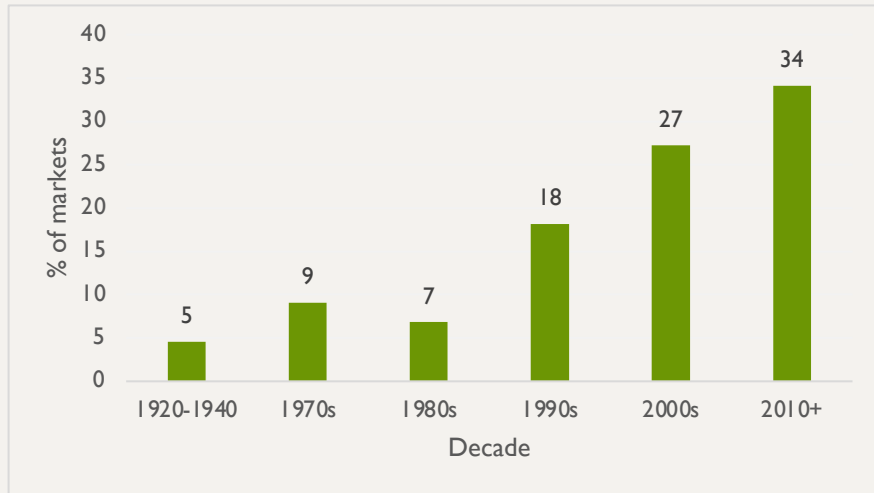
L: Product leaders



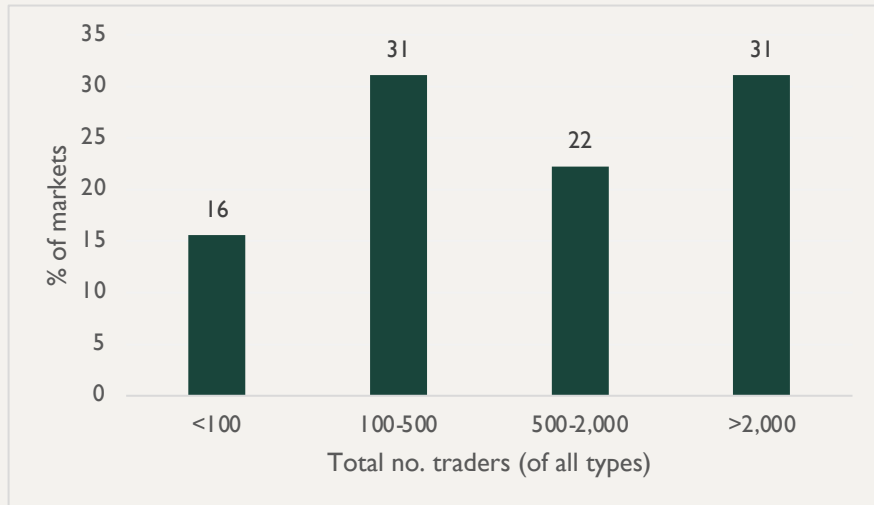
Survey team: Gideon Boniface, Victoria Gowe, Anastazia Bikuba, and Elizabeth Msuya

# Basic market characteristics

Decade of market establishment



Total number of traders of all types in market on a “typical” day



Product-level quantities and market size (mean values)

