Sweetpotato value chain and the potential role for commercial fresh root storage in selected areas of Mozambique

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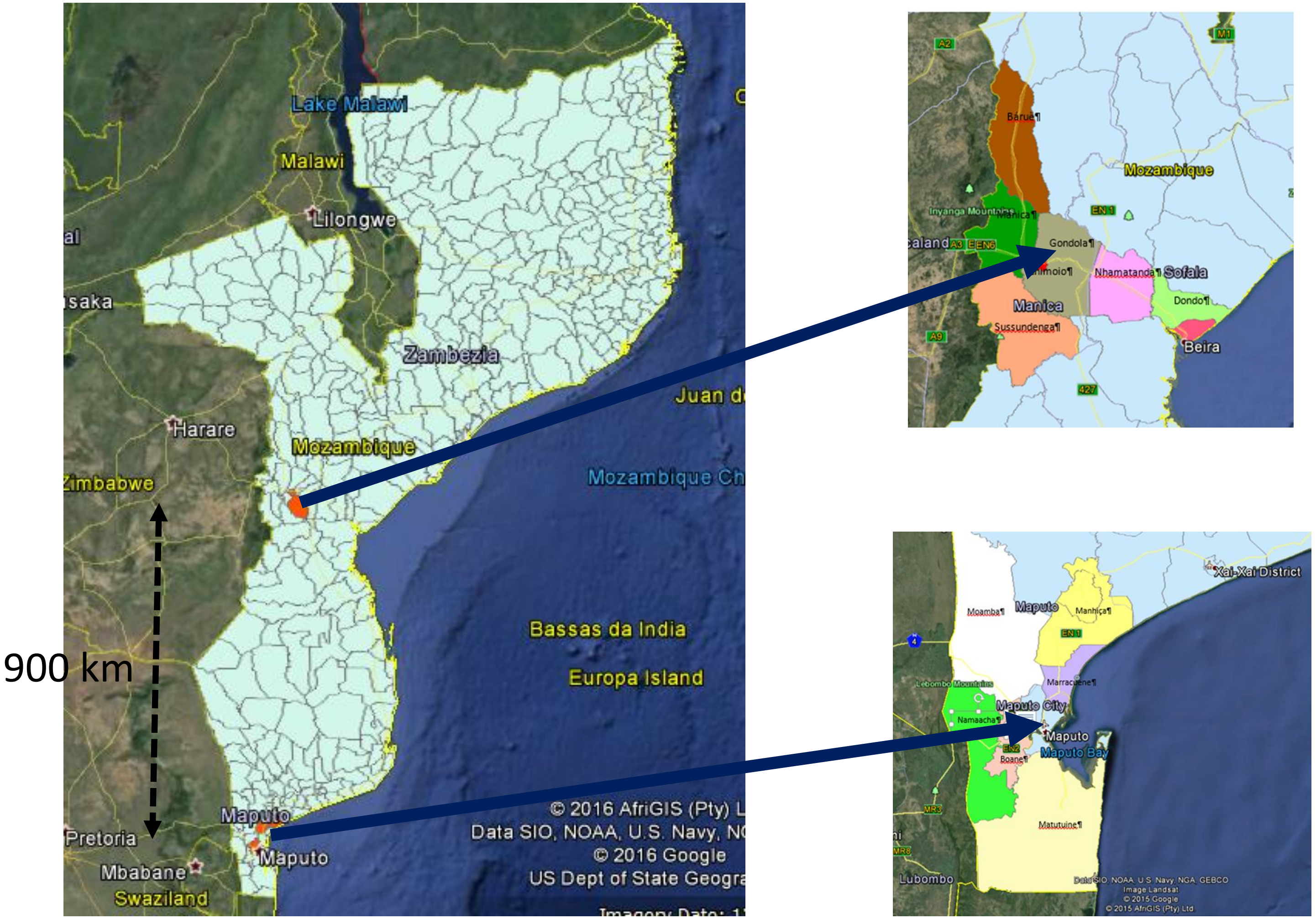
INTRODUCTION

OBJECTIVES, STUDY AREA AND METHOD

Objectives of the study

- Position sweetpotato in relation to other staple crops (i.e. cassava, maize, Irish potato)
- Describe the SP value chain in the provinces of Manica and Maputo.
- Use the value chain and root supply information to identify opportunities for establishing fresh SP root storage facilities.

