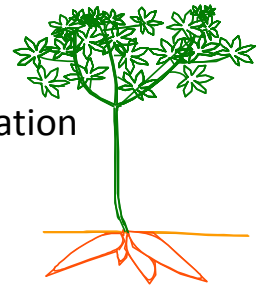
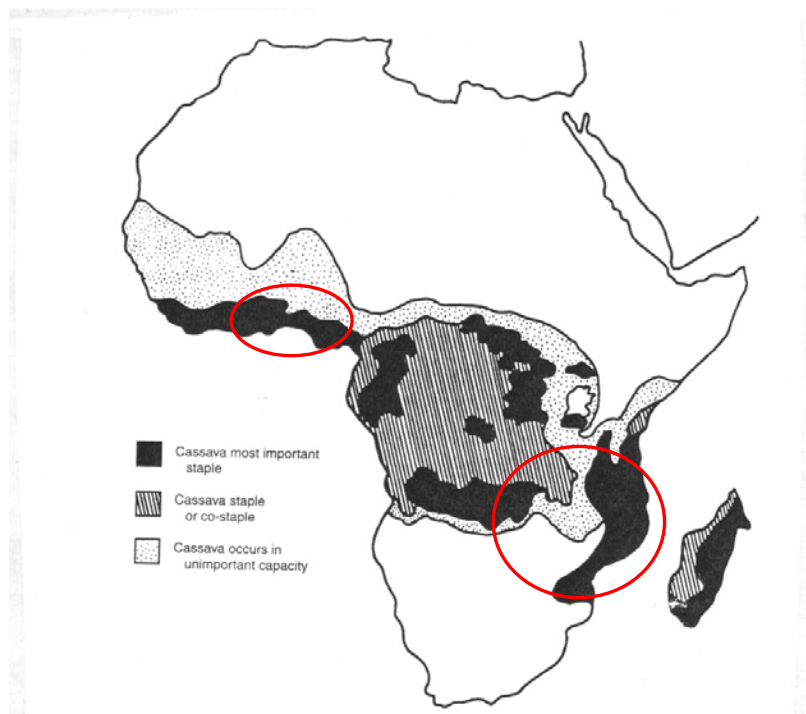


Emerging Insights from Regional Cassava Value Chains

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Michigan State University
prepared for the Bill and Melinda Gates Foundation
August 10, 2010



