Livestock and Food Security in Arab Countries

SHADI HAMADEH
Introduction

- **Livestock** is part of the Arab food and cultural heritage
- **Structural changes** have reshaped the Arab world and the role of the sector
- What role for Arab livestock production in meeting **rising demand**? And at **what price**?
- What role for livestock in sustaining the **livelihoods of poor Arabs** in arid areas?
- What **pre-requisites** for the livestock sector to play its role in **Arab food security**?
Livestock systems

- Up to 90% of the territory falls under rangeland arid or semi-arid regions.
- Livestock is the only mean to transform desert biomass to high value products.
Arab poor keep livestock:
- Pastoralists, 60% of their income
- Small mixed farmers, livestock for food, manure, draught, buffer seasonal food gaps
- Landless peri-urban farmers, feed animals on crop residues
- Revenue for women
- Improving maternal and children health
Situation Analysis

- Intensive systems for urban demand
  - Capital and resource intensive
  - High productivity

- Supply
  - Limited arable land and water scarcity
  - Discrepancy in production growth due to different national livestock sector strategies

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</thead>
<tbody>
<tr>
<td>Milk Cattle (heads)</td>
<td>1,150,000</td>
<td>1,235,000</td>
<td>458,947</td>
<td>619,665</td>
<td>1,308,000</td>
<td>1,555,000</td>
<td>84,286</td>
<td>162,000</td>
</tr>
<tr>
<td>Milk Production (tons)</td>
<td>430,000</td>
<td>480,000</td>
<td>1,156,393</td>
<td>1,604,349</td>
<td>1,184,500</td>
<td>2,500,000</td>
<td>710,000</td>
<td>1,750,000</td>
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<tr>
<td>Milk production to internal supply ratio</td>
<td>0.94</td>
<td>0.94</td>
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<td></td>
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<tr>
<td>Chicken meat (x1000 heads)</td>
<td>4,000</td>
<td>4,500</td>
<td>106,602</td>
<td>102,000</td>
<td>310,000</td>
<td>500,000</td>
<td>483,000</td>
<td>567,000</td>
</tr>
<tr>
<td>Chicken meat production (tons)</td>
<td>3,200</td>
<td>3,600</td>
<td>106,602</td>
<td>138,202</td>
<td>250,000</td>
<td>560,000</td>
<td>483,000</td>
<td>567,000</td>
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<tr>
<td>Total meat production to internal supply ratio</td>
<td>0.98</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.46</td>
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Situation Analysis

Export and import of livestock products in GCC, other Arab and total Arab countries (in Millions of Dollars), numbers in white refer to the human population numbers in 2011.

- Imports exceed exports by far
- GCC countries disproportionately high import/export relative to small population
Situation Analysis

Challenges

➢ Feed resources
  ▪ Major cost of livestock operations
  ▪ Self-sufficiency effort → Water depletion
  ▪ Arab imports of 4 main feed ingredients:
    2,805,000$ (2000) ➔ 10,400,000$ (2012)
  ▪ The global water footprint of animal production is mainly from feed.

<table>
<thead>
<tr>
<th>Water footprint of animal production (Gm³/yr) (1996-2005)</th>
<th>Green¹</th>
<th>Blue²</th>
<th>Grey³</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water footprint of feed crop production</td>
<td>1199</td>
<td>105</td>
<td>159</td>
<td>1463</td>
</tr>
<tr>
<td>Water footprint of grazing</td>
<td>913</td>
<td>_</td>
<td>_</td>
<td>913</td>
</tr>
<tr>
<td>Direct water footprint of livestock⁴</td>
<td>_</td>
<td>46</td>
<td>_</td>
<td>46</td>
</tr>
</tbody>
</table>

¹ the volume of water used from the global green water resources: water stored in soil as soil moisture
² the volume of water withdrawn from the global blue water resources: surface water and ground water
³ the volume of freshwater that is required to assimilate the load of pollutants
⁴ Water footprint of drinking, servicing and feed mixing.
Situation Analysis

Policies
- Land nationalization and sedenterization
- Livestock, vaccine and feed subsidies
- Biodiversity conservation

Impacts:
- Unsustainable growth in animal numbers,
- Encroachment on grazing lands
- Rangeland degradation and loss of biodiversity
- Reliance on public support
Forecast 2030

- Consumption

- Global Warming
  - +4°C
  - 30% Rainfall
  - Desiccation
  - 21-40% in yield
Intensification is inescapable

- Global warming and greenhouse gas emissions (18%)
- Water shortage and desertification (40% of water used for livestock and feed)
- Soil erosion and deforestation
- Unregulated growth of the sector
- Spread of infectious diseases and diet disorders

Blue and Grey water footprint:

One ton of bovine meat  ➡️  1001 m³/ton
One ton of sheep/goat meat ➡️  510 m³/ton

- Intensive systems highest water footprint due to reliance on concentrate feeding.
Intensification is inescapable

- Intensification may be fatal for Ahmed
  - Intensification excludes small holders and poor
  - Failure of technology-based interventions in the 70s and 80s

Options for Ahmed and his sister

- Enroll for WFP
- Move to the city
- “Wait” in the suburbs
- Or...
New Livestock Revolution

Pillars for new Arab livestock revolution
- Institutional framework and multilateral funding
- Policy support: FAO Pro-Poor Livestock Initiative as guiding resource

Livestock = way out of poverty + nutritional food security
New Livestock Revolution

Move to the City
- Off-farm activity
- Become an urban consumer relying on intensive systems

- Regulations of intensive systems:
  - Control of environmental pollution
  - Hygiene and disease control
  - Product quality control
  - Sustainable use of land and water resources
New Livestock Revolution

“Wait” in the suburbs

- Mixed farming and peri-urban systems
  - Small scale commercialization
  - Regular source of income
  - Seasonal buffer

Support for mixed farmers:
- Access to market, capital and technology
- Veterinary Services
New Livestock Revolution

Tradition for the future
- Resilient pastoral systems
- Rustic animals
- Indigenous know-how
- Rangeland biodiversity
- Least costly for non-renewable water resources

Support for pastoralists:
- Mobility
- Health services

The ultimate choice for Ahmed!!!
New ARAB Livestock Revolution

- Pan-Arab Arab Livestock Food Security – Comparative advantage and complementarity:
  - Economic wealth Vs. Natural resources
  - Technology Vs. Tradition
  - Policies and Institutions
  - Research and Education

- New Food Security Program at AUB
  3 options:
  - Diploma in Food Security: Intensive summer program for graduates and professionals
  - Master in Food Security
  - Executive Master in Food Security
OR ELSE....

I am not sorry for this world but for camels
not herded by a camel herder

Like camels in the desert dying of thirst
with water loaded on their backs
THANK YOU