Localization



Beira Corridor:

- Two provinces
- 10 districts
- 1.7 million inh
- Chimoio and Beira main urban markets
- Focus on Chimoio and Macate

Maputo corridor

- One province
- 6 districts
- 2.9 million inh
- Maputo/Matola main urban markets
- Focus on Maputo and Manhiça, Namaacha, Boane

Methodology

- Limited literature review
- SIMA "Quente Quente" – weekly market monitoring boletim
  - Cassava, maize, Irish potato and sweetpotato prices
- SIMA data collected for CIP in Maputo & Chimoio markets
  - WFSP/OFSP, prices from selected markets
- CIP data collected in Maputo markets
  - OFSP prices from selected markets, varieties and origins, margins
- Individual and group interviews with actors in Manica and Maputo
  - Modus operandi, prices, costs, seasonality, agents

	Provinces	
	Maputo	Manica
Farmer focus group	X	X
Individual farmer	XXXX	XXX
Retailers	XXXXXXXX	XXX
OFSP Processors		X
Extn & NGO		XXX
Urban consumers	XX	
Total=25	14	11

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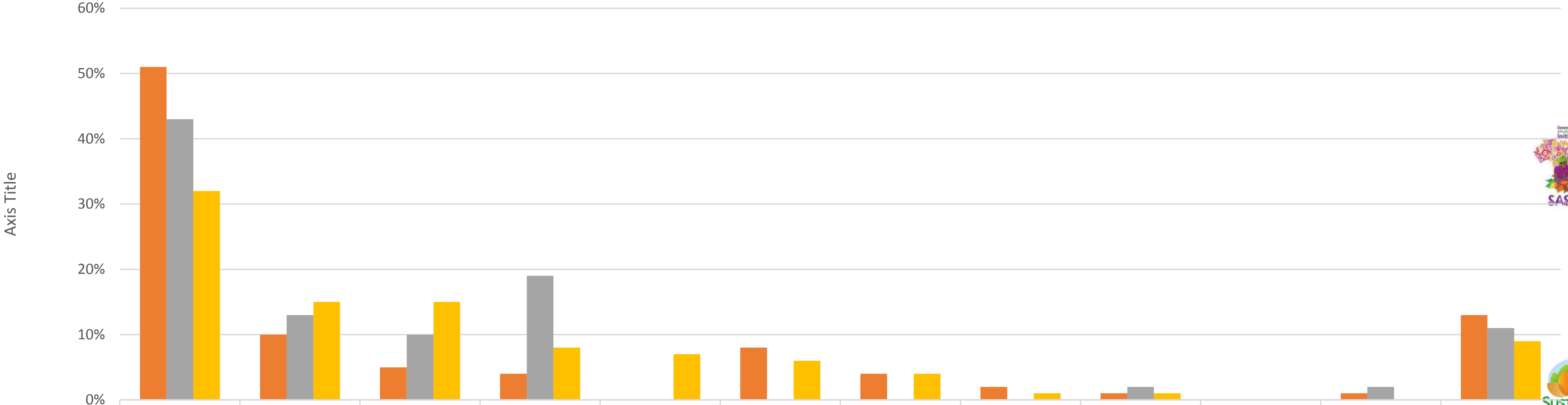
THE SWEETPOTATO VALUE CHAIN

R&D, PRODUCTION, COMMERCIALIZATION AND CONSUMPTION

Percent distribution of area of crops Manica, Maputo and Mozambique (TIA, 2012)



	Maize	Beans	Cassava	Peanut	Rice	Sorghum	Cotton	Millet	WFSP	Irish potato	OFSP	Other
Manica	51%	10%	5%	4%	0%	8%	4%	2%	1%	0%	1%	13%
Maputo	43%	13%	10%	19%	0%	0%	0%	0%	2%	0%	2%	11%
Country	32%	15%	15%	8%	7%	6%	4%	1%	1%	0%	0%	9%