Africa's cassava belt



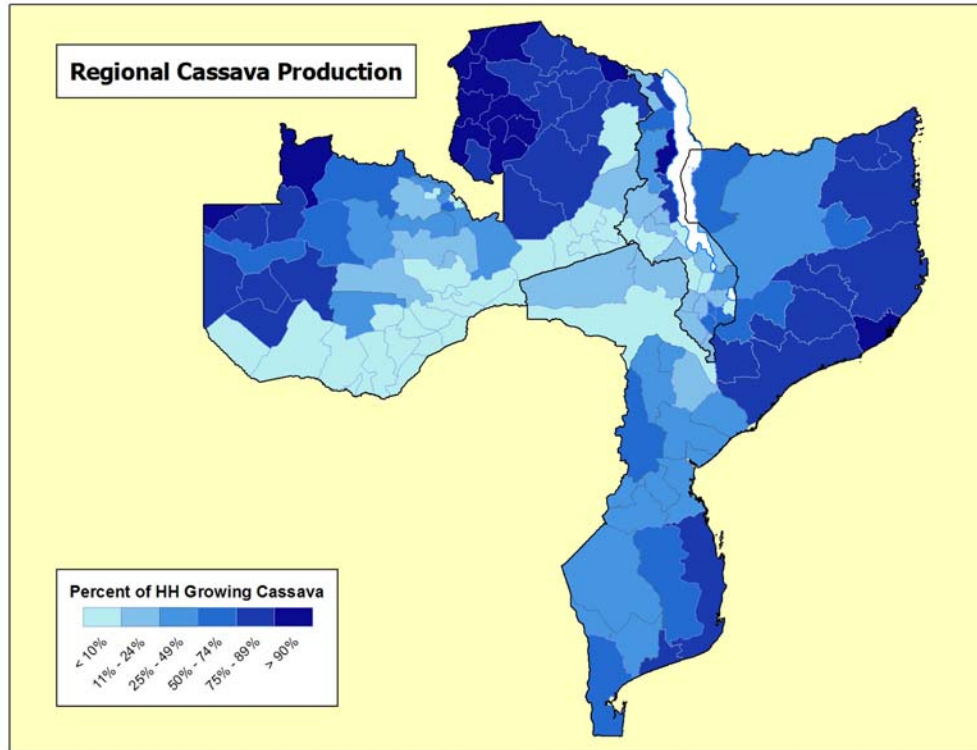
Insights from cassava value chains

1. Risk management
2. Regional differences in cassava commercialization
3. Bottlenecks

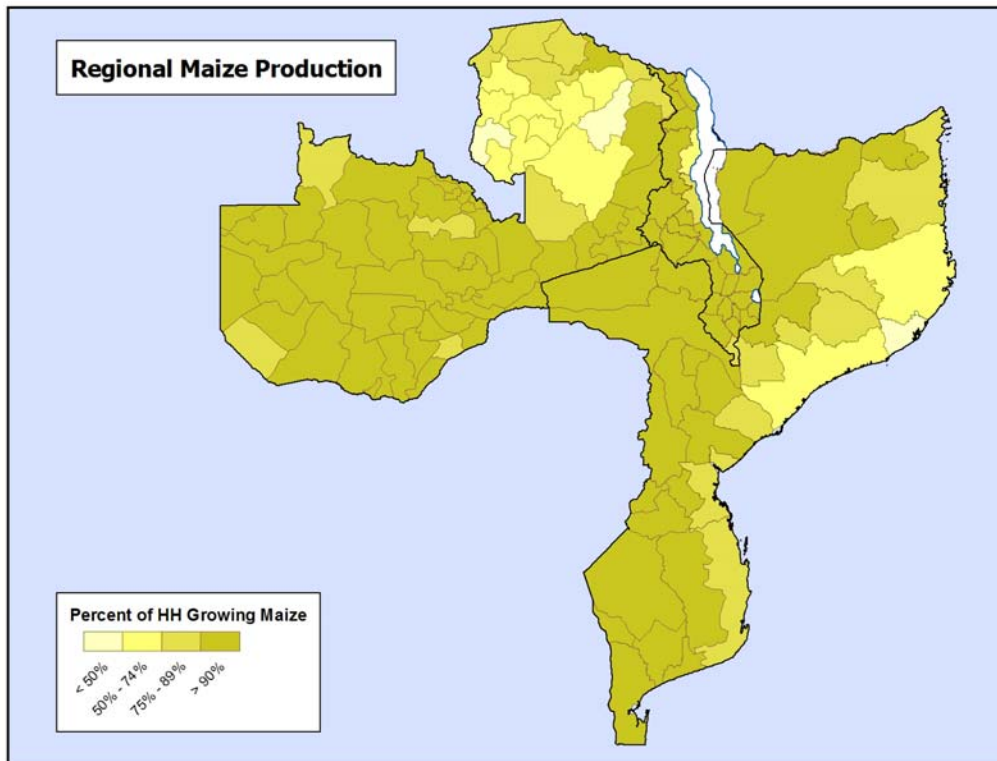
1. Cassava as a risk management tool

- Consumer substitution among food staples
- Seasonal and spatial price stabilization
- Feed substitution among carbohydrate sources
- Farm flexibility

