

المنتدى العربي للبيئة والتنمية  
ARAB FORUM FOR  
ENVIRONMENT AND DEVELOPMENT



البيئة 2014  
ARAB ENVIRONMENT 2014

# ARAB ENVIRONMENT•7 FOOD SECURITY CHALLENGES AND PROSPECTS

Livestock and Food Security in Arab Countries

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# Introduction

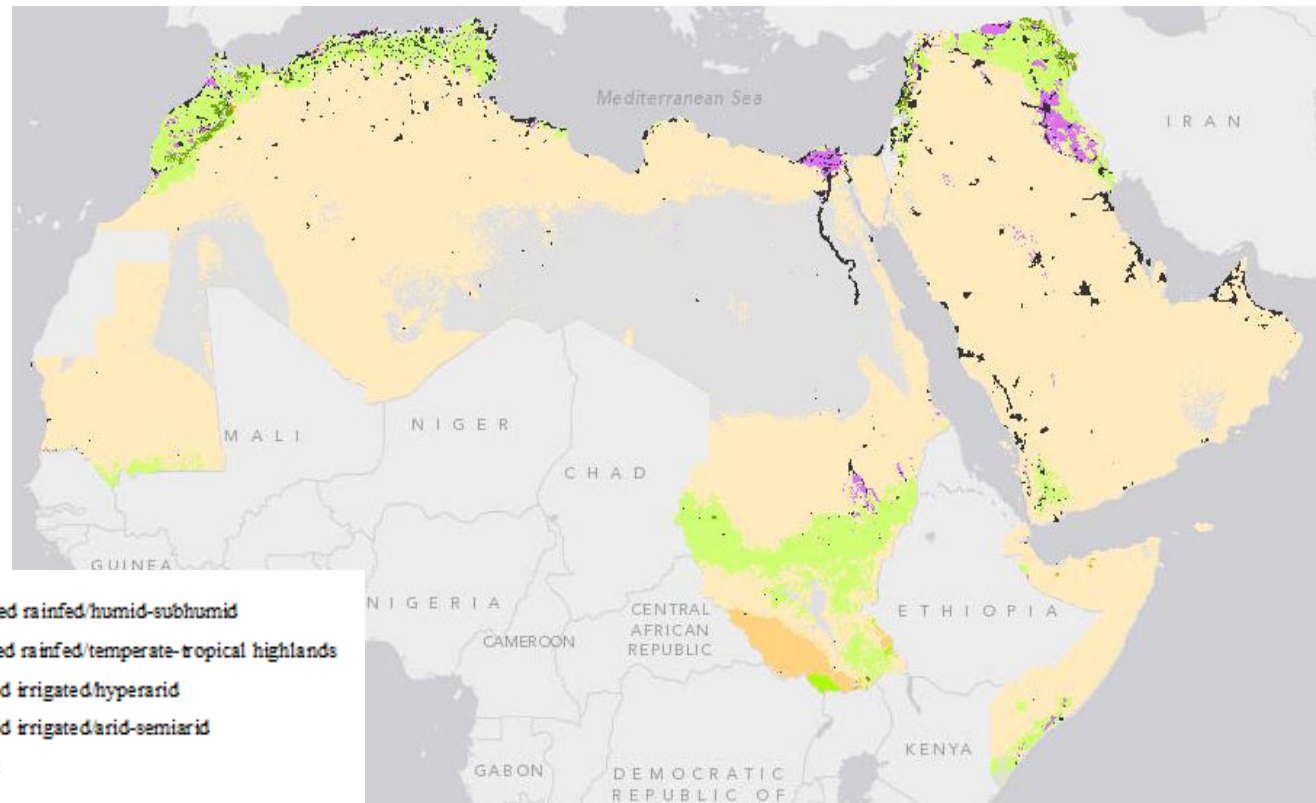
- **Livestock** is part of the Arab food and cultural **heritage**
- **Structural changes** have reshaped the Arab world and the role of the sector
- What role for Arab livestock production in meeting **rising demand**? And at **what price**?
- What role for livestock in sustaining the **livelihoods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



