Wheat Global Value Chains, Global Corporations and Food Security in MENA

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Agenda

1. Global Value Chain (GVC) Approach and Project Overview
2. Wheat GVC and Food Security in the MENA Region
3. Country Cases in MENA
4. Global Corporations in Wheat Value Chains
5. Conclusion
GVC APPROACH AND PROJECT OVERVIEW
The GVC Approach

Top down – the global economy with a focus on lead firms and inter-firm networks, using varied typologies of industrial “governance”

Bottom up – a focus on countries and regions, which are analyzed in terms of various trajectories of economic and social “upgrading” or “downgrading”
Food Security in MENA Research Project

• Three-year project supported by US Dept. of Defense MINERVA Initiative for University-Led Research ([http://minerva.dtic.mil/funded.html](http://minerva.dtic.mil/funded.html))
• Rank food security of MENA countries
• Apply GVC approach to identify vulnerabilities and leverage points in key food commodities in MENA countries
• Identify risks in the chain and strategic options to improve food security
Key GVC Research Objectives

1. A detailed mapping of the actors in specific value chains in particular countries or regions.

2. An assessment of a country’s position in the GVC.

3. The identification of constraints and opportunities for value chain development leading to strategies to drive sustainable industry growth.
Methodology

• Value chain mapping
• Identification of global actors and institutions
• Country-level case studies: Egypt, Iran, Saudi Arabia, Syria and United Arab Emirates
• Comparative analysis of wheat GVCs and food security strategies in five countries
• GOAL: Use GVC framework to analyze MENA vulnerabilities & design more resilient food security strategies at the regional level
WHEAT GVC AND FOOD SECURITY IN THE MIDDLE EAST AND NORTH AFRICA
Wheat Global Value Chain

Inputs
- R&D
- Land
- Water
- Seeds
- Fertilizer
- Pesticide
- Machines
- Labor

Production
- Soft, Hard, Durum wheat
- Large farms
- Smallholders

Processing and Logistics
- Elevators
  - Cleaning
  - Drying
  - Blending
  - Storage
- Mills
  - Flour Milling
  - Packaging
- Logistics
  - Feed Milling

Marketing
- Bakeries
- Supermarkets & Grocers
- Food manufacturers
- Wholesale
- Livestock production

Domestic
- Trading companies
- Offshore production

International

Supporting activities and institutions
- Government Regulations
- Trade Policies
- Futures Trading
- Financial Intermediaries
- Food aid
- Infrastructure
Global Agri-Food Companies

- Inputs (seeds, fertilizers, pesticides, herbicides): Monsanto, Syngenta, Ciba-Geigy
- **ABCD commodity traders** — move about 90% of the world’s grain: ADM (US - public); Bunge (US - public); Cargill (US - family firm); Louis Dreyfus (France - family firm)
- Food Processors: Unilever, Nestle, Kraft
- Supermarkets: Walmart, Carrefour, Tesco
Food Security in MENA

- Food security is a major challenge in MENA
- MENA is the largest wheat-importing region
- Climatic and land constraints and population growth fueled dependence on imports
- 2007-08 food crisis and civil unrest created value chain disruptions
- Higher food prices impact unrest
### MENA Country Typology and Level of Food Insecurity

<table>
<thead>
<tr>
<th>Resource-Poor Labor Abundant</th>
<th>Resource-Rich Labor Abundant</th>
<th>Resource-Rich Labor Importing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comoros</td>
<td>Yemen</td>
<td>Libya</td>
</tr>
<tr>
<td>Djibouti</td>
<td>Syria¹</td>
<td>Bahrain</td>
</tr>
<tr>
<td>Mauritania</td>
<td>Algeria</td>
<td>Kuwait</td>
</tr>
<tr>
<td>Somalia</td>
<td>Sudan</td>
<td>Oman</td>
</tr>
<tr>
<td>West Bank and Gaza</td>
<td>Iran</td>
<td>Qatar</td>
</tr>
<tr>
<td>Egypt</td>
<td>Iraq²</td>
<td>Saudi Arabia</td>
</tr>
<tr>
<td>Jordan</td>
<td></td>
<td>United Arab Emirates</td>
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<tr>
<td>Lebanon</td>
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<tr>
<td>Morocco</td>
<td></td>
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<tr>
<td>Tunisia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Israel*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute Food Insecurity</strong></td>
<td><strong>Moderate Food Insecurity</strong></td>
<td><strong>Low Food Insecurity</strong></td>
</tr>
</tbody>
</table>

Food Security is measured as total exports divided by food imports and food production per capita. Low Risk is defined as having one or both measures above global average. Moderate risk is defined as having one or both below global average. Acute risk is defined as one or both measures less than 50% the global average.

¹ Syria’s food insecurity is acute due to the current civil war

² Data not available

Source: CGGC based on data from world Bank Development Indicators and Breisinger et al, 2010
Wheat Imports 1990-2010

Source: FAO
COUNTRY CASES IN MENA’S WHEAT VALUE CHAIN
Saudi Arabia’s Wheat Policy Timeline

Self-Sufficiency Strategy

- Achieved self sufficiency
- Increased tariffs on wheat & flour imports (100%)
- Subsidies peaked to $3 billion

Import-Based Strategy

- Started phasing wheat production & incentives
- Water stress became a policy priority
- Ministry of Water created

1970s
- Targeting self sufficiency

1980s
- Reduced wheat subsidies
- Introduced wheat production quotas
- Reduced import wheat tariffs

1990s

2000s
- Increasing wheat imports
- Investment in offshore agriculture
- Expand wheat infrastructure
- Introduced price controls & increased social spending

