

Improving the Performance of Staple Markets to Exploit the Productive Potential of Smallholder Agriculture



T. S. Jayne, A. Chapoto, and B. Shiferaw

AGRA Conference on “Towards Priority Action for Market Development for African Farmers,”
Nairobi, Kenya, May 13-15, 2009

Organization of presentation:

1. What is the problem?
2. Objectives
3. Underappreciated “empirical regularities” of small farm agriculture in Africa
4. Policy implications
5. Elements of the way forward

What is the problem?

1. Stagnant agricultural productivity growth
 - ❑ Inelastic demand – limited ability to absorb surplus production
 - ❑ Supply expansion causes price drops → disincentives to farmers to adopt productivity-enhancing technologies
2. Poor infrastructure, weak market institutions and high marketing costs leading to low producer prices and high consumer prices
3. Limited coordination between public and private sectors in food markets
4. Discretionary government intervention that distorts market functions
5. More frequent food crises and continued price instability

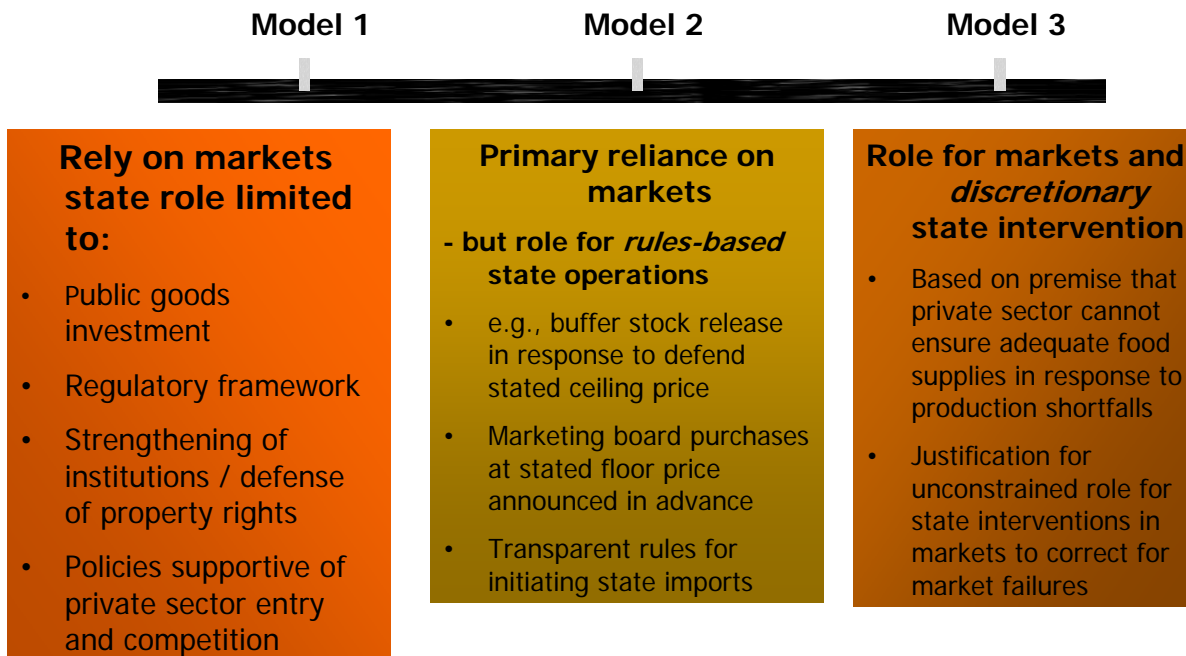
Objective

1. To review experiences and identify what has worked, what hasn't, and why
2. To suggest strategies and policies that can sustainably promote:
 - Smallholder farmers' access to markets,
 - Reduce marketing costs and risks, and
 - Expand market demand, so as to sustain smallholders' investments in productivity-enhancing seed, fertilizer and other technologies
 - Better coordination of public and private efforts in making markets work for African farmers

Current thinking on “strategy”

- Emerging coalition for “big push” agricultural strategy
 - e.g., CAADP, AGRA, BMGF, CGIAR, FARA
- Strong consensus about need for greater investment in public goods (infrastructure, extension, crop science)
- Role of markets for agricultural transformation in Africa is not fully recognized or understood
- Major debate with regard to what constitutes the right “enabling environment”
 - Can reliance on markets and private sector work?
 - Food price support/stabilization
 - Input subsidies