# Situation Analysis

## ➤ 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





# Situation Analysis

➤ 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



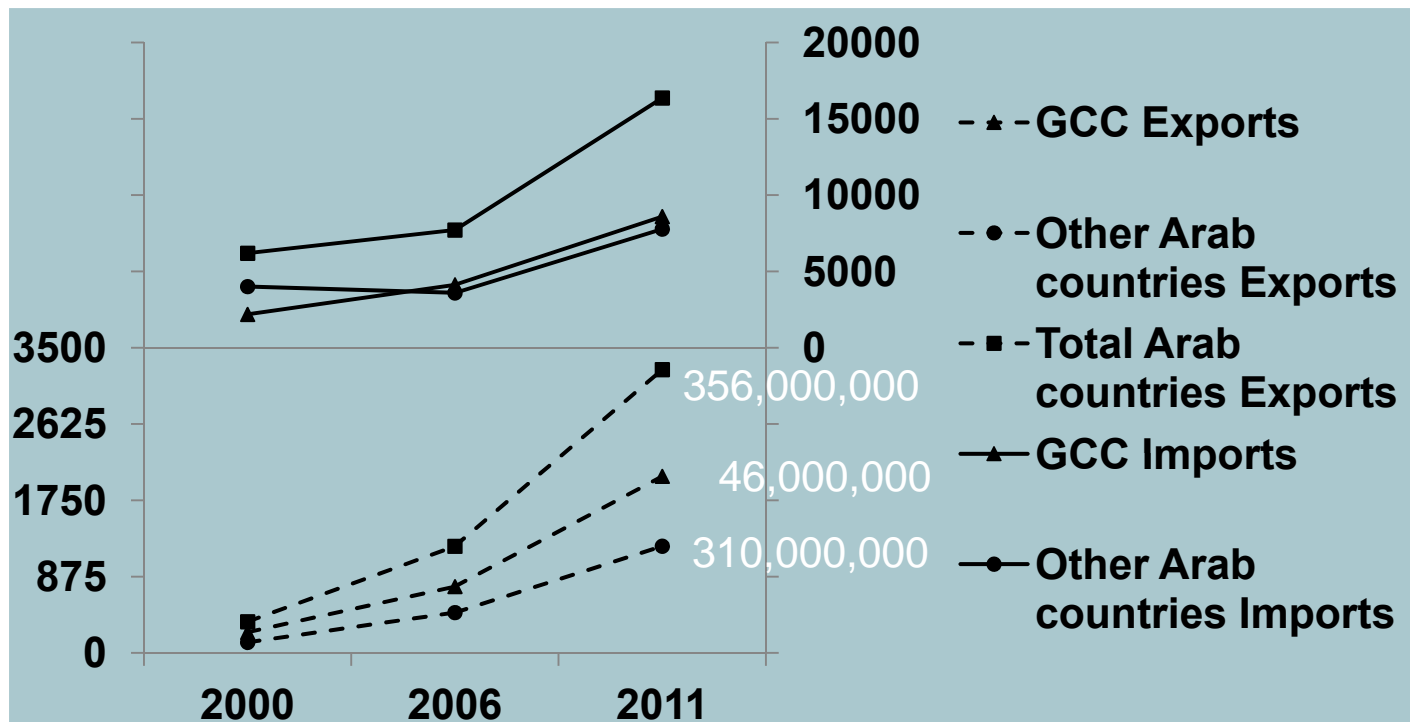
➤ Supply

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

Livestock item	Somalia		Syria		Morocco		Saudi Arabia	
	2000	2012	2000	2012	2000	2012	2000	2012
<b>Milk Cattle (heads)</b>	1,150,000	1,235,000	458,947	619,665	1,308,000	1,555,000	84,286	162,000
<b>Milk Production (tons)</b>	430,000	480,000	1,156,393	1,604,349	1,184,500	2,500,000	710,000	1,750,000
<b>Milk production to internal supply ratio</b>				0.94		0.94		0.84
<b>Chicken meat (x1000 heads)</b>	4,000	4,500	106,602	102,000	310,000	500,000	483,000	567,000
<b>Chicken meat production (tons)</b>	3,200	3,600	106,602	138,202	250,000	560,000	483,000	567,000
<b>Total meat production to internal supply ratio</b>				0.98		1.00		0.46

# 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.

Water footprint of animal production (Gm <sup>3</sup> /yr) (1996-2005)	Green <sup>1</sup>	Blue <sup>2</sup>	Grey <sup>3</sup>	Total
Water footprint of feed crop production	1199	105	159	1463
Water footprint of grazing	913	–	–	913
Direct water footprint of livestock <sup>4</sup>	–	46	–	46

