



Dairy development models in the Maghreb countries

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Outline

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

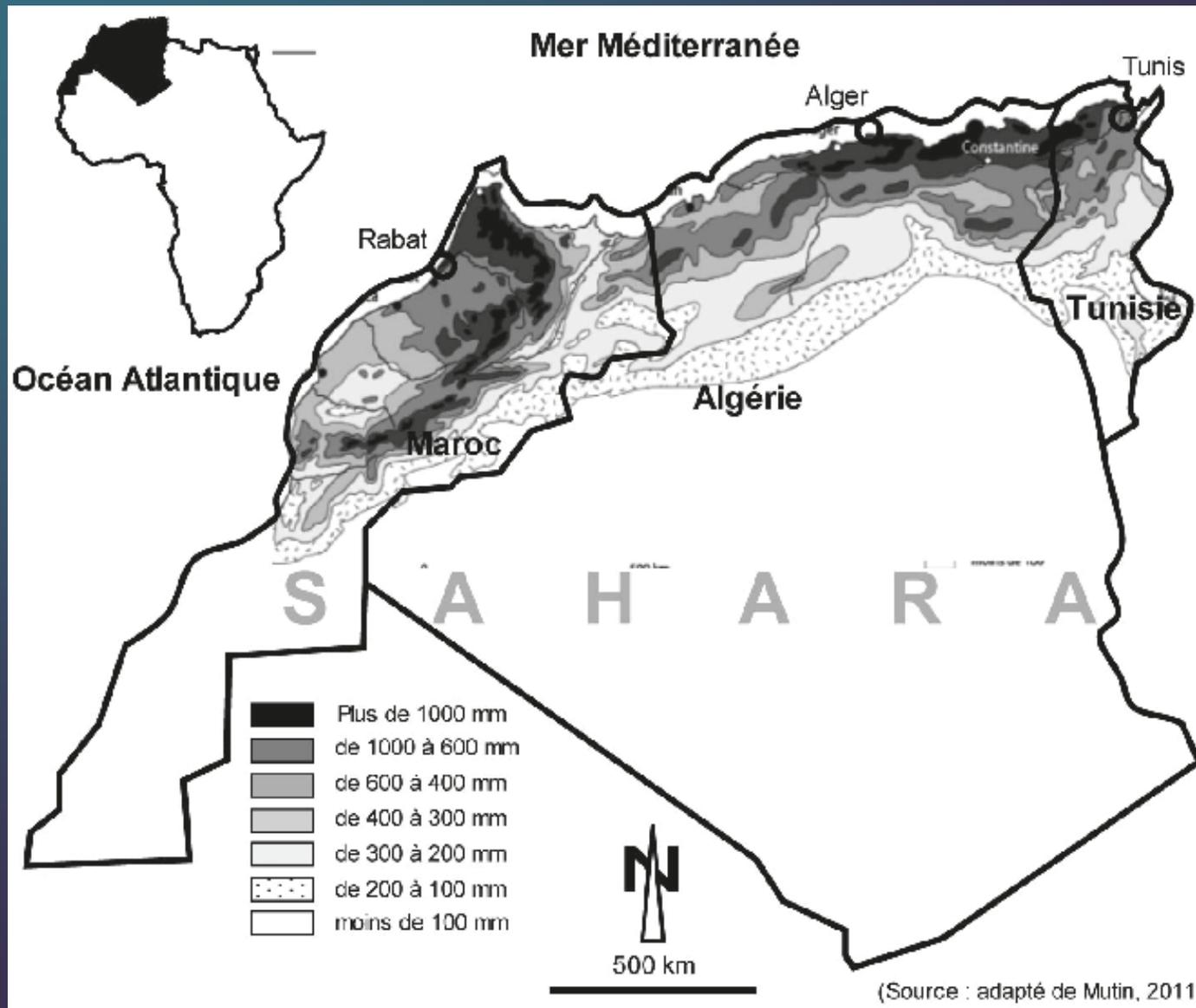
How to achieve a sustainable supply?

