

Recent dynamics in dairy farms around the world

2nd International meeting on Milk, vector of development
Rabat Marocco, 10 – 11 May



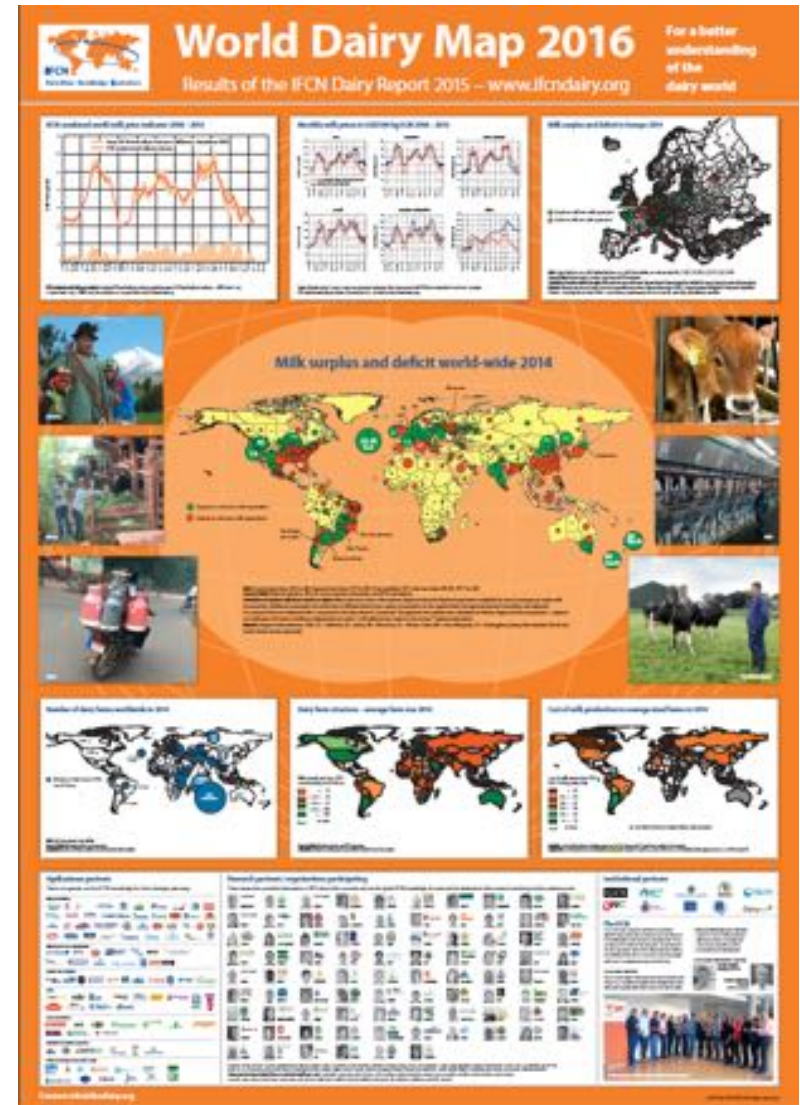
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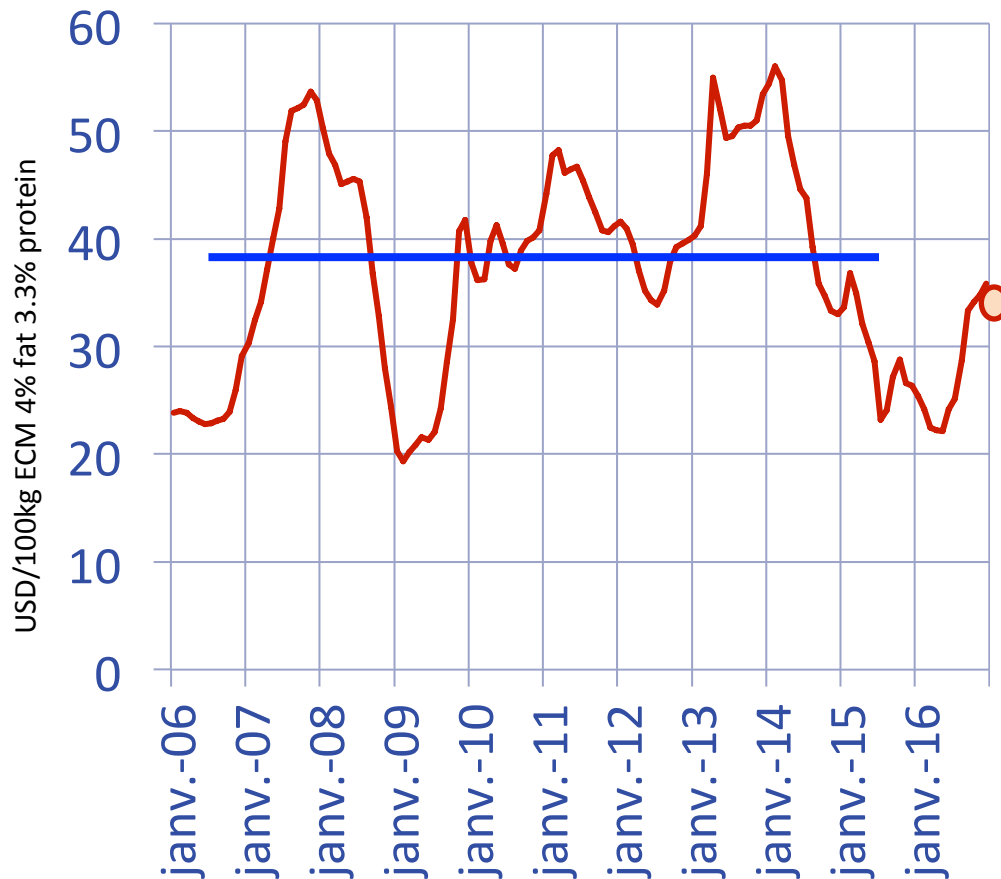
Agenda

1. Milk prices & drivers
2. The IFCN Network Concept
3. Dairy farm structure
4. Dairy farm economics
5. Sum up



World milk price 2006 - 2017

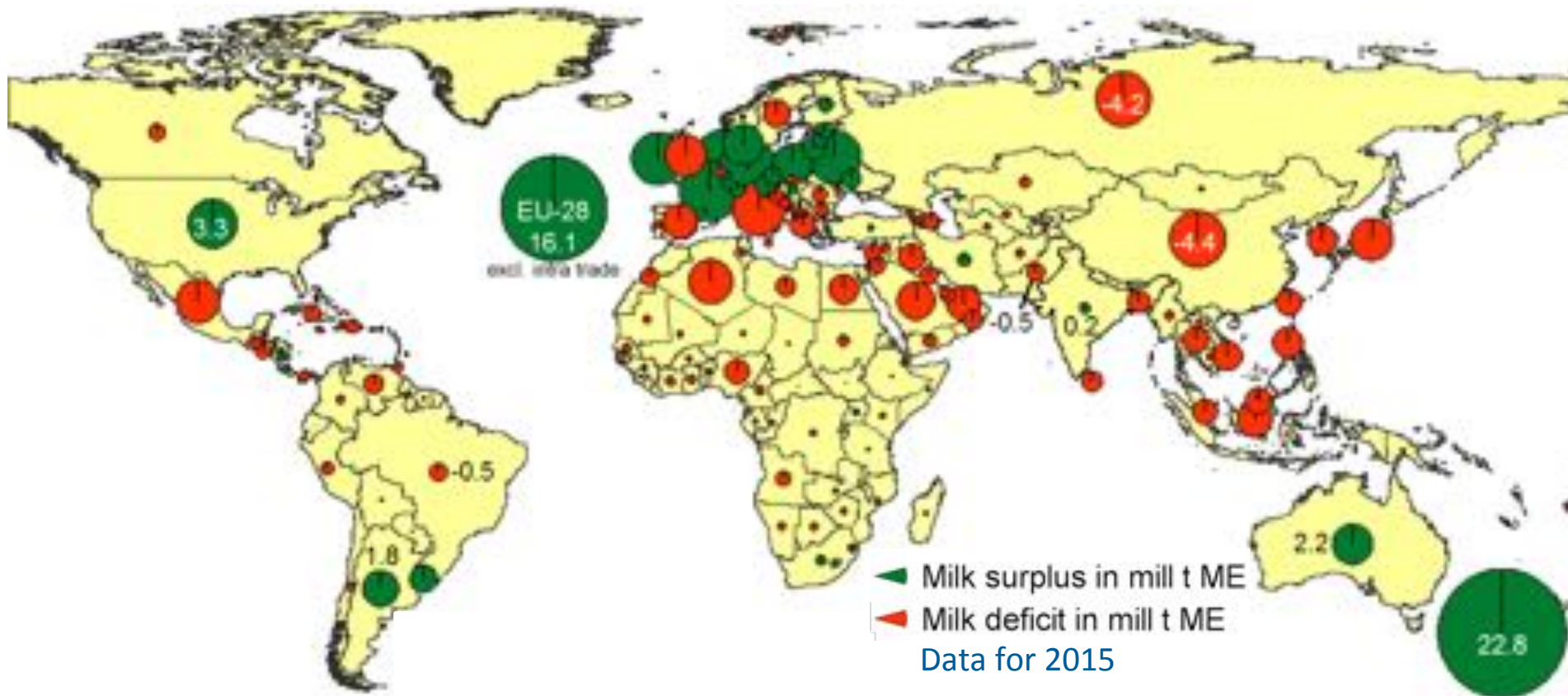
IFCN Combined World Milk Price



Monthly data 2006 - 2017



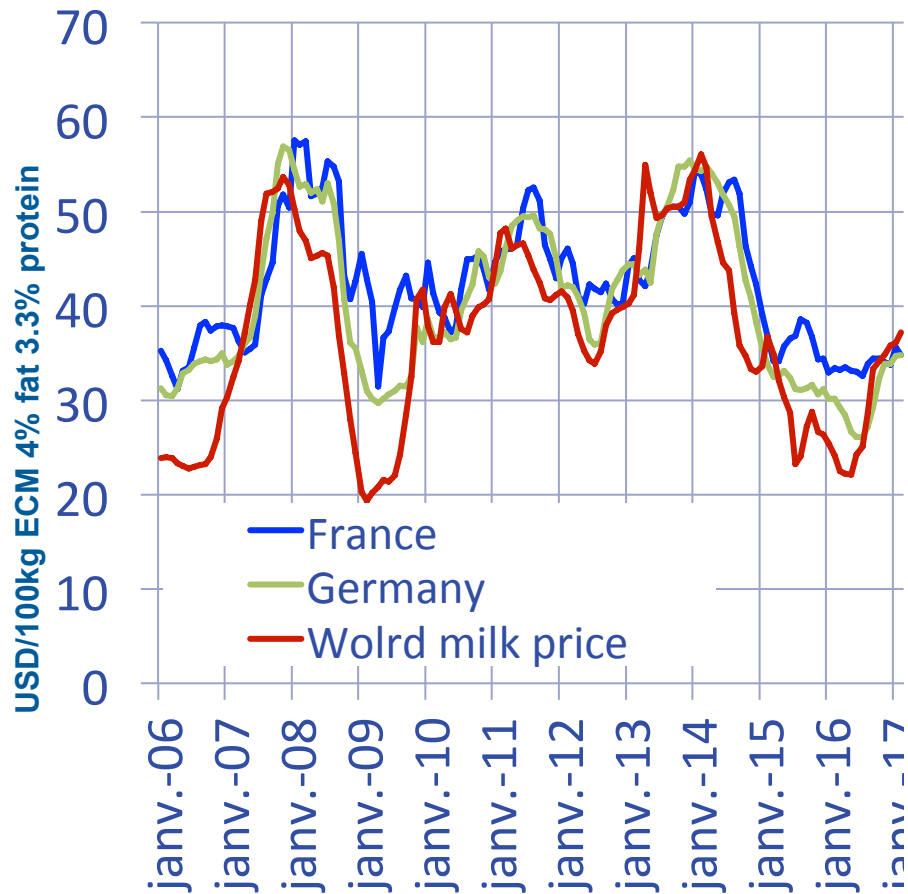
Milk surplus and deficit per country 2015



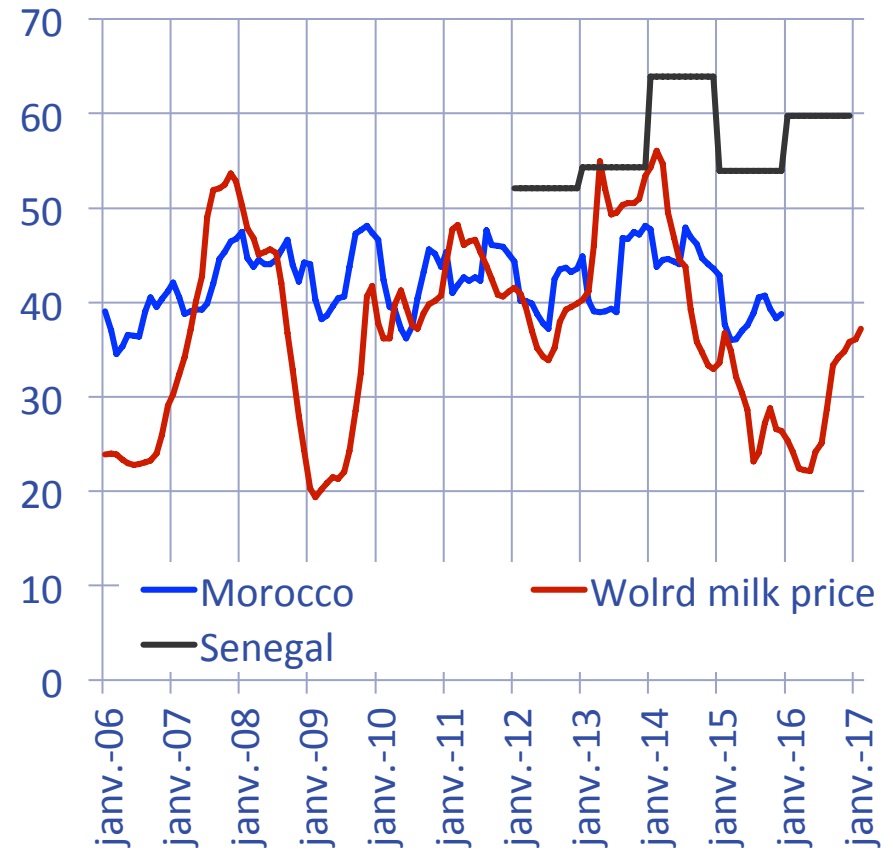
- New Zealand and the EU-28 provide 60% of the milk on the world market (excl. EU intra trade)
- The main dairy importing regions demand 62% of the dairy available on the world market: Near and Middle East, North Africa, East and South East Asia, Russia and Mexico

World and national milk prices trends

World price vs France / Germany

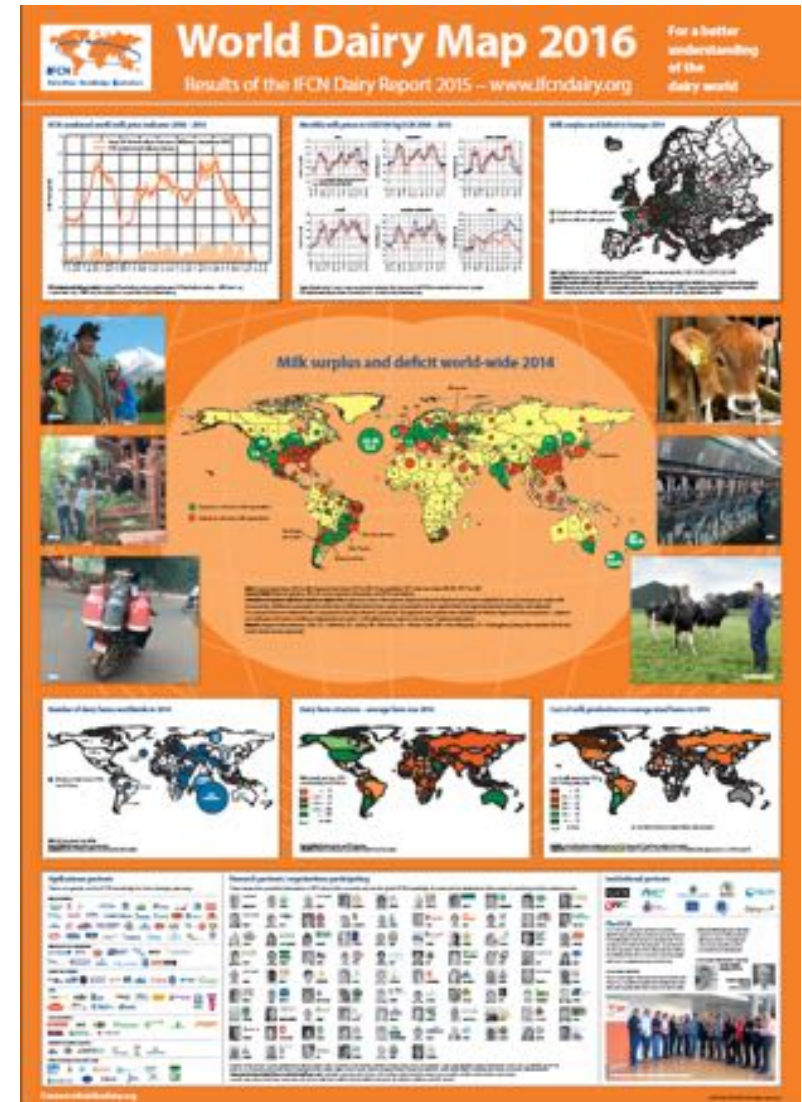


World price vs African countries



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IFCN - The Dairy Research Network

Mission:

We create a better understanding of the dairy world by providing comparable data, knowledge and inspiration.

Key benefit from data services: Use time for analysing not data mining

The IFCN Network approach – consisting of three pillars



- The IFCN Research Network of researchers
- The IFCN Supporter Partner Network of companies/institutions
- The IFCN Research Center with > 15 dairy economists



Status of the IFCN Network in 2017

Research partners in > 100 countries



 52 countries with farm economic **and** country profile data
 53 countries with country profile data



Supporting partners (> 100)

<p>Milk processing</p> 
<p>Milking and barn equipment</p> 
<p>Health and hygiene</p> 
<p>Feed</p> 
<p>Farm machinery</p> 
<p>Genetics for animal & plants</p> 
<p>Other branches of the dairy chain</p> 
<p>Institutional partners</p> 

IFCN - An ongoing knowledge creation system



IFCN Regional Workshop



Kick off meeting Kiel



IFCN Dairy Economic Workshop

Data collection,
validation & analysis



IFCN Supporter Conference



