Livestock and dairy sectors: Challenges and Opportunities for Investment in Egypt

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Presented at the
Round table 2: Safety, quality and investment opportunities in Egypt’s livestock and dairy sectors
Leading topics for the roundtable

- Understanding of the drivers of change in the livestock sector
- Demand growth in dairy and meat and changes in consumer preferences
- Main challenges/opportunities in the dairy and meat sectors
- Changes in inputs prices and impact on producers
- How to meet growing demand and replace imports
- Health and safety of products and consumers awareness
- Export opportunities in the sectors
- Producers access to finance
- Policy support for investment in the sector
- Further consolidation in the market in the near future
Drivers of Change in the Livestock Sector

Source: Herrero et al. 2010
Livestock population has more than doubled during the last 40 years.

Livestock Resources in the Near East and North Africa Region

Livestock Unit: camel = 1.0; buffalo = 0.7; cattle = 0.65; sheep and goats = 0.1

FAOSTAT | © FAO Statistics Division 2012 | 29 March 2012
Demand Growth West Asia and North Africa
2000-2030

Source: FAO Projections

±20 million tons
Main challenges / opportunities - 1 -

- Lack of capital, access to financial institutions
- Poor quality of milk and products
- Low milk yield of local breeds/crossbreds
- Lack of efficient genetic improvement programmes
- Small herd size
- Lack of animal identification and performance recording
- Inadequate feed in terms of quality and quantity (shortage of land competition with cash and food crops)
- High cost of animal feeds (commercial concentrate)
- Market access for smallholders, high transaction cost for small producers
- Inconsistent and expensive animal health care (private/public roles)
- Absence of producers cooperatives milk collection, cooling and transporting facilities
Main challenges / opportunities - 2 -

• Reproductive problems are largely attributed to inadequate nutrition

• TADs and zoonoses such as FMD (caused around 30 000 deaths and 100 000 morbidity in cattle in 2012), bovine tuberculosis, brucellosis (causes stillbirth, abortions and embryonic mortality, and infertility), LSD, mastitis, ticks;

• Egyptians prefer buffaloes milk than cows as fresh and hence its prices do not fluctuate by season while that of cows milk and products are higher in winter than in summer season

• Smallholder dairy farms lack sanitary conditions and this affects negatively the milk prices and consumer confidence
Phases of dairy development

- Emerging specialization
- Acceleration and integration into farming systems
- Consolidation and enhancing productivity

Dairy sector is complex with many interacting players
Roles of Public Institutions

• Formulate and implement general and specific policies
  • Promote dairy development, advocacy, strategies
  • Facilitate dairy organizations, legal framework, trade
  • Promote consumption

• Laws, regulations, public standards, Promoting – constraining smallholder
  • Incentives – disincentives to include smallholder

• Taxation & subsidies
  • Incentives – disincentives for smallholders

• Actions of governmental administrative bodies, Public services
  • Advisory
Private Organizations

- All actors in the dairy value chain may organize themselves and cooperate in business organizations including:
  - Milk producer
  - Milk producer organizations, dairy cooperatives
  - Milk traders
  - Small scale processors
  - Large scale processors
  - International dairy industry organizations

- Non-governmental organizations
- Community-based organizations
- Financial institutions
Milk Producer Organizations

- Managed and owned by the producers
  - Main purpose is marketing
  - Advisory services
  - Input supply
  - Link rural supply to urban markets through processing facilities
  - Different organization levels
  - Business orientation

- Collective action by smallholder producers
  - to reduce transaction costs
  - achieve market power
  - raise farmers’ voice in national policy forums
  - to receive appropriate financial services
  - required to achieve sustainable smallholder dairy development

- Constraints and reason for inefficiency can be
  - legal restrictions
  - low management capacity
  - absence of women
  - influence of elite/politicians
## Responsibilities of public and private institutions