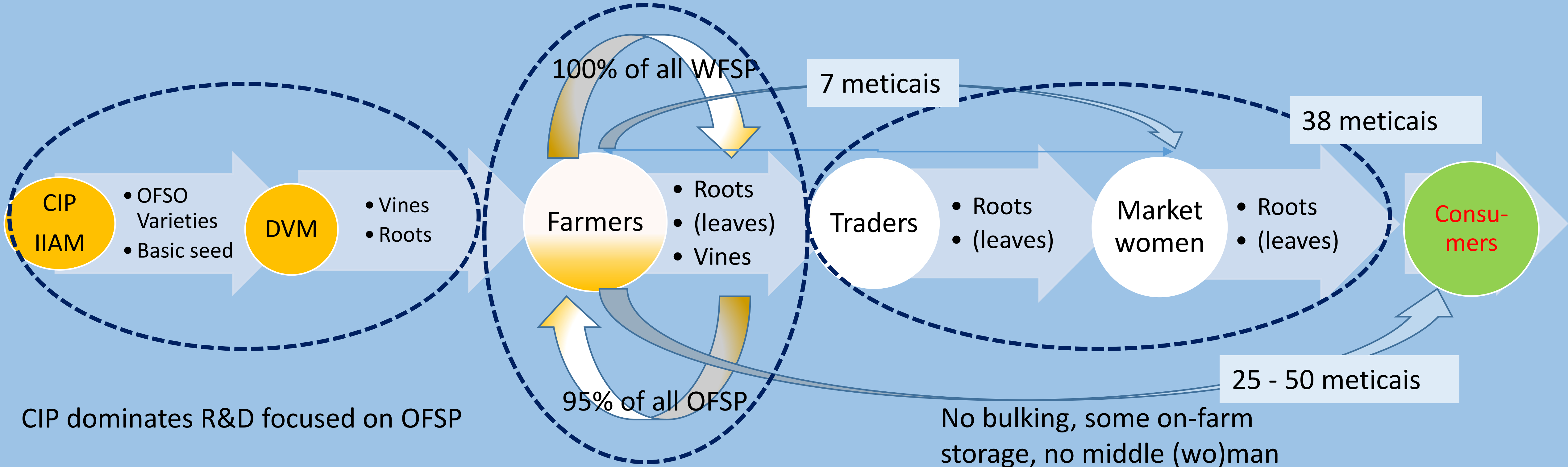
Production: Manica 150,000 ton and Maputo 54,000 ton, all smallholders

Estimated annual SP consumption of SP in Maputo

	Number of meals with SP				Total
Stated frequency (number of meals)	Less than one per month	Up to one per week	Up to one per day	More than one per day	
Converted to meals per year by central value	12/2= 6 meals/year	(12+52)/2=32 meals/year	(52+365)/2=209 meals/year	365*2=730 meals /year	
Percentage of 1.2 million people	30%	35%	25%	9%	100%
Tonnes assuming 0.1 kg per capita per meal (0,2 kg)	216 (432)	1,344 (2,688)	6,270 (12,540)	7,884 (7,884)	15,714 (31,428)

Own production: about 24% of population grows SP, so that estimated demand is between 11,000 and 24,000 tonnes per year.
Comparison: Total IP demand is 677,000 tonnes per year. For Maputo (1.2M inhabitants) that would mean roughly 36,000 tonnes per year, so SP is between one and two thirds of IP market in Maputo.