Competing models of roles of state and private sector in food markets:



Informing the debate

- Many of the debates about the “right” strategy can be informed by a solid empirical understanding of how rural economies and markets work
- Staple food market studies show certain empirical regularities with significant policy implications

Underappreciated conditions about African Agriculture

1. Farm sizes are declining → huge land disparities → many smallholders unable to produce a food surplus
2. A focus on helping small farmers grow more grain alone will be inadequate to reduce poverty in most of the region → diversification into higher-return activities will be crucial
3. Most farmers in the region are buyers of staple cereals → directly hurt by higher grain prices
4. “Market liberalization” -- inaccurate description of situation in E&S Africa

Fact #1

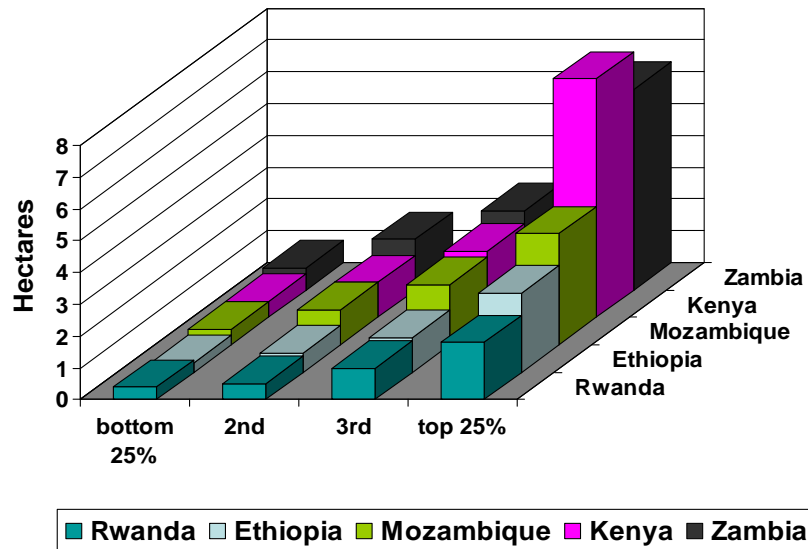
- Emerging land pressures are generating fundamental challenges for poverty reduction and investment strategies in many densely populated regions

Cultivated land per agricultural person (hectares)

	1960-69	1979-79	1980-89	1990-99	2000-06
Ethiopia	0.51	0.45	0.36	0.25	0.20
Kenya	0.46	0.35	0.28	0.23	0.22
Mozambique	0.39	0.37	0.30	0.25	0.31
Rwanda	0.22	0.21	0.20	0.16	0.20
Zambia	1.37	1.07	0.90	0.78	1.18
Zimbabwe	0.73	0.66	0.58	0.53	0.43