<table>
<thead>
<tr>
<th>Service provision</th>
<th>Responsibility</th>
<th>Funding</th>
<th>Oversight</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breeding services</td>
<td>Private</td>
<td>Private</td>
<td>Public–private partnership</td>
<td>Initial subsidy may be justified</td>
</tr>
<tr>
<td>Clinical veterinary services</td>
<td>Private</td>
<td>Private</td>
<td>Veterinary associations</td>
<td>-</td>
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<tr>
<td>Preventive veterinary services</td>
<td>Public</td>
<td>Public–private</td>
<td>Public</td>
<td>Only for main contagious diseases. This could be implemented through contracting private veterinarians in rural areas</td>
</tr>
<tr>
<td>Food safety requirements</td>
<td>Public</td>
<td>Public</td>
<td>Public</td>
<td>Based on detailed risk analysis of threats of zoonosis</td>
</tr>
<tr>
<td>Advisory Services</td>
<td>Private–public</td>
<td>Initially public with cost-sharing</td>
<td>Private–public</td>
<td>Mainly private delivery - even of publicly financed services</td>
</tr>
<tr>
<td>Milk collection</td>
<td>Mainly private</td>
<td>Private–public investment in infrastructure</td>
<td>Private</td>
<td>Initial subsidy may be justified</td>
</tr>
<tr>
<td>Milk processing</td>
<td>Private</td>
<td>Mainly private</td>
<td>Private</td>
<td>Initial subsidy may be justified</td>
</tr>
<tr>
<td>Research</td>
<td>Mainly Public – with some private input</td>
<td>Mainly public</td>
<td>Public–private</td>
<td>(Initial) public funding</td>
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<tr>
<td>Education</td>
<td>Public</td>
<td>Mainly public</td>
<td>Public–private</td>
<td>(Initial) public funding</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Mainly Public</td>
<td>Mainly public</td>
<td>Public</td>
<td>Milk collection and cooling centre through public-private partnership</td>
</tr>
<tr>
<td>Input supplies</td>
<td>Private</td>
<td>Private–public contracts for public goods</td>
<td>Private, with public quality monitoring</td>
<td>Quality and health assurance</td>
</tr>
</tbody>
</table>
Egypt’s Livestock and dairy sector

- Livestock sector accounts for 40% agricultural GDP in Egypt
- Cattle and buffaloes are main dairy animals while goats and sheep are also milked
- Dairy alone account for 28% of animal production output
- Dairy farming is generally carried out by smallholders (75-80%) who own 1-8 cows
- Average daily milk yield of local cows is 5-8 and 3-5 kg/head for winter and summer seasons, respectively. The corresponding results of buffaloes are 10-12 and 7-9 kg/head respectively
- Animals are imported from Australia, Brazil, Croatia, Ethiopia, Hungary, Sudan, and Uruguay
Indigenous livestock breeds - Cattle

Source: modified from Ahmed Elbeltagy 2012
Indigenous livestock breeds - Sheep

Source: modified from Ahmed Elbeltagy 2012
Livestock Population of Egypt

- Cattle and buffaloes population: estimated at 9 million; Sheep their number is generally increasing except with the recent (since 2006) trend for buffaloes is not favourable
- Sheep, goats and rabbits are 5.5, 4.2 and 7.8 millions, respectively
- Pigs and camels are 11 and 107 thousands, respectively; they are decreasing alarmingly
Poultry Population of Egypt

- Poultry population has increased by 10 to 70% for guinea fowls, ducks and chickens while for Turkeys and other birds are stable.
- Chickens alone are estimated at 108 million.
- The sector suffered from an ongoing endemic Highly Pathogenic Avian Influenza (H5N1) since 2006.
### Consignments of Products of animal Origin (Data from GOIEC)

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>January</td>
<td>397</td>
<td>16 971</td>
<td>9 683</td>
<td>244</td>
<td>4 735</td>
<td>11 613</td>
<td>28</td>
<td>102</td>
<td>1 042</td>
<td>9 419</td>
<td>14 746</td>
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<td>February</td>
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<td>29 674</td>
<td>11 130</td>
<td>98</td>
<td>3 771</td>
<td>14 651</td>
<td>60</td>
<td>102</td>
<td>1 511</td>
<td>7 706</td>
<td>202 017</td>
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<tr>
<td>March</td>
<td>313</td>
<td>29 813</td>
<td>16 580</td>
<td>108</td>
<td>4 060</td>
<td>9 978</td>
<td>28</td>
<td>130</td>
<td>848</td>
<td>9 862</td>
<td>17 343</td>
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<tr>
<td>April</td>
<td>106</td>
<td>43 013</td>
<td>9 558</td>
<td>175</td>
<td>5 629</td>
<td>7 548</td>
<td>6</td>
<td>78</td>
<td>940</td>
<td>11 333</td>
<td>22 033</td>
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<td>May</td>
<td>10</td>
<td>44 331</td>
<td>13 880</td>
<td>285</td>
<td>10 634</td>
<td>9 144</td>
<td>0</td>
<td>150</td>
<td>1 137</td>
<td>8 908</td>
<td>19 895</td>
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<tr>
<td>June</td>
<td>84</td>
<td>29 872</td>
<td>15 240</td>
<td>453</td>
<td>7 644</td>
<td>6 974</td>
<td>54</td>
<td>126</td>
<td>959</td>
<td>9 554</td>
<td>16 815</td>
</tr>
<tr>
<td>July</td>
<td>243</td>
<td>27 298</td>
<td>13 658</td>
<td>561</td>
<td>8 035</td>
<td>11 610</td>
<td>26</td>
<td>206</td>
<td>2 339</td>
<td>8 211</td>
<td>16 402</td>
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<tr>
<td>August</td>
<td>161</td>
<td>17 524</td>
<td>11 920</td>
<td>379</td>
<td>5 836</td>
<td>12 835</td>
<td>0</td>
<td>70</td>
<td>1 817</td>
<td>6 825</td>
<td>13 610</td>
</tr>
<tr>
<td>September</td>
<td>10</td>
<td>24 599</td>
<td>10 105</td>
<td>362</td>
<td>7 224</td>
<td>13 178</td>
<td>0</td>
<td>276</td>
<td>1 653</td>
<td>7 635</td>
<td>17 771</td>
</tr>
<tr>
<td>October</td>
<td>109</td>
<td>22 685</td>
<td>8 776</td>
<td>601</td>
<td>3 976</td>
<td>15 091</td>
<td>26</td>
<td>707</td>
<td>826</td>
<td>4 730</td>
<td>10 671</td>
</tr>
<tr>
<td>November</td>
<td>42</td>
<td>23 159</td>
<td>6 471</td>
<td>57</td>
<td>9 385</td>
<td>16 538</td>
<td>28</td>
<td>729</td>
<td>3 148</td>
<td>7 594</td>
<td>16 143</td>
</tr>
<tr>
<td>December</td>
<td>25</td>
<td>27 484</td>
<td>2 552</td>
<td>37</td>
<td>5 152</td>
<td>17 030</td>
<td>54</td>
<td>501</td>
<td>1 935</td>
<td>4 238</td>
<td>13 781</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1 966</strong></td>
<td><strong>336 423</strong></td>
<td><strong>129 553</strong></td>
<td><strong>3 360</strong></td>
<td><strong>76 081</strong></td>
<td><strong>146 190</strong></td>
<td><strong>310</strong></td>
<td><strong>3 177</strong></td>
<td><strong>18 155</strong></td>
<td><strong>96 015</strong></td>
<td><strong>199 427</strong></td>
</tr>
</tbody>
</table>
Consignments of POAO