SP Commodity Chain in Mozambique



CIP dominates R&D focused on OFSP

Farmers dominate seed system

No bulking, some on-farm storage, no middle (wo)man

LAYERED SPACE: Markets in Maputo City

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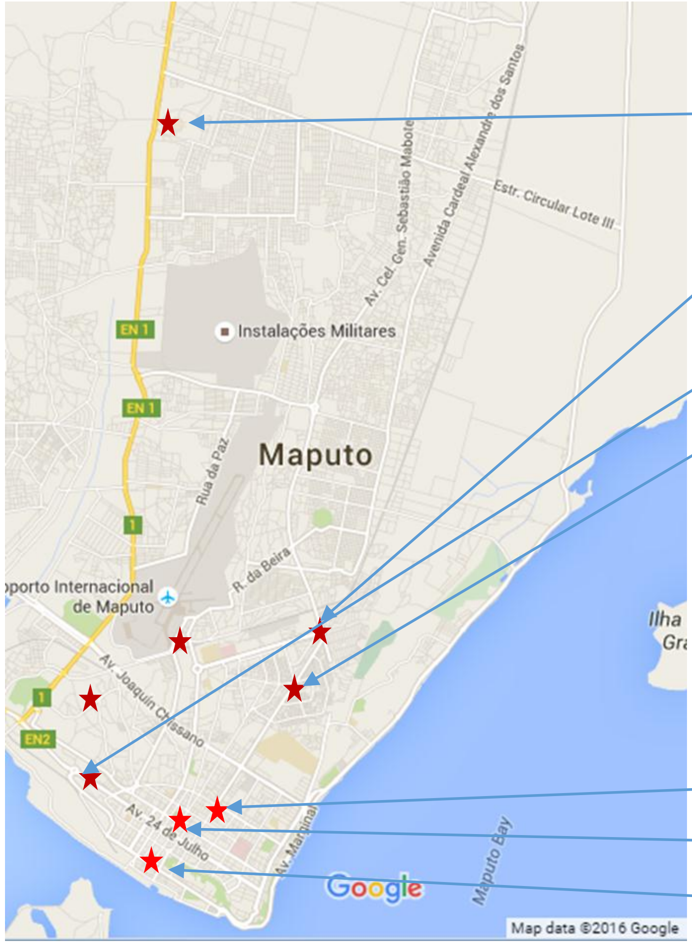


"Peri-urban"
- Zimpeto
- Aeroporto
- Xiquelene
- Xipamanine
- Malanga/Fajardo
- Compone