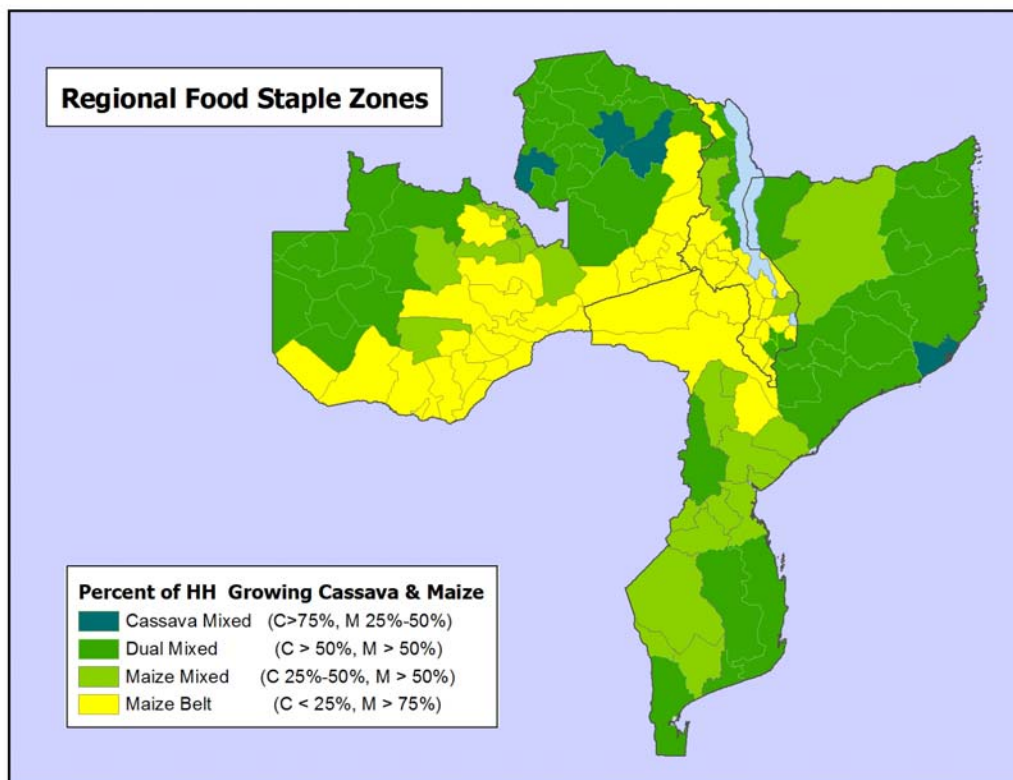
Cassava production



Maize production



Dual staple zones



Relative staple food prices

	Price cassava/ price maize
Cassava belt	0.5
Dual staple zone	.066
Maize belt	1.2

Consumer substitution in dual staple zones



Northern Zambia, a dual-staple zone

('000 tons of maize equivalents)	Dual staple zone	Maize belt	All Zambia
Cassava	270	12	282
Maize	376	525	901
Cassava plus maize	646	537	1,183

Cassava substitution during maize shortfall years in Zambia

30% fall in maize prodn	Closed border	Open border
Maize price	+163%	+36%
Poor household consumption (‘000 tons of maize-equivalents)		
Maize	-100	-43
Cassava	+43	+11
Total	-57	-33

Source: Dorosh, Dradri and Haggblade (2007)

Flexibility of cassava calendars

	2009					2010												2011																
	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O							
1. Early planting																																		
a. 12-month cycle	PLANT	→										HARVEST DRY																						
b. 18-month cycle	PLANT	→												HARVEST FRESH																				
c. 24-month cycle	PLANT	→															RATOON	→					HARVEST DRY											
2. Late planting																																		
a. 12-month cycle						PLANT	→										HARVEST FRESH																	
b. 20-month cycle						PLANT	→															HARVEST DRY												