Tons of consignments: Poultry and Meat by year (Data from GOIEC)
Rising Meat prices worsened by uprising

### Recommendations from Quarantine Systems Studies in Egypt

<table>
<thead>
<tr>
<th>Issue</th>
<th>Recommendation</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>General disrepair and lack of infrastructure at Government Quarantine Centres</td>
<td>Recommend contact is made between the Ministry and the main importers to work on a partnership agreement to provide additional resource and upgrade the government-run quarantine facilities.</td>
<td>Medium</td>
</tr>
<tr>
<td>Communications between central and regional office is carried out by fax or in person which is resource intensive</td>
<td>IT System with intranet connection to all quarantine facilities and regional/local offices, including developing an intranet site to cover the issues highlighted</td>
<td>High</td>
</tr>
<tr>
<td>Veterinary checks are recorded manually and using paper files</td>
<td>IT System</td>
<td>High</td>
</tr>
<tr>
<td>Stakeholder communications poor</td>
<td>IT System</td>
<td>High</td>
</tr>
<tr>
<td>Limited capacity for risk assessment leading to disproportionate level of checks and quarantine</td>
<td>Risk Assessment unit and training to be set up in GOVS. Continual Professional Development for all staff should be implemented</td>
<td>High</td>
</tr>
</tbody>
</table>
| Certain government quarantine facilities require upgrade             | - Full structural improvement for certain facilities  
- Improving biosecurity, C&D at El Adibiya, Suez  
- Re-defining the use of the facility at Cairo airport to make sure only short term stays are approved  
- Providing certain short term infrastructure at Alexandria, including biosecurity, C&D, PM room repairs, incinerator, shelter and roofing to allow continued use until rebuild possible  
- Thorough C&D at Dinah Farms prior to the next shipment of animals | Medium     |

**Regional Office for the Near East and North Africa**

**Animal Production and Health Unit**
### Recommendations from Quarantine Systems Studies in Egypt

<table>
<thead>
<tr>
<th>Issue</th>
<th>Recommendation</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH law is split into a number of laws, decrees and regulations which need harmonising to cover AH, imports of live animals, germplasm, POAO, vet medicines etc.</td>
<td>Bringing all AH legislation under umbrella law (dependent on stability of new government) and finalising the draft SOPs for the process of health certification.</td>
<td>Medium</td>
</tr>
<tr>
<td>Equine Exports are currently suspended to the EU and other Middle East Countries</td>
<td>The EU FVO report from 2010 and further communication required further work from the Competent Authority. This can be addressed by proactively approaching the Commission and the FVO for guidance in reinstating the regions of Cairo and Giza for export</td>
<td>High</td>
</tr>
<tr>
<td>Concerning weaknesses around length of time animals spend in quarantine waiting slaughter</td>
<td>Certain quarantine facilities need better biosecurity for keeping animals for a significant length of time and dealing with sick or dead animals</td>
<td>High</td>
</tr>
<tr>
<td>Quarantine inspection only made once a year for cattle and camels</td>
<td>The inspection should occur more frequently while repairs are being made to ensure quarantine facilities are being brought up to appropriate standard</td>
<td>High</td>
</tr>
<tr>
<td>Weakness in the level of checks made on POAO and other consignments</td>
<td>High level (100%) of tests be addressed as this is not only resource intensive, but disproportionate. In particular the level of fails and whether these are addressed with the importer and country of origin competent authority</td>
<td>High</td>
</tr>
</tbody>
</table>
Trends in dairy sector - Global