Market	N	Mean
Urban	71	38,09
Peri urban	59	17,85

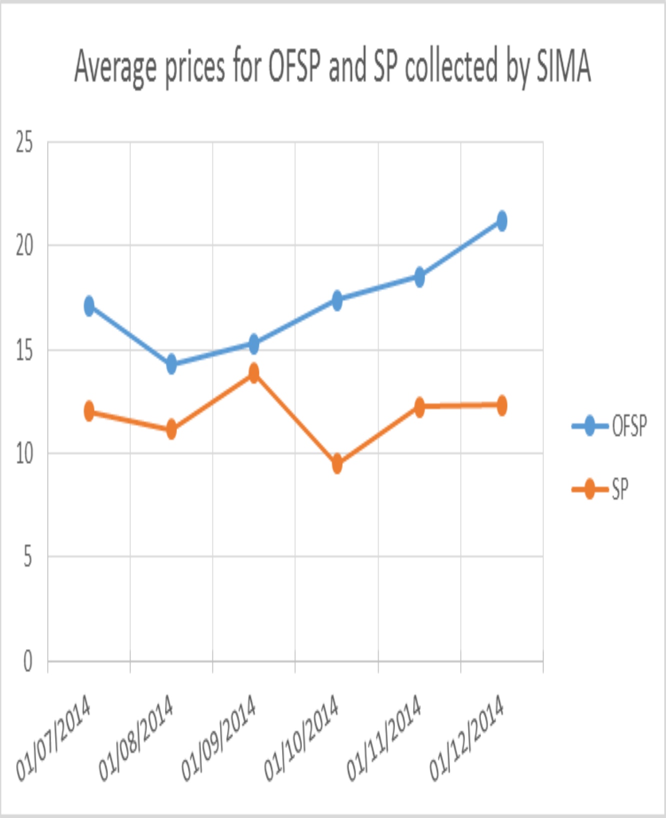
"Urban"
- Janete
- Do Povo
- Central

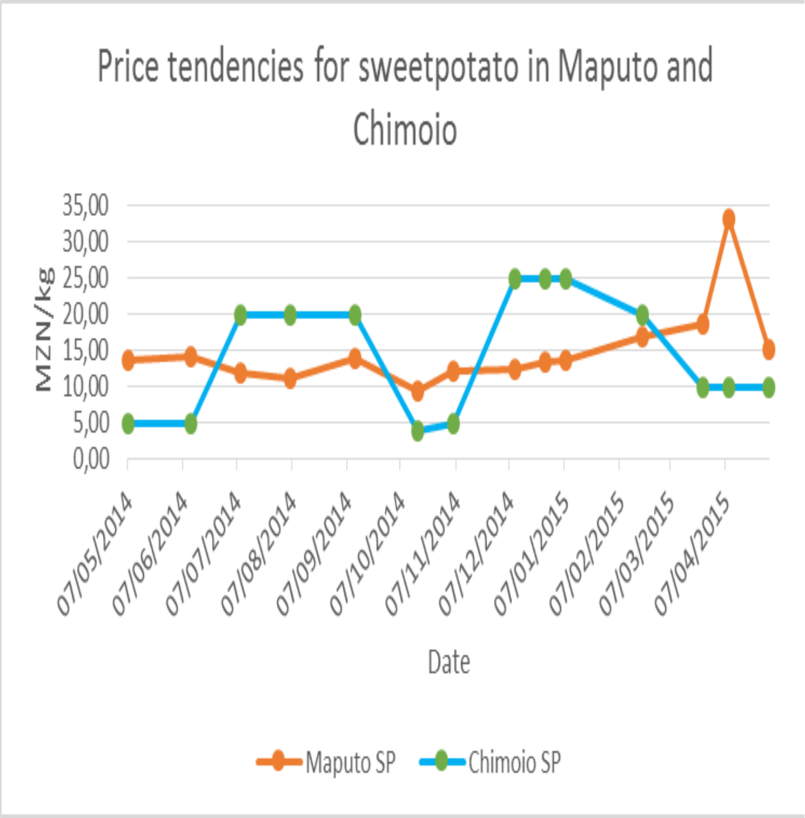
Area of origin	Type of market where sample was taken (percentage)		
	Urban	Peri-urban	All
Albazine	2%	0%	1%
Boane	3%	2%	3%
Bobole	10%	0%	6%
Chokwe	2%	0%	1%
Unknown	20%	12%	16%
Gaza	2%	2%	2%
Inhambane	2%	0%	1%
M. Fajardo	8%	0%	5%
M. Xiquelene	2%	0%	1%
M. Zimpeto	10%	0%	6%
Macia	2%	14%	7%
Manhica	31%	56%	41%
Maputo	2%	0%	1%
Marracuene	5%	5%	5%
Xai-Xai	2%	9%	5%
Total	100%	100%	100%