Source: FAO Stat database : www.faostat.fao.org

Farm size distribution: Small farm sector



Source: Jayne, Mather, Mghenyi, 2006

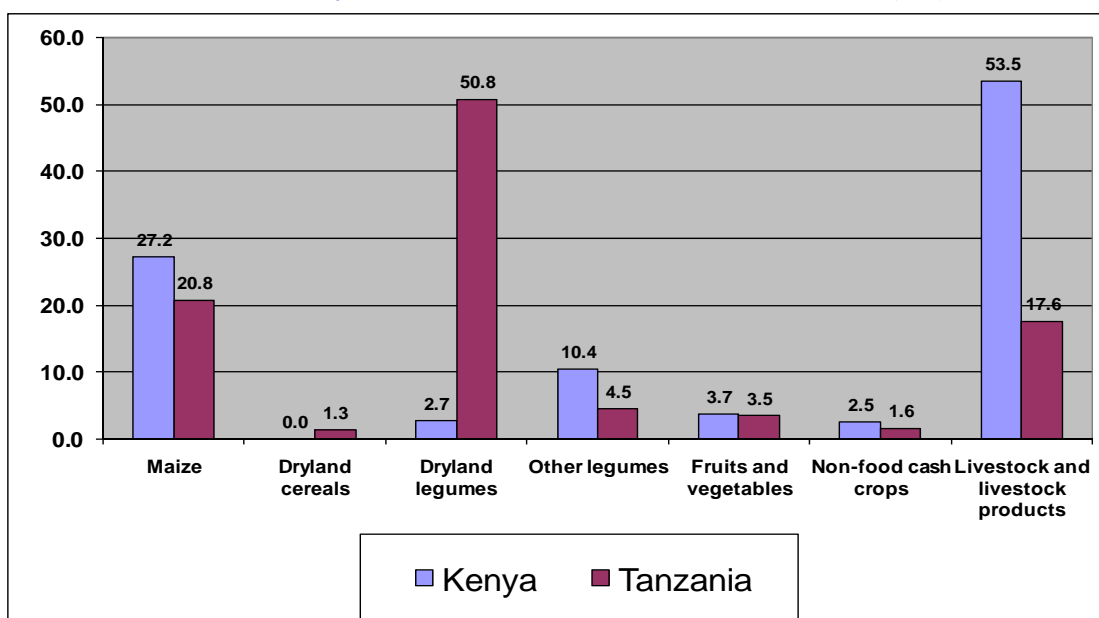
Fact #2

- ❑ Farm sizes in many countries are too small for traditional grain-based productivity growth to lift most rural households out of poverty
- ❑ Intensification using land-augmenting inputs, irrigation and diversification into higher-return activities will be crucial
- ❑ This transition to high-return activities is already occurring on small farms in areas with better access to markets and technology
- ❑ Reliable markets for staple foods will facilitate the transition to other crops and non-farm activities

Role of maize in farm sales revenue is declining (share of gross sales revenue -%)

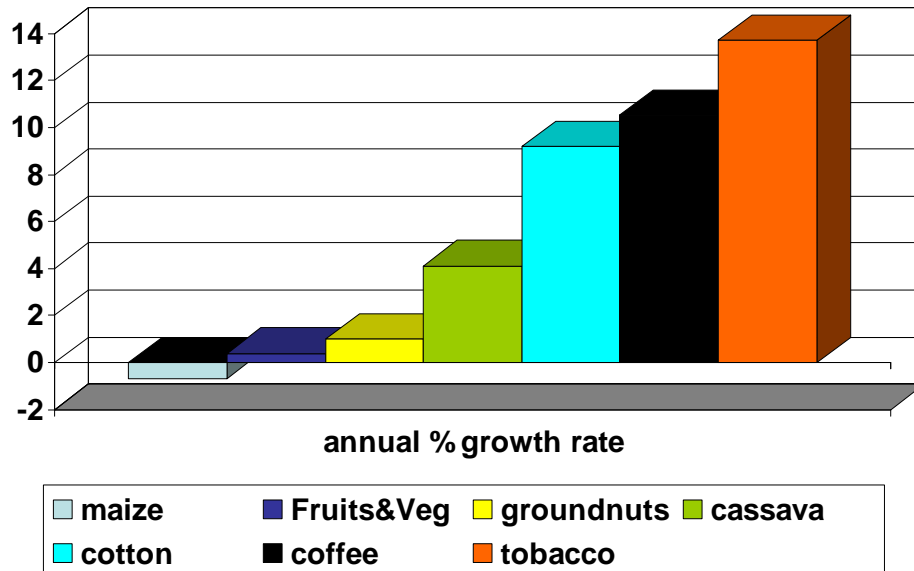
	Maize	Other grains/ beans/ oilseeds	Non-food cash crops	Fruits - vegs	Animal products
Kenya	13.3	7.9	34.0	14.7	26.7
Malawi	32.3	11.8	44.9	na	na
Mozam	13.8	9.3	16.9	30.4	23.4
Zambia	28.2	7.7	16.7	27.5	14.7

Sources of agricultural cash income in dryland Eastern Kenya and northern Tanzania (%)