- Production and consumption in developed countries are constant or falling while productivity is rising, whereas
- Milk production and consumption in developing countries are increasing as are the number of dairy farms and cows but much less so productivity
- Dairy trade volumes are increasing driven by consumer demand growth in developing countries, however
- Developing countries’ import dependency for dairy products is falling (imports are growing at a lower rate than milk production)
- Because markets in developed countries are saturated and extremely competitive dairy industries in developing countries will increasingly face international competition
Brief example from FAO projects

Recovery and Rehabilitation of Dairy Sector in Beqaa Valley and Hermel-Akkar Uplands of Lebanon
Facts about a FAO’s successful dairy project in Lebanon

<table>
<thead>
<tr>
<th>Dairy project deliverables</th>
<th>Phase I</th>
<th>Phase II</th>
<th>CERF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project duration</td>
<td>2009-2012</td>
<td>2012-2014</td>
<td>2013</td>
</tr>
<tr>
<td>Budget (USD, millions)</td>
<td>2.93</td>
<td>1.20</td>
<td>0.105</td>
</tr>
<tr>
<td>Village dairy producers associations</td>
<td>23</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Village milk collection and cooling centres</td>
<td>23</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Capacity of milk collection and cooling centres (tons/day)</td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
<tr>
<td>Direct beneficiaries</td>
<td>1500</td>
<td>2000</td>
<td>200</td>
</tr>
<tr>
<td>Indirect beneficiaries</td>
<td>1500</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>Milking machines distributed</td>
<td>362</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>Stainless steel milking cans</td>
<td>1105</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>Mini-dairies</td>
<td>135</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Artificial insemination kits</td>
<td>10</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>semen doses</td>
<td>10,000</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Booklets and posters</td>
<td>14,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certified forage seeds (tons)</td>
<td>115</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Shami does (female goats)</td>
<td>200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shami bucks</td>
<td>100</td>
<td></td>
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</tbody>
</table>
Some beneficiaries - Examples

Regional Office for the Near East and North Africa
Animal Production and Health Unit
Events - Some beneficiaries - Examples

Regional Office for the Near East and North Africa
Animal Production and Health Unit
Milk Cooling Centre and Milk Quality Control
Consolidation of the smallholder dairy sector

- Average dairy herd 2 cows, 11 l milk
- Low technology and capital input;
- Dependence on household members for most labour;
- Production for household consumption as a first priority, instead of market directed production;
- Milk production not seen as a cash crop;
- Milk production per animal is low and, therefore, the total volume per farm also low;
- Often in remote rural areas with poor infrastructure.
- Opportunities exist to integrate them into markets.
Outlook for the investment

- There is large potential for smallholder dairy development as tool for poverty reduction, but targeting is important.
- Current development programmes rarely adequately consider risk to small farmer, which results in low uptake.
- Because of its complex nature, smallholder dairy development requires a ‘complete package’ (health services, market, breeding, nutrition, extension), rarely provided by ‘public’ programmes.
- Public private partnerships with commercial dairy ‘agri-businesses’ might be a viable approach to bring together social and commercial objectives.
- Offering right policies and assistance programs
- Improving feed availability (green fodder, coarse grains and oilseeds, agri and food industry residues for silage, etc)
- Improvement in genetics, milk quality and safety, access to markets
- Opening network of milk collection and cooling centres and transport
Conclusions

• Small-scale dairy farms constitute the income of more than ten thousand families.
• About 76% of all the farms are very small ones (not more than 15 heads)
• These small farms produce about 50 % of the total milk
• Socio-economic dimension should be looked into
• Extensive program of training sessions and demonstrations in the fields of nutrition and feeding and the general management practices to farmers in other parts of the country who have not received any assistance.
• Support the artificial insemination and veterinary services nationwide.
Conclusions

- Competitiveness of smallholders (80% of Egypt’s livestock owners) could be strengthened through capacity building and training sessions, supply of milking machines, stainless steel milk jars, milk cooling tanks and accessories, milk testing equipment, and milk transportation trucks. Establish milk cooperatives

- Technologies and institutions (producers coops, milk collection centers, cold chain, processing)

- Policies (subsidies, local producers encouragement, etc)
Thank you!