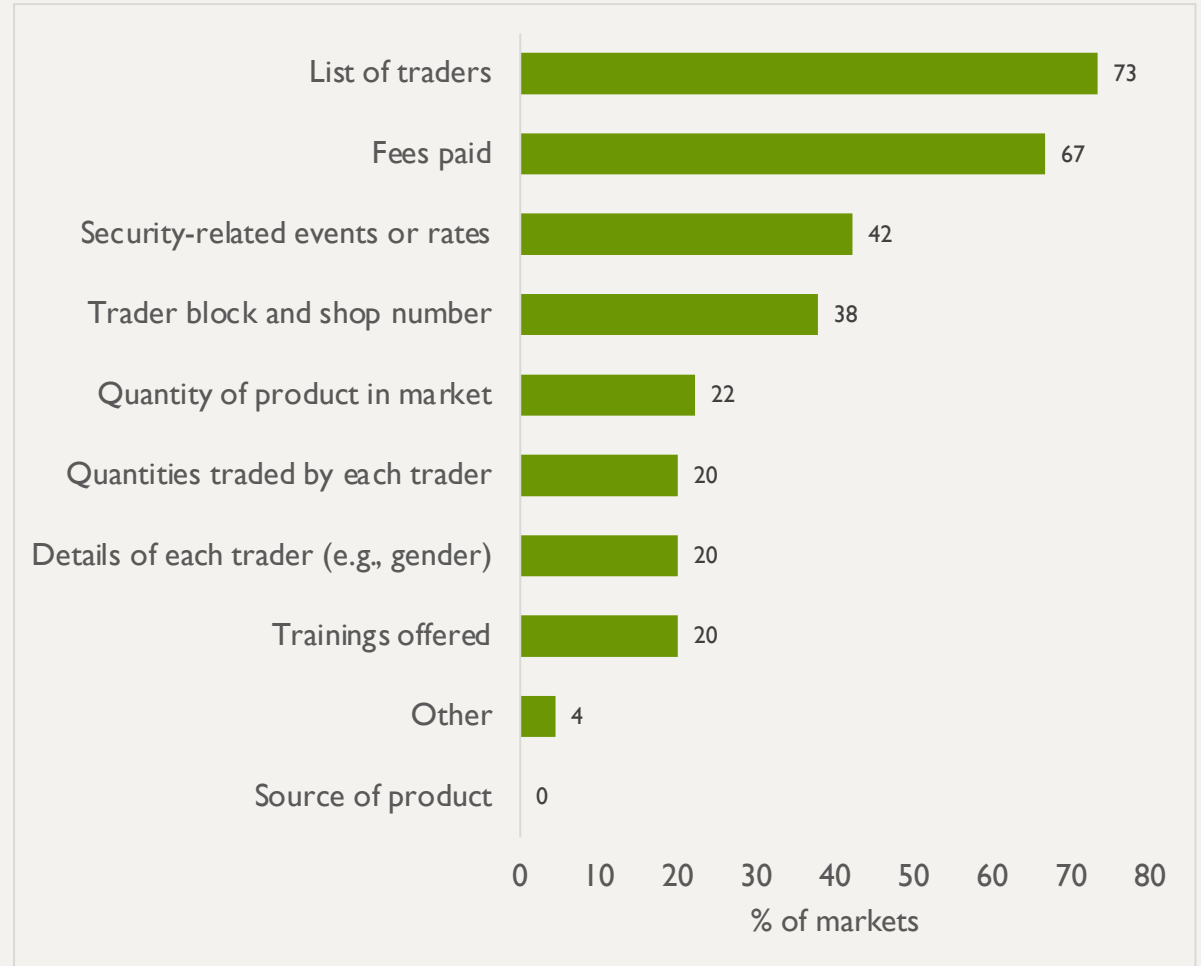
	Tomato	Amaranth
<b>Tons that pass through in the...</b>		
Year	146	51
High season	109	27
Low season	45	23
<b>Number of wholesalers that...</b>		
Engage in the market in year	81	56
<b>Number of wholesalers that are present on a typical day in the...</b>		
High season	79	57
Low season	60	48

# Governance

## Governance characteristics of wholesale markets

	% of markets
<b>Management entity</b>	
Market authority/committee	71
City/Municipality	24
Private individual	4
<b>Governance structure</b>	
There is only a market authority that oversees the whole wholesale market (all products).	42
In addition to market authority, there are product associations.	51
Other	7

## Market management keeps records of...



# Governance

## Geographic patterns

- Markets in **East (Dar)** more likely to be managed by the city/municipality.
- Markets in **East (Dar)** and **North** more likely to have product associations.
- Markets in **East (Dar)** more likely to coordinate purchases/sales.
- Markets in **South (Highlands)** least likely to have an emergency plan.
- Registration least common in the **Center**.
- Markets in **Center** least likely to keep market-level expenditure records.

## Governance characteristics at product-level

	Tomato	Amaranth
<b>Registered traders</b>		
% of wholesale traders that are registered (mean)	64	62
<b>In the past ten years, the % wholesalers registered has...</b>		
Not changed	61	59
Increased	33	36
Decreased	6	5
<b>Are there regular forums for traders to engage with...?</b>		
Local government authorities	19	13
The broader market authority/associations	5	13
Other traders	0	9

*Statistics are the % of markets, unless otherwise indicated*

[illegible][illegible][illegible]

# Infrastructure

	% markets*
<b>Electricity</b>	
Market has access to the grid electricity	89
Hours per day of electricity (mean)	18
% of stalls with access to electricity from the grid (mean)	71
<i>Only among markets with grid access</i>	
Hours per day of electricity (mean)	20
% of stalls with access to electricity from the grid (mean)	81
Classify electricity as "not at all reliable"	0
Classify electricity as "somewhat reliable"	15
Classify electricity as "very reliable"	85
<b>Main source of power (within top 3)</b>	
Grid	87
Solar systems (personal)	16

*Statistics are the % of markets, unless otherwise indicated*

	% markets
<b>Toilets</b>	
Market has any toilets (%)	98
No. functioning toilets (mean)	11
<i>Among markets with toilets:</i>	
No. traders per toilet (mean)	159
% toilets with dustbin with lid (mean)	39
<b>How many of the toilets have a hand-washing station nearby?</b>	
All	81
Some, but less than half	2
None	17
<b>How frequently are the toilets cleaned?</b>	
Immediately after each use	43
>2 times a day	24
2 times a day	7
Once a day	26
<b>Do the toilets require a fee?</b>	
All are free	12
Some require a fee	2
All require a fee	86