<sup>1</sup> the volume of water used from the global green water resources: water stored in soil as soil moisture

<sup>2</sup> the volume of water withdrawn from the global blue water resources: surface water and ground water

<sup>3</sup> the volume of freshwater that is required to assimilate the load of pollutants

<sup>4</sup> 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 m<sup>3</sup>/ton

One ton of sheep/goat meat → 510m<sup>3</sup>/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

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## ➤ Pillars for new Arab livestock revolution

- Institutional framework and multilateral funding
- Policy support: FAO Pro-Poor Livestock Initiative as guiding resource

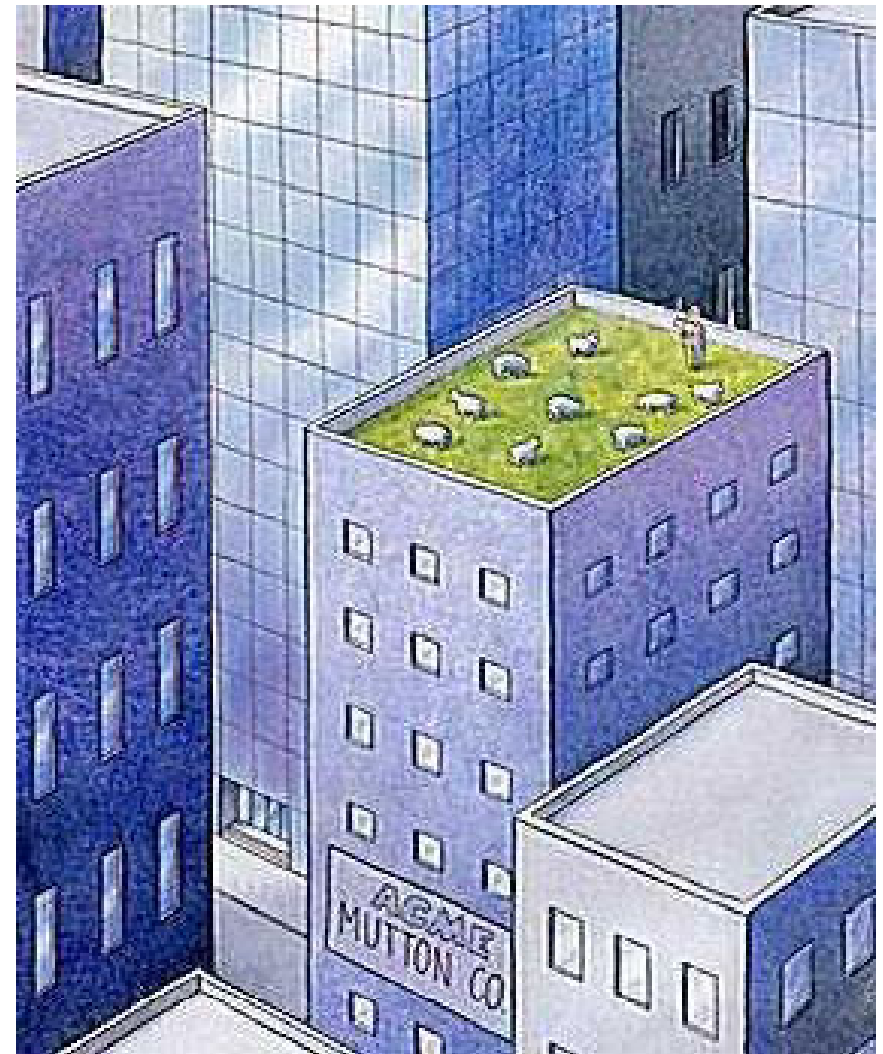
**Livestock = way out of poverty +  
nutritional food security**

# 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!!!



أَفَلَا يَنْظُرُونَ إِلَى الْإِبِلِ كَيْفَ خُلِقَتْ  
سورة الغاشية آية ١٧

Then do they not look at the camels - how they are created?



# 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....

# وإلا....

وما أسفي على الدنيا ولكن  
على إبل حداها غير حاد  
I am not sorry for this world but for camels  
not herded by a camel herder  
ديوان الأزري الكبير - الشيخ كاظم الأزري التميمي

كالعيس في البداء يقتلها الظمأ  
والماء فوق ظهورها محمول  
Like camels in the desert dying of thirst  
with water loaded on their backs  
عبد الغني النابلسي



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**THANK YOU**

