Dairy development models in the Maghreb countries

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First International Meeting "Milk, vector of development", Rennes, May 2014
I. The Maghreb: mainly a semi arid geographic unit
   The climates and their effects on animal systems
   A rapid demographic evolution

II. The dairy chains in the Maghreb countries
   Various choices, variable performances
   How to achieve a sustainable supply?

III. The domestic milk production
   Agronomic, economic and social effects
   Challenges ahead
The Maghreb area: an arid climate

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La carte des impacts du réchauffement climatique
The Maghreb area: pastoral systems

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# The Maghreb area: demography

Table 1. Main characteristics of the human populations in the Maghreb countries

<table>
<thead>
<tr>
<th></th>
<th>ALGERIA</th>
<th>MOROCCO</th>
<th>TUNISIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population (1970)</td>
<td>13.7</td>
<td>14.9</td>
<td>5.1</td>
</tr>
<tr>
<td>Total population (2014)</td>
<td>38.8</td>
<td>33.0</td>
<td>10.9</td>
</tr>
<tr>
<td>Urbanization rate (%)</td>
<td>73</td>
<td>57</td>
<td>66</td>
</tr>
</tbody>
</table>

Source: CIA, 2014

A rapid demographic expansion, coupled to urbanization:

- Changes in food consumption habits
- More meals taken outside home

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The dairy chains in the Maghreb area

Various choices, variable performances

Table 2. The structure of the dairy chains in the Maghreb countries

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Local milk output in 2012 (x10^3 tons)</td>
<td>2,377</td>
<td>2,500</td>
<td>1,098</td>
</tr>
<tr>
<td>Milk collected in formal channels (%)</td>
<td>14.5</td>
<td>66.6</td>
<td>63.2</td>
</tr>
<tr>
<td>Dairy products’ imports (x 10^6 US $ - 2011)</td>
<td>1,360</td>
<td>227</td>
<td>39</td>
</tr>
<tr>
<td>Dairy products’ consumption (kg per capita per year)</td>
<td>105</td>
<td>59</td>
<td>108</td>
</tr>
<tr>
<td>Self sufficiency rate in dairy products (%)</td>
<td>49</td>
<td>89</td>
<td>95</td>
</tr>
</tbody>
</table>

Source: FAOSTAT, 2014 – Also adapted from local Statistics

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The dairy chains in the Maghreb area

How to achieve a sustainable supply?

*Domestic dairy production promotion:*
*Morocco (since the early 1970s), Tunisia (since the mid 1980s)*

*FRAGMENTED OFFER:* Numerous smallholder farms with limited number of cattle

- change in the genetic structure of the herd (heavy Holstein cows’ imports);
- implementation of fodder production (irrigated schemes);
- constitution of a milk collection network;
- taxes on imported dairy goods.

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The dairy chains in the Maghreb area

How to achieve a sustainable supply?

*Significant imports ensured by oil income:*
*Algeria (since the early 1960s)*

- complicated management of the chain throughout the country;
- numerous losses, dairy goods of erratic quality;
- recent promotion of a local dairy output.
The domestic milk production

Agronomic, economic and social effects

Marked roles of the dairy production throughout the chain:

- **Upstream operators**: cows and semen importers, compound feed mills, etc.
- **In dairy farms**: steady income, soil fertility, cash saving, etc.
- **For rural communities**: funding of road maintenance, school building, etc.
- **Downstream agents**: dairy collectors, artisanal dairy units, dairy plants, retailers, etc.

More than 280 hours of work per ton of raw milk *(Sraïri et al., 2013)*
The domestic milk production

Challenges ahead

1. Dairy farms’ productivity and profitability
   
   Higher input prices, steady « farm gate » prices, almost no quality remuneration: rising tensions.

2. Water productivity through dairy farming
   
   A complex issue: 1.5 tons of water per kg of milk, 18 tons of water per kg of meat.

3. How to implement successful on farm support program?
   
   State services disengagement, numerous functions of production involved...

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Conclusion

Dairy farming and supply in the Maghreb area

A traditional activity, but with recent significant changes
- Imported breeds, irrigated fodder crops, prices’ volatility
- Increase in milk volumes: quality?

Diverse dairy development models
- Imported goods vs local products
- Domestic production: positive effects

Numerous challenges ahead
- Need innovative actions, more professional organizations, highly skilled operators

Importance of capacity building programs.

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Thanks for your attention