Modernizing Africa’s Fresh Produce Supply Chains without Rapid Supermarket Takeover

Towards a definition of Research and Investment Priorities

David Tschirley
MSU Food Security Group
Presented August 11, 2010 at Bill & Melinda Gates Foundation
Seattle

- Slow growth and long slog for supermarkets
  - So how to invest productively in the chaotic “traditional” sector?
- Farm level marketing
- Downstream structure and issues
- Prices
- Process of change
#1: Supermarkets will not dominate for many years

- Are present and will grow as economies modernize
- But growth in fresh produce market share has been very slow
  - Little if any apparent change in Nairobi from 2003 to 2009

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### Fresh produce market share of retail channels by income quintile, Nairobi 2009 & urban Zambia 2007/08

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Source: Tegemeo/MSU urban household expenditure survey, 2009

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**Still nearly 80% at top quintile**
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#### Less dependent on top, but lower overall

Still 85% at top quintile

Source: Tegemeo/MSU urban household expenditure survey, 2009

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#1: Supermarkets will not dominate for many years

- The 20/20/20 Challenge
  - Across most of the continent, fresh produce sales by supermarkets will have to grow:
    - 20% in real terms
    - For 20 years
    - To reach a 20% market share
  - 14% per year in Zambia and Kenya
- So must focus on how to improve the currently chaotic “traditional” sector

#2: Sales are highly concentrated

**Share of fresh produce sales by quintile of sales**

- 3%-4% of rural hhs in Zambia, Mozambique, 15% in Kenya
#3: Except for Kenya, hort not playing major role for land constrained farmers

Share selling ffv and maize, by quintile of land holding

**ZAMBIA**

![Graph showing share selling ffv and maize in Zambia by quintile of land holding.]

**MOZAMBIQUE**

![Graph showing share selling ffv and maize in Mozambique by quintile of land holding.]

Except for Kenya, hort not playing major role for land constrained farmers.
#3: Except for Kenya, hort not playing major role for land constrained farmers

Share selling ffv and maize, by quintile of land holding

**KENYA**

![Graph showing share selling FFV and Maize by quintile of land holding in Kenya.]

Mean earnings from FFV sales, among sellers, by quintile of land holding

![Graph showing mean earnings from FFV sales among sellers by quintile of land holding in Zambia, Kenya, and Mozambique.]

- Except for Kenya, horticulture is not playing a major role for land-constrained farmers.
Why is Kenya different?

- Hypotheses
  - Population density
    - access to markets
  - More off-farm income
    - cash to finance inputs, absorb risk
  - Higher input use in general
  - Higher education

#4: Hort does play role for those not selling maize

HH classification by sales behavior on maize and FFV
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HH classification by sales behavior on maize and FFV

![Bar chart showing sales behavior distribution across Mozambique (Moz), Zambia, and Kenya.]

- **Desired Outcomes**: Identify the role of horticulture for those not selling maize.
- **Key Insights**:
  - **Moz** and **Zambia** have varying shares of households selling maize, FFV, or both.
  - **Kenya** shows a different pattern.

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#5: Supply chains are short (illustrated by Zambia)

**Tomato**

- Independent Rural Farm Sector (ZK110B, 97%)
  - ZK54B (44%)
  - ZK48B (39%)
  - ZK29B (24%)
- SOWETO (ZK97B, 79%)
  - Open Air Markets & Ka sector (ZK59B, 48%)
  - Institutional (ZK20.4B, 16%)
  - Outside Lusaka (ZK38B, 31%)
- FreshPikt & Rivonia (ZK9B, 8%)
  - Traders (ZK43B, 35%)
- Wholesale
  - Private HH (ZK2.9B, 2.3%)
- Retail
  - Modern Sector (ZK2.5B, 1.7%)
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**Rape**

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#5: Supply chains are short (illustrated by Zambia)
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**Onion**

- **Independent Rural Farm Sector (ZK28B, 39%)**
- **Malawi (ZK20B, 28%)**
- **South Africa (ZK20B, 28%)**
- **SOWETO (ZK69B, 97%)**
- **Open Air Markets & Ka sector (ZK28B, 39%)**
#5: Supply chains are short (illustrated by Zambia)

## Onion

- **Production:** ZK2.5B (3%)
- **Assembly/Processing:** ZK15B (21%)
- **Wholesale:** ZK26B (37%)
- **Retail:** ZK69B (97%)

## Supply chains are short

- Chains are bit longer in Kenya
  - More rural assembly
  - So more scope for shortening chain
#6: Wholesaling has decentralized with no strategic vision

- And little or no investment
- Far too little consultation and use of empirical information in many investment that have been made
- Maputo a partial exception
  - Zimpeto market … but clear emerging problems
  - Possible emerging Matola market
- Kenya may be on verge of bucking the trend
- Possibly the very beginnings of a process in Zambia for better planning

#7: Prices are highly unstable, driven by even more unstable quantities

**Measures of price variability at wholesale, Lusaka**

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- Very poor information flows
- Issue of brokers, how they operate, lack of any regulation
- Address these issues **before** trying to put in cold chains
Emerging conclusions/recommendations

- Hort not a silver bullet for land constrained farmers
  - But it can reach farmers who either cannot or do not sell maize
  - Need to examine this group more carefully

- Where chains are short (Zambia, Mozambique), focus on efficiency of wholesaling
  - Where they are longer (Kenya), may be payoff to more directly linking farmers to wholesale traders

- Must improve information flow in system
  - Incoming quantities
  - Signs of pest problems seen in markets
  - Extension to farmers
  - Regulatory changes a necessary condition for technology platforms (sms) to add value
Emerging conclusions/recommendations

- Soft infrastructure 1\textsuperscript{st}, hard infrastructure 2\textsuperscript{nd}
  - Legislative and regulatory frameworks
    - Rethinking public vs. private roles and facilitating this legislatively
    - The role of brokers
  - Information systems

- Wholesale 1\textsuperscript{st}, retail 2\textsuperscript{nd}
  - The opposite of what’s been done in Zambia
  - Maputo has some good lessons
    - But didn’t deal sufficiently with ownership/mgmt issues

Thank you