*Statistics are the % of markets, unless otherwise indicated*

# Infrastructure

Available at a typical handwashing station:



## % markets

### Toilets

Market has any toilets (%) 98

No. functioning toilets (mean) 11

*Among markets with toilets:*

No. traders per toilet (mean) 159

% toilets with dustbin with lid (mean) 39

### How many of the toilets have a hand-washing station nearby?

All 81

Some, but less than half 2

None 17

### How frequently are the toilets cleaned?

Immediately after each use 43

>2 times a day 24

2 times a day 7

Once a day 26

### Do the toilets require a fee?

All are free 12

Some require a fee 2

All require a fee 86

*Statistics are the % of markets, unless otherwise indicated*

# Infrastructure

## Geographic patterns

- Markets in **Center** most likely to rely on surface water and harvested rainfall.
- Markets in **North** most likely to purchase water in jerricans.
- Markets in **Center** and **South (Highlands)** least likely to have handwashing stations beside toilets.



# Economic development

## Businesses found in wholesale markets

	Presence of business (% of markets)	Average number of businesses per market
Cold storage	0	0.0
Cooler rental	2	0.1
Ambient storage	13	2.8
Vehicle rental business (truck)	47	11.4
Vehicle rental business (car)	40	8.6
Vehicle rental business (motorcycle)	93	79.9
Vehicle rental business (tricycle)	73	26.3
Vehicle rental business (other)	24	3.5
Mechanical repair shop	22	3.0
Jerrican rental	0	0.0
Jerrican sales	38	2.4
Water seller	49	2.6
Day laborer	96	84.7
Toilet service provider	51	1.3

## Product-specific businesses found in wholesale markets

	Presence of business (% of markets)		Average number of businesses per market	
	Tomato	GLV	Tomato	GLV
Depot	11	6	4.6	3.6
Retailer	84	81	98.4	87.2
Agent	16	0	0.6	0.0
Processor	5	0	0.2	0.0
Broker	87	56	63.5	27.2
Rental services for storage	0	0	0.0	0.0
Weighing	5	0	0.0	0.0
Agricultural input shop	51	50	1.6	3.0
Basket seller	68	72	3.0	6.4
Plastic crate seller	5	3	0.4	0.8
Rental services for plastic crates	3	3	0.1	0.1

# Economic development



# Environmental sustainability

## Handling of waste in wholesale markets

	% markets
<b>How is waste handled in this market?</b>	
It is removed from the market periodically (brought elsewhere)	75
It is burnt at or near the market—Open burning	18
It is burnt at or near the market—Burnt in a protected pit	2
Other	5
<b>How often is the waste removed from the market or burnt?</b>	
Daily	45
Several times per week	5
Twice per week	10
Weekly	13
Bimonthly	8
Monthly	8
When needed	13
<b>Plastics</b>	
% plastics in waste (mean)	10
% of plastics that get recycled (mean)	24

*Statistics are the % of markets, unless otherwise indicated*

- Relatively small markets are more likely than large markets to engage in burning of waste.
- Markets in **South (Highlands)** seem to remove or burn waste at the lowest frequency.
- Plastics are most commonly recycled in **East (Dar)** markets.

# Environmental sustainability



# Equity and inclusivity

Distribution of wholesalers by gender, age, and enterprise scale (average %)

	Tomato	Amaranth
Female	47	76
Youth (15-35 years)	39	50
<i>Wholesale enterprise scale</i>		
Nano-scale	90	95
Micro-scale	10	5
Small-scale	0	0
Medium-scale	0	0
Large-scale	0	0

Changes over time in wholesaler characteristics (% of markets)

Since 10 years ago...	Tomato	Amaranth
Share nano-scale has declined	8	14
Share female has increased	63	53
Share youth has increased	92	93