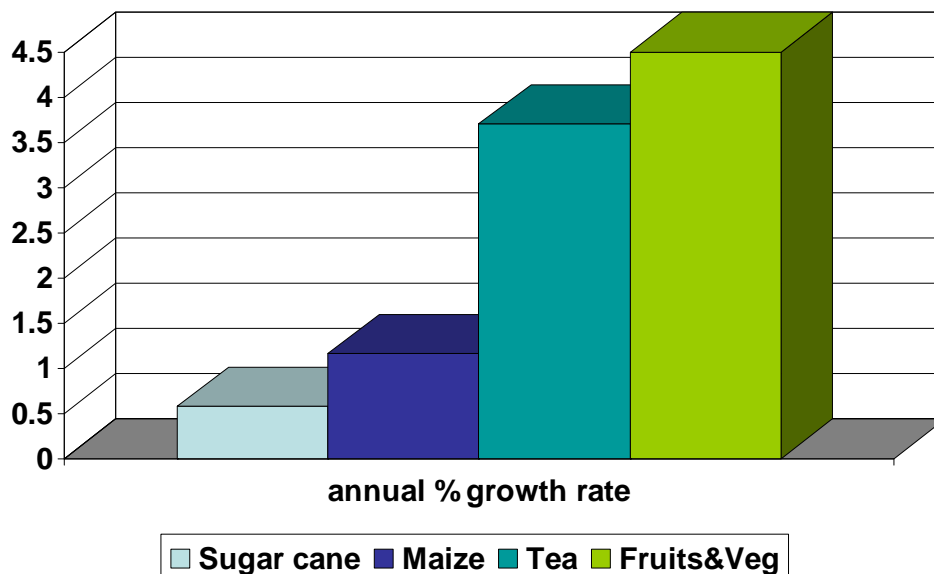
Source – ICRISAT Survey, 2005/06

Annual production growth rates, 1990-2007- Zambia



Source: FAOstats, May 2009

Annual production growth rates, 1990-2007- Kenya

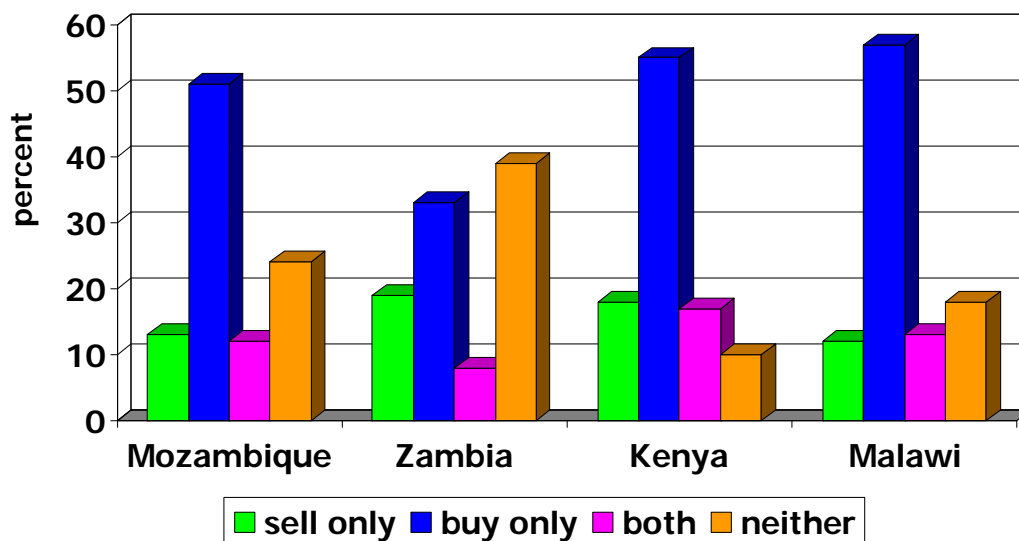


Source: FAOstats, May 2009

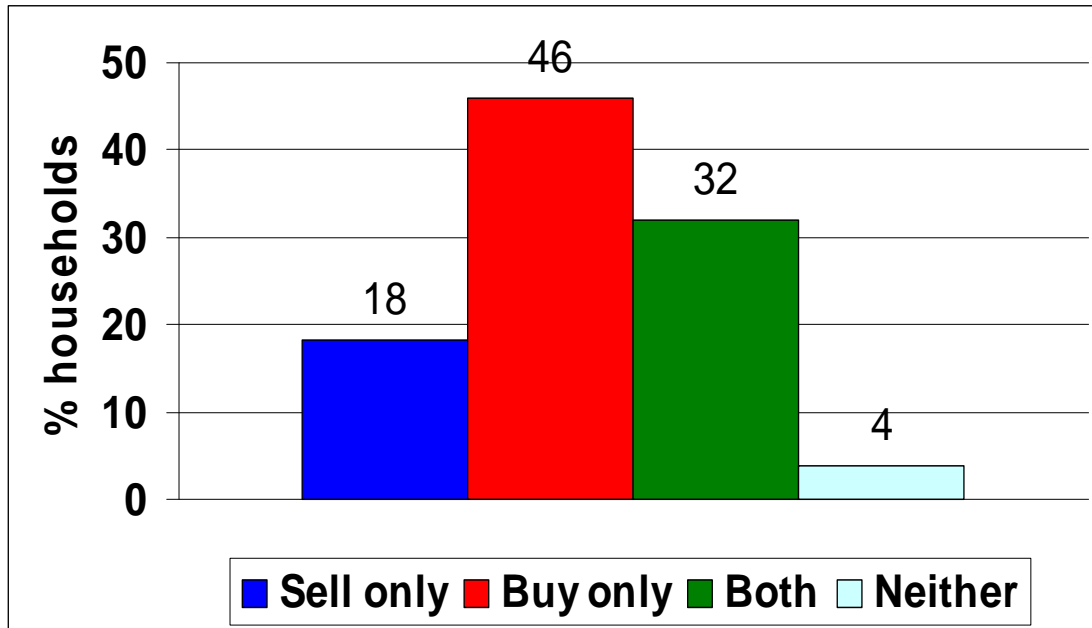
Fact #3

- ❑ Most rural farm households are buyers of maize (or net buyers)
- ❑ Highly concentrated patterns of surplus generation - 2% of farm households account for 50% of marketed maize surplus (e.g. Kenya, Mozambique, Malawi, Zambia)
- ❑ Efforts to link farmers to markets need to recognize this disparity and inequality in productive assets
- ❑ How would market development and integration for wide range of food crops affect net buyers?

Smallholder Households' Position in the Maize Market



Grain Market Participation in Semi-Arid Eastern Kenya (N=400), 2005/06



Source: 2005 ICRISAT Survey

Fact #4

- Major misunderstanding of the staple food and input market policy environment
 - “liberalization” – a misnomer
 - marketing boards continue to play major role in food and input markets
 - For maize marketing boards handle 15-57% (Kenya), 3-32% (Malawi), 11-45% (Zambia) – **Jayne et al. 2005**
 - discretionary use of trade policy instruments and policy uncertainty that affects incentives for private sector participation and investment

Policy responses to rising food prices in COMESA and ASARECA countries, 2008

	Number of countries
Reduce taxes on food grains (+ +)	7
Price controls/ consumer subsidies (- +)	4
Fuel subsidies (+ -)	1
Increase supply using food grain stocks (+ -)	4
Increase supply via imports (+ +)	2
Export restrictions (- -)	4
Cash transfer (+ +)	4
Food for work (+ +)	4
Food ration/ stamp (+ -)	4
School feeding (+ +)	5

(+ +) Consistent with long run policies to improve food security

(+ -) Some concerns for food security;