2007 onwards

Saudi Wheat Policy is Shifting from Self Sufficiency to Offshore Wheat Production & Imports

Farm Investments
- Tabuk Ag. Dev. Co. Egypt
- Jenat Ag. Co. Egypt
- Almarai Co. Sudan
- Saudi Govt. Pakistan
- Foras Investment Co. Russia

Trading

Processing

Milling

Marketing
- Bakeries
- Supermarkets & Grocers
- Food manufacturers
- Wholesale

Saudi Grain Silos and Flour Mills Organization (GSMO)

Exporting Countries: EU, Canada, US, Australia

Ministry of Agriculture and Water, Ministry of Commerce and Industry;
Saudi Agriculture Bank, Saudi Industrial Development Fund (SIDF);
GSMO, Saudi Company for Agricultural Investment and Animal Production (SCAIAP)
2000s: Egypt Pre-Social Unrest Wheat Value Chain

- **Production**: Small & Medium Farms, 8 million tons
- **Processing**
  - Storage, 6 months
  - Mills
- **Consumption**
  - Bakeries
    - Imports 10 million tons
    - Currency Reserves $36 billion
    - No enforcement of rationing at 7 loaves

2013: Egyptian Social Unrest Wheat Value Chain

- **Production**: Small & Medium Farms, 9.5 million tons
- **Processing**
  - Storage, <3 months
  - Mills
- **Consumption**
  - Bakeries
    - Bread rationing at 3 loaves
    - 5.5% price increase in wheat flour
    - 2.3% price increase in bread
    - Available bread $0.7/loaf

Red: Acute disruption points in wheat GVC
2000s: Syria Pre-Conflict Wheat Value Chain

**Production**
- Small & Medium Farms
  - 4 million tons

**Processing**
- Collection Centers: 140
- Mills: 8,000 – 9,000 tons of flour/day
- Storage: 3.5 - 4 million tons

**Consumption**
- Bakeries: Mostly damaged
- Bakeries: 0.23 USD for 1.5 kgs of subsidized bread
- Bakeries: Price is 20% below production cost

Imported: 0.37 million tons

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2013: Syrian Conflict Wheat Value Chain

**Production**
- Small & Medium Farms
  - 2 - 2.4 million tons

**Processing**
- Collection Centers: 40
- Mills: 4,800 - 5,400 tons of flour/day
- Storage: 2.9 million tons
- Imported: 1 million tons
- Unmet need: 2 million tons

**Consumption**
- Bakeries: Mostly damaged
- Bakeries: 1.4 USD for 1.5 kgs of bread
- Bakeries: Acute bread shortage

Red: Acute disruption points in wheat GVC

International Bank Accounts
- Currently frozen

International Bank Accounts
- Currently frozen
## Food Security Strategy 2000 and 2013

<table>
<thead>
<tr>
<th>Food Security</th>
<th>Syria</th>
<th>Egypt</th>
<th>Saudi Arabia</th>
<th>UAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat Imports</td>
<td><img src="image1" alt="Graph" /></td>
<td><img src="image2" alt="Graph" /></td>
<td><img src="image3" alt="Graph" /></td>
<td><img src="image4" alt="Graph" /></td>
</tr>
<tr>
<td>Domestic Production</td>
<td><img src="image5" alt="Graph" /></td>
<td><img src="image6" alt="Graph" /></td>
<td><img src="image7" alt="Graph" /></td>
<td><img src="image8" alt="Graph" /></td>
</tr>
<tr>
<td>Offshore Production</td>
<td><img src="image9" alt="Graph" /></td>
<td><img src="image10" alt="Graph" /></td>
<td><img src="image11" alt="Graph" /></td>
<td><img src="image12" alt="Graph" /></td>
</tr>
</tbody>
</table>

- Orange = 2000
- Green = 2013
- High
- Moderate
- Low
GLOBAL CORPORATIONS IN WHEAT VALUE CHAINS
Agribusiness in the Wheat GVC

- Link production to consumption
- Consolidate production
- Manage uncertainties
- Invest in R&D and logistics
- Ensure traceability and safety
## Major Grain Traders in MENA

<table>
<thead>
<tr>
<th>Company</th>
<th>Headquarters</th>
<th>Type</th>
<th># of employees</th>
<th>Sales Revenues USD (billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archer Daniels Midland (ADM)</td>
<td>United States</td>
<td>Public</td>
<td>29,300</td>
<td>61.7</td>
</tr>
<tr>
<td>Bunge Limited</td>
<td>United States</td>
<td>Public</td>
<td>~30,000</td>
<td>45.7</td>
</tr>
<tr>
<td>Cargill</td>
<td>United States</td>
<td>Private</td>
<td>131,000</td>
<td>107.9</td>
</tr>
<tr>
<td>Louis Dreyfus</td>
<td>France</td>
<td>Private</td>
<td>34,000</td>
<td>~35.0</td>
</tr>
<tr>
<td>Glencore Xstrata</td>
<td>Switzerland</td>
<td>Public</td>
<td>n/a</td>
<td>10.4 (Agri-only)</td>
</tr>
</tbody>
</table>

Source: Dy 2011
CONCLUSION
Provisional Takeaways from Study

- GVC lead firms influence wheat trade
- Increased dependency on imports pushes higher dependence on the multinational grain traders
- Food security strategies vary among MENA countries
- Supply disruptions dramatically affect bread prices
- Strong role of government in MENA (wheat imports, grain elevators and mills, subsidized bread prices)
- Resilient food security regimes require diversified options involving government-private sector collaboration
THANK YOU!
QUESTIONS?

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