III. The domestic milk production

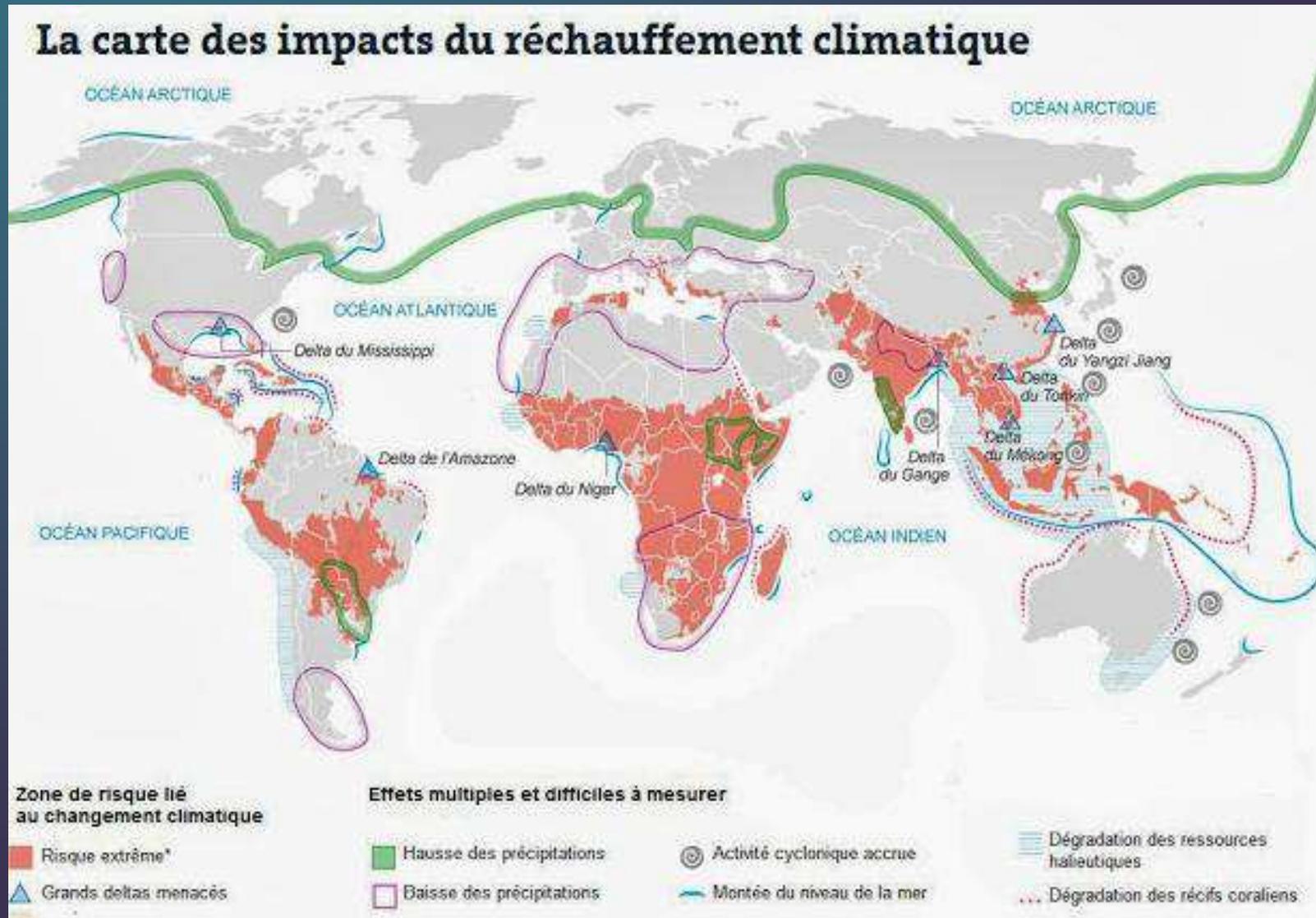
Agronomic, economic and social effects

Challenges ahead

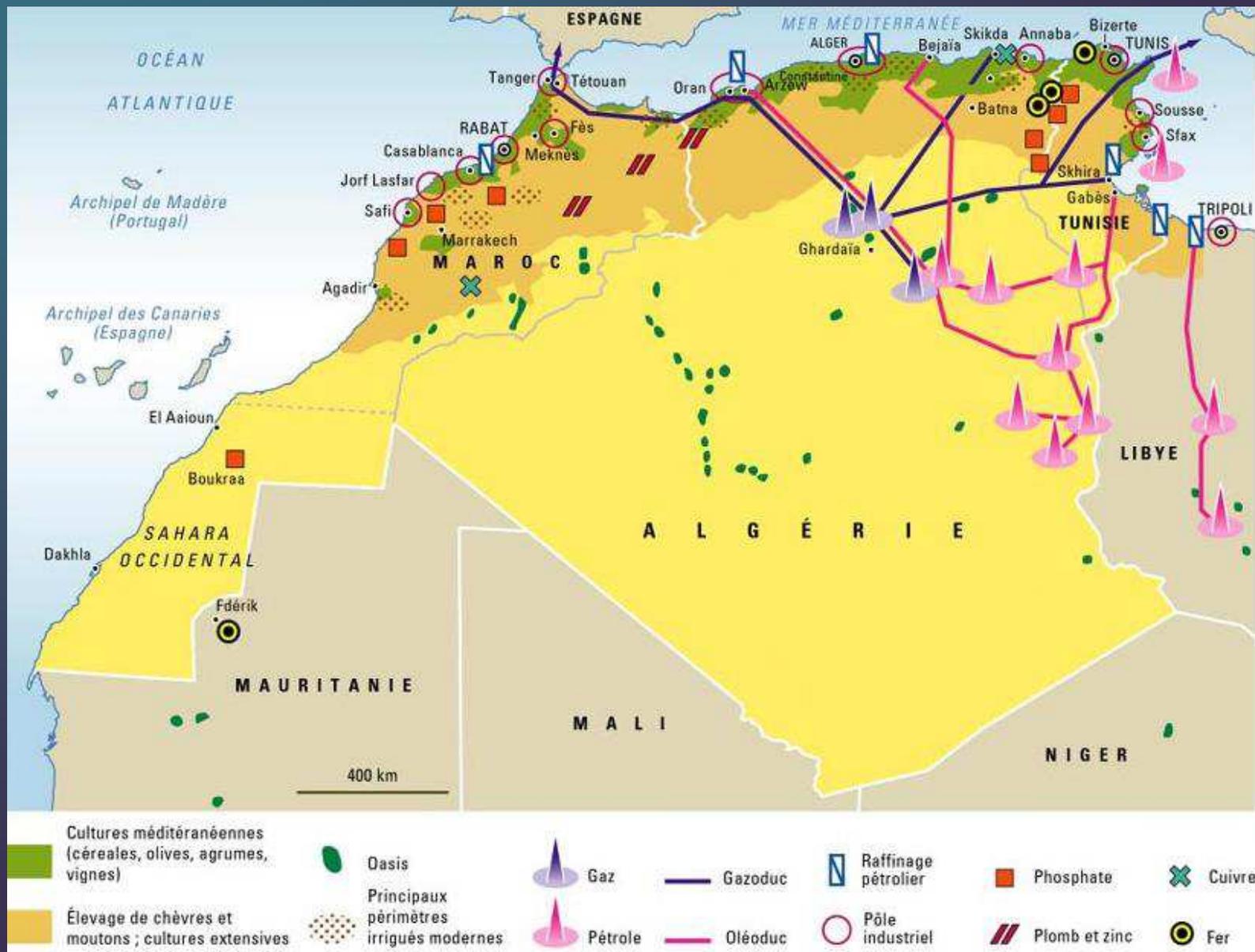
The Maghreb area: an arid climate



The Maghreb area: acute climate change



The Maghreb area: pastoral systems



The Maghreb area: demography

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

	ALGERIA	MOROCCO	TUNISIA
Total population (1970)	13.7	14.9	5.1
Total population (2014)	38.8	33.0	10.9
Urbanization rate (%)	73	57	66

Source: CIA, 2014

A rapid demographic expansion, coupled to urbanization:



Changes in food consumption habits
More meals taken outside home

The dairy chains in the Maghreb area

Various choices, variable performances

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

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

Source: FAOSTAT, 2014 – Also adapted from local Statistics

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.



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...

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.



Thanks for your attention