(- +) Likely to hinder food security

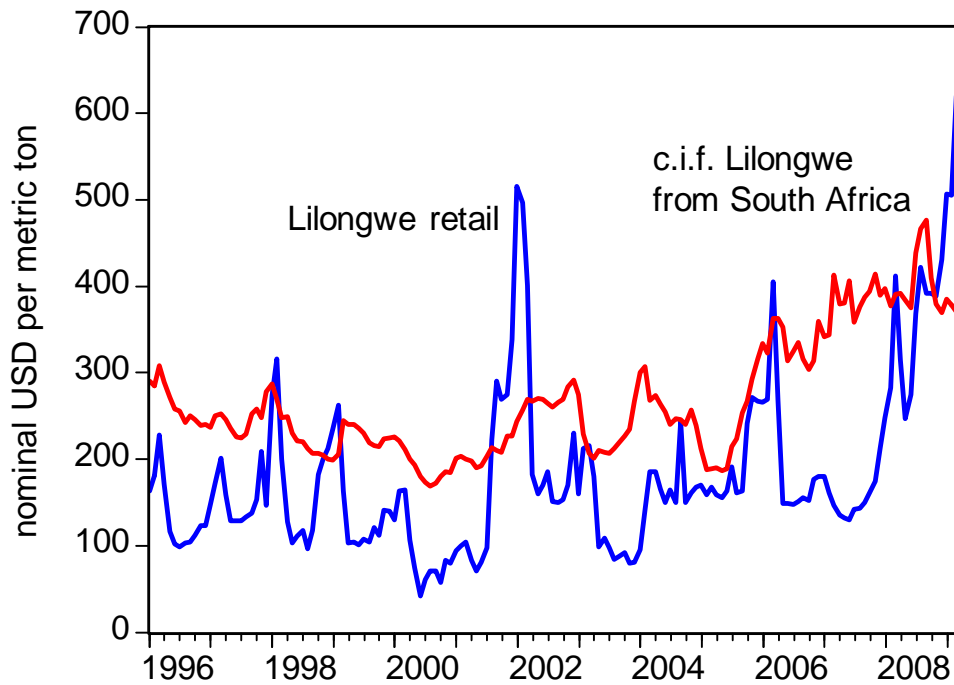
(- -) Highly likely to hinder food security

Source: World Bank, 2008

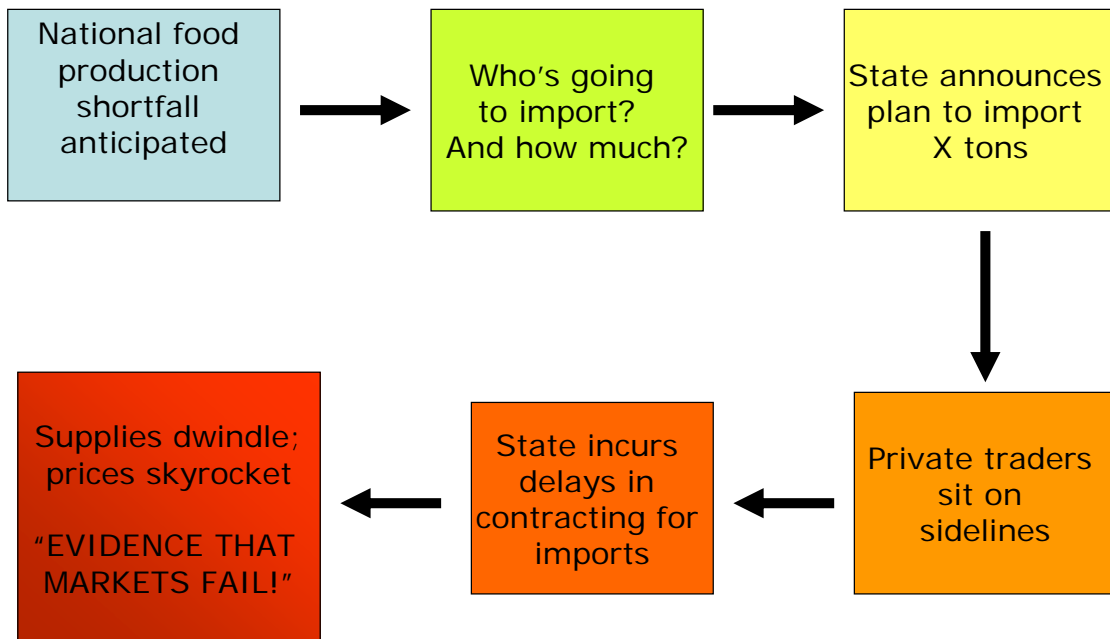
Sources of Policy Unpredictability

- ❑ Export bans, import quotas (year to year & within year)
- ❑ Uncertainty over changes in import tariff rates
- ❑ When and where will marketing boards enter the market, at what price?
- ❑ All of these sources of unpredictability impede private traders' servicing small farmers' needs
- ❑ Conclusion: Price uncertainty is very high in the "liberalization" era,

Maize prices vs. import parity – Lilongwe, Malawi



Market failures are often caused by government failure



The Way Forward

It is useful to distinguish between:

- “*first-order*” marketing improvements – which are fundamental pre-conditions for farm productivity growth to occur – and
- “*second-order*” improvements, which will support small farmer productivity growth as long as the fundamental *first-order* issues are meaningfully addressed, but which will have only limited impacts if they are not.