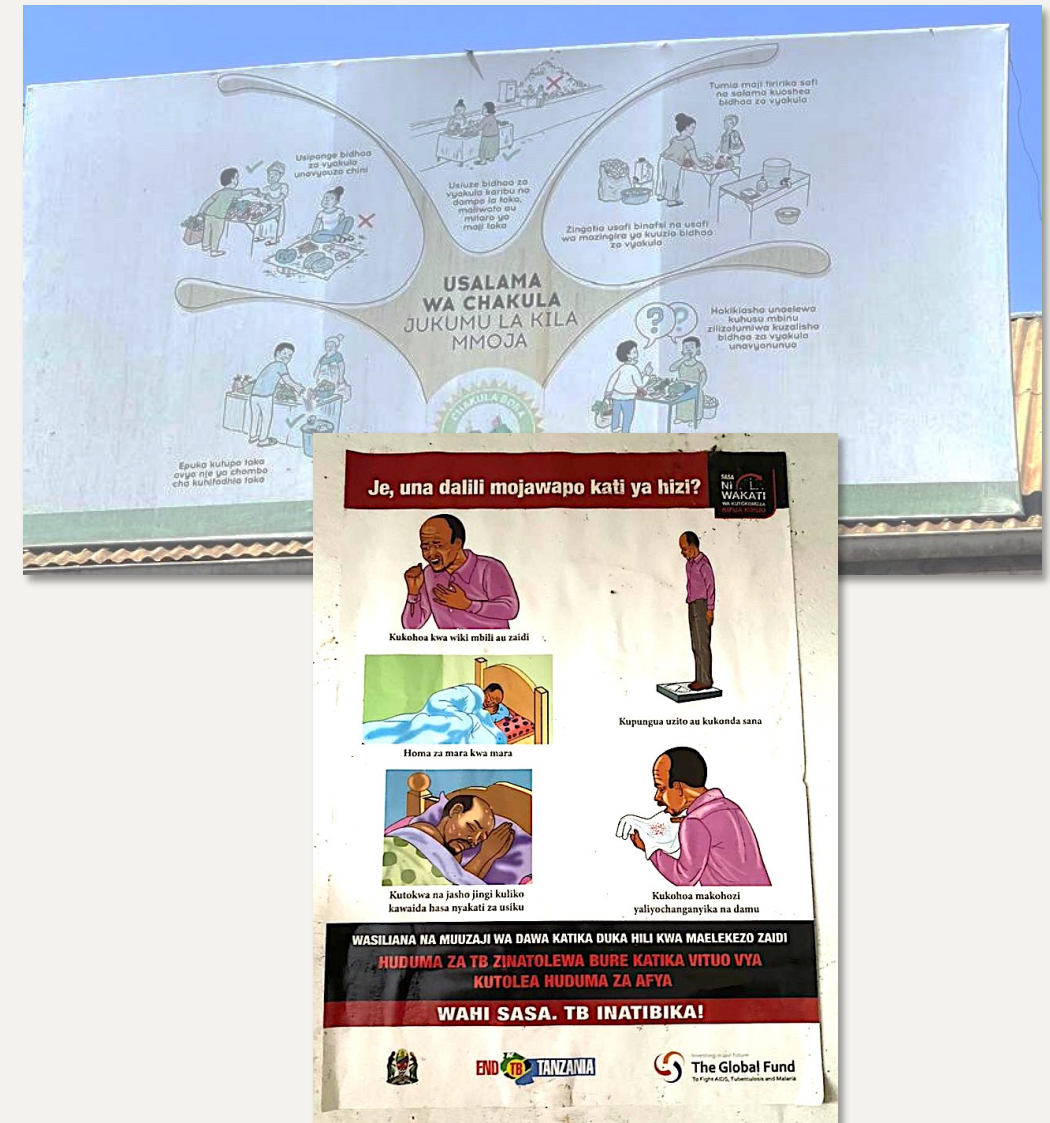
Percent of filled leadership positions that are female

			Tomato	GLVs
Market-level		Product association		
Market leader/ chairperson	29	Chairperson	23	36
Chairperson of market committee	0			
Deputy chair	16	Deputy chair	19	33
Treasurer of market	31	Treasurer	28	67
Secretary of market	13	Secretary	24	36
Gender affairs leader	50			



# Food safety

	% markets
<b>How often is the market cleaned?</b>	
Daily	86
Several times per week	11
Weekly	2
<b>Who is responsible for the cleaning of the market?</b>	
Other (specify)	2
Private enterprise (service provider)	14
The government hires people	11
The market authority hires people	36
Traders themselves	36
<b>Washing vegetables</b>	
Vegetables are ever washed with tap water	5
<b>Market treats any of the water it uses</b>	
Yes	32
<b>Program(s) to help traders access water and sanitation</b>	
Government-led	16
NGO-led	7
Any	20
<b>Market has posters promoting...</b>	
Hand-washing and other sanitary practices	27



# Food safety

Food safety of specific products (% of markets)

	Tomato	Amaranth
There are health requirements for selling this product in the market	24	26
There are mechanisms to ensure the traders are healthy	3	0
There are rules regarding hygiene	62	74
There are rules regarding food safety	22	26
Someone is responsible for checking the quality of the products sold	11	13
The market conducts food safety tests	0	0
The market has organized trainings on handling to minimize loss and damage	11	13
The market has organized trainings on handling to avoid chemical contamination	3	9



# To be continued...

This is a work in progress.

We very much welcome your thoughts on:

- What can be learned from this survey
- What are the implications
- Who might be interested
- How we can glean the most value from this exercise

*Thank you!*