Seasonal and spatial price arbitrage



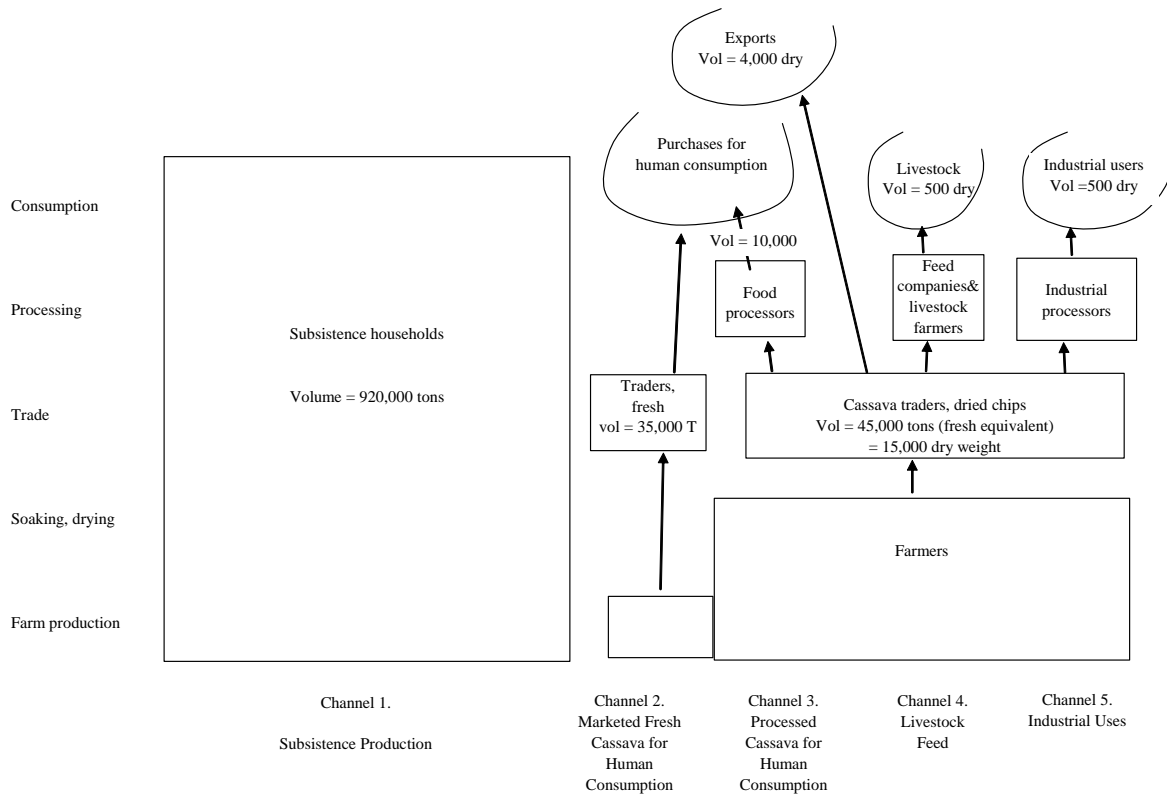
Insights from cassava value chains

1. Risk management

**2. Differences in cassava commercialization:
West vs. Southern Africa**

3. Bottlenecks

Zambia's cassava value chain



Channel 1. subsistence production



Channel 1. subsistence production



Channel 2. Fresh sweet marketing



Channel 2. Fresh sweet marketing



Channel 3. Dried foods (chips and flour)



Channel 3. Dried foods (Gari)



Channel 4. Feeds



Channel 5. Industrial starches, sweeteners, ethanol



Channel 5. Industrial starches, sweeteners, ethanol



Differing cassava value chain structures

Channel	Malawi	Moz.	Zambia	Nigeria
1. Subsistence	73%		90%	20%
2. Fresh sales	20%		3%	20%
3. Dried foods	5%		5%	45%
4. Feed	1%		1%	10%
5. Industrial products	1%		1%	5%
Total	100%	100%	100%	100%

Insights from cassava value chains

1. Risk management
2. Regional differences in cassava commercialization
- 3. Bottlenecks to cassava commercialization in Southern Africa**

3. Bottlenecks to cassava commercialization in Southern Africa

- Scaling up processing technology
- Food safety
- Achieving critical mass of marketed volumes
- Managing seasonality
- Policy impediments

Scaling up processing technology



Scaling up processing technology



Food safety



Achieving critical mass



Managing seasonality



Policy impediments

	2004	2005	2006
FRA cassava purchases (tons)	570	2,550	2,400
FRA price (Kw/kg)	700	500	500
Market price (kw/kg)			300

Constraints and solutions

Constraints	Solutions
Scaling up processing technology	M.Sc. training in food technology
Food safety	M.Sc. training in food technology
Achieving critical mass in marketed volumes	Multiple, medium-scale processors
Managing seasonality	Processors grow 50% of input requirements
Policy impediments	Keep governments out of cassava markets!











Cassava starch factory, South Africa