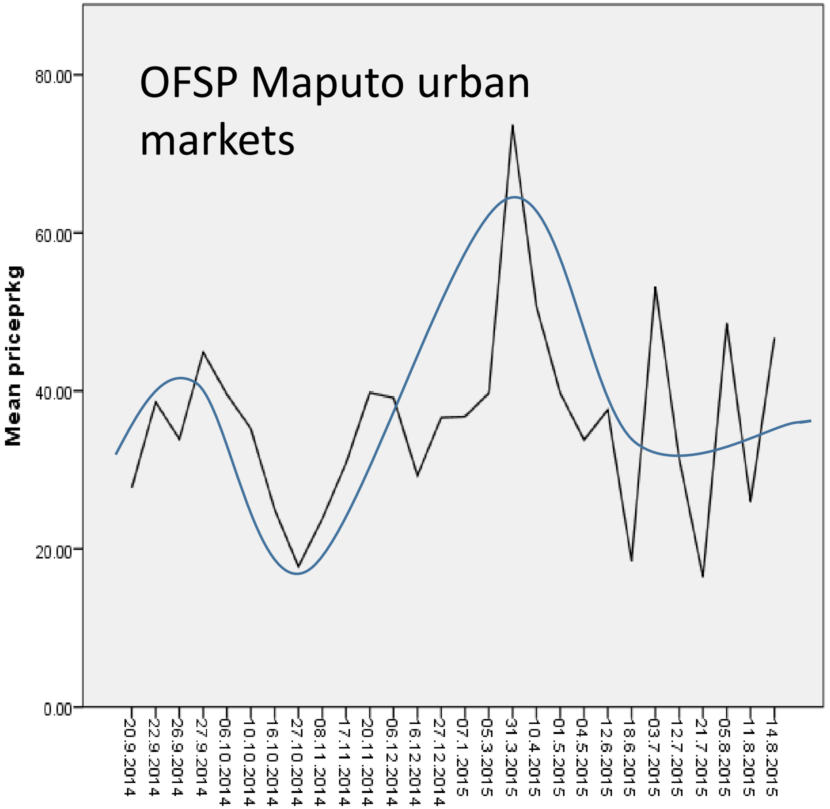
PRICES AND VARIATION

DIFFICULT DATA AND DISTRIBUTION OF BURDENS AMONG ACTORS

Variation in price on the basis of statistics







- Price influenced by season and by inflation
- Variation of between 30 and 60%; higher at farm level
- SIMA's published prices for Chimoio 4x too high: difficult data!

ADDITIONAL OBSERVATIONS

- WFSP and OFSP sellers

Market	# selling SP	# selling OFSP	% OFSP retailers	Data count
Xiquelene	17	1	6%	05/05/2015
Central	13	7	54%	10/04/2015
Central	12	6	50%	01/05/2015
Fajardo	8	2	25%	??
Zimpeto	8	4	50%	06/05/2015
Zimpeto	7	5	71%	26/03/2015
Fajardo	6	2	33%	28/03/2015
Janete	6	3	50%	31/03/2015
Janete	5	2	40%	04/05/2015
Xiquelene	4	1	25%	31/03/2015

- Pricing factors
  - Position in the commodity chain
  - Type of market (urban/peri-urban)
  - Colour (in Maputo)
  - Root size
  - Season
  - General depreciation of the currency (trends in food prices)
  - Price fluctuations are supported by farmers and consumers as traders negotiate price.

NB: Per kg price is manipulated by traders who change the size and composition of the piles

STORAGE

INITIAL OBSERVATIONS ON OPPORTUNITIES AND CONSTRAINTS

OPPORTUNITIES

- Mitigation against seasonal price variation
- Empowering farmers who currently support most of the burden of seasonal price variation in their dealing with traders
- Development of processing in Manica (and elsewhere?) will require more stability in supply
- Quality increase through grading and curing linked to storage may make it possible to start supplying to higher profile outlets such as supermarkets
- Storage facilities allow for achieving economies of scales through bulking that are not realized now as there is no middle (wo)men
- Improved protection from post harvest los due to rodents, SP abuse, etc.

THREATS

- Increasingly less reliable power grid plus costs of connection are supported by the client (distance!)
- Costs of storage will affect consumer price excessively
- The rate of return on investment in storage may be lower than that on investment in irrigation
- Farmers prefer to be paid immediately on harvest
- Consumers like to receive roots freshly from the ground with sand so they know that they roots have not been damaged during cleaning
- The maximum willingness to pay is probably what people currently spend on on-site storage at markets (4 meticais per kg per month)

OPTIONS FOR THE FUTURE

Financial analysis of capital and operation costs suggest that with the estimated willingness to pay Plan A storage is viable.

However, alternatives were developed which need to be tested and partners need to be engaged

- Maputo
  - Plan A: Mariza company with outgrowers in Mafuiane (50 km from Maputo)
  - Plan B: Oliveira farm feeding COMPAL juice factory in Umbeluzi (30 km from Maputo)
  - Plan C: Mata SP trading operation in Manhiça (70 km)
- Manica
  - Plan A: ZebraFarm with outgrowers in Vanduzi (40 km from Chimoio)
  - Plan B: Independent business with outgrowers in Vanduzi (40 km from Chimoio)

CONCLUSIONS

- SP markets exist, are significant but small compared to other Staples
- About one third of the production goes to the market
- Supply and trade are dominated by small scale informal operators
- Climate induced seasonal variation leads to variation in price which affects mostly the producer, while the traders maintain their margins
- Storage will empower producers and offer a more steady supply to the market
- Even though there are threats storage appears a viable investment with alternative options available


ASSANTE SANA