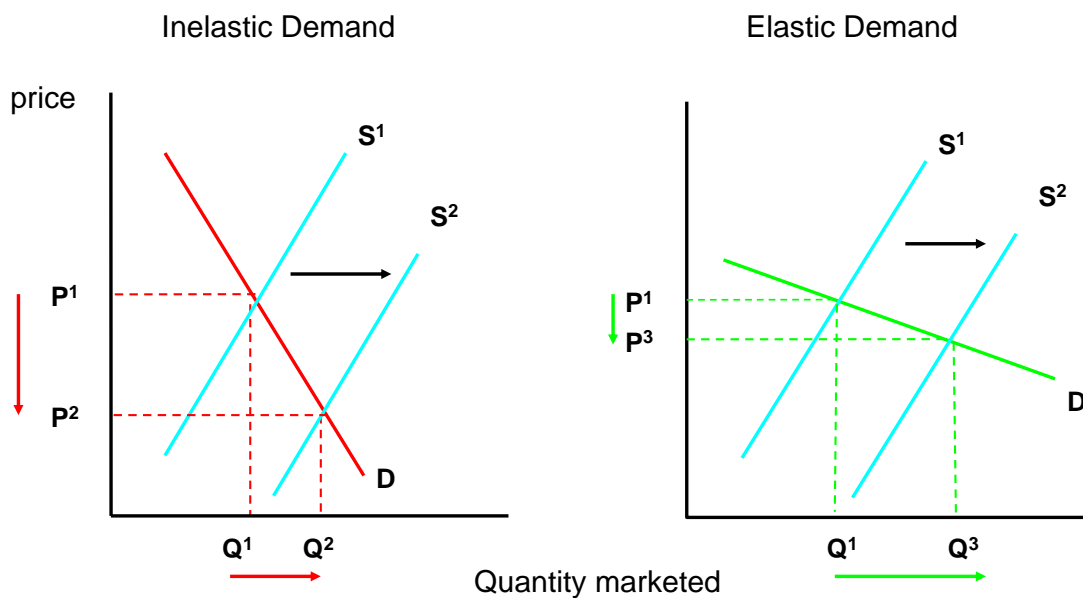
The Way Forward (2)

- The fundamental *first-order improvements* revolve around getting the critical middle stages of staple food value chains moving – the wholesaling and processing stages.
 - A competitive wholesaling stage of the value chain tends to **give rise to greater investment at the first-buyer** (assembly) stage who buy direct from farmers.
 - Wholesalers are an **important source of financing** and contracting that enable assemblers to more aggressively compete for farm surpluses early in the season when prices are low.
 - These kinds of developments help to reduce the magnitude of price gluts.

The Way Forward (3)

1. Take actions to make the demand for grain staples more elastic
 - to ensure that prices don't plunge when supply expands (good years or farmers adopting new technology)

Problems with Supply-Driven Production Expansion



Strategies for Demand Expansion (1)

- **Increase market integration:** Physical & transport infrastructure development to
- **Diversification of food consumption** patterns
- **Seasonal finance for traders:** to improve traders' capacity to absorb surplus production. Current problem:
 - lack of seasonal finance market
 - underdeveloped market institutions (e.g. WRS)
 - weak or lacking farmer organization to improve economies of scale in delivery of services
 - inadequate private storage in urban and rural areas
- **Storage facilities** - Increasing the incentive for investment in commercial storage. For example:
 - turning some grain marketing boards silos and go-downs into storage leasing operations.
 - resolving the future uncertainty of marketing board's role in grain markets.

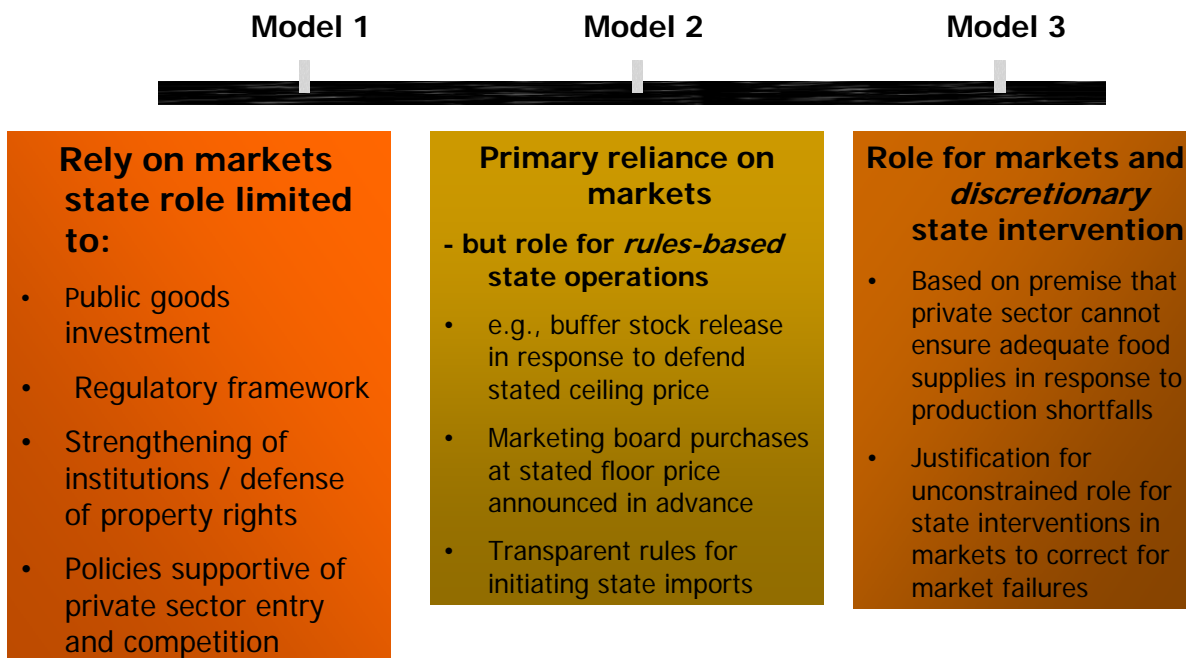
Strategies for Demand Expansion (2)

- **Embracing regional trade** to expand size of market, reduce price instability, and mitigate local production shocks via linking areas with covariate production
- **Streamlining regulations and trade policy** to help capture the benefits of trade
- **Work with WFP and bilateral food aid donors** to develop mutually beneficial policies toward food aid (and subsidized non-commercial imports)
- **...Most of these factors are influenced by government policy and investment**

The Way Forward (4)

2. Government and private sector should embrace market-based risk management instruments
 - Freely exchanged financial contract that allows parties on one or both sides of the exchange to reduce their risk exposure and/or to alleviate its consequences. For example:
 - Trader finance/credit markets,
 - commodity linked finance,
 - warehouse receipt systems,
 - commodity exchanges,
 - futures and options contracts
 - rainfall indexed crop insurance
 - Provision of public goods (market infrastructure) and better institutions (market rules and regulation) will help expand use of the market-based risk management instruments

Competing models of roles of state and private sector in food markets:



What is the right strategy?

- ❑ Poulton et al (2006) note that there is no credible government commitment to Model 1 (**full liberalization**), hence Model 2 (**markets with rule-based state operations**) is preferred
- ❑ However, questionable whether Model 2 could be perceived as credible either
- ❑ Many countries believe that when it comes to food security only self-sufficiency - not open borders - will offer the lasting solution.
- ❑ With low level of trust and commitment problems, Model 3 (**ad-hoc interventionism**) is likely to become the long-run equilibrium
- ❑ Model 3 has in fact become the dominant model among the main maize-producing countries in the region

Conclusions

- Improved government-private coordination to improve markets and reduce price instability
- Clearly defined and transparent rules for triggering government intervention
- Greater role for rule-based public sector participation in less-favored areas with poor market access
- With increased investment in market infrastructure and institutions, model 2 can be a preferred strategy
- Promote supply chain development for a wider set of crops
- Need for complimentary investments that catalyze growth and generate marketable surplus.
 - E.g. Public investment in research and technology diffusion (HYVs, Hybrids, Soil fertility, Irrigation, Extension, Improved farmer management, Producer organization and Capacity building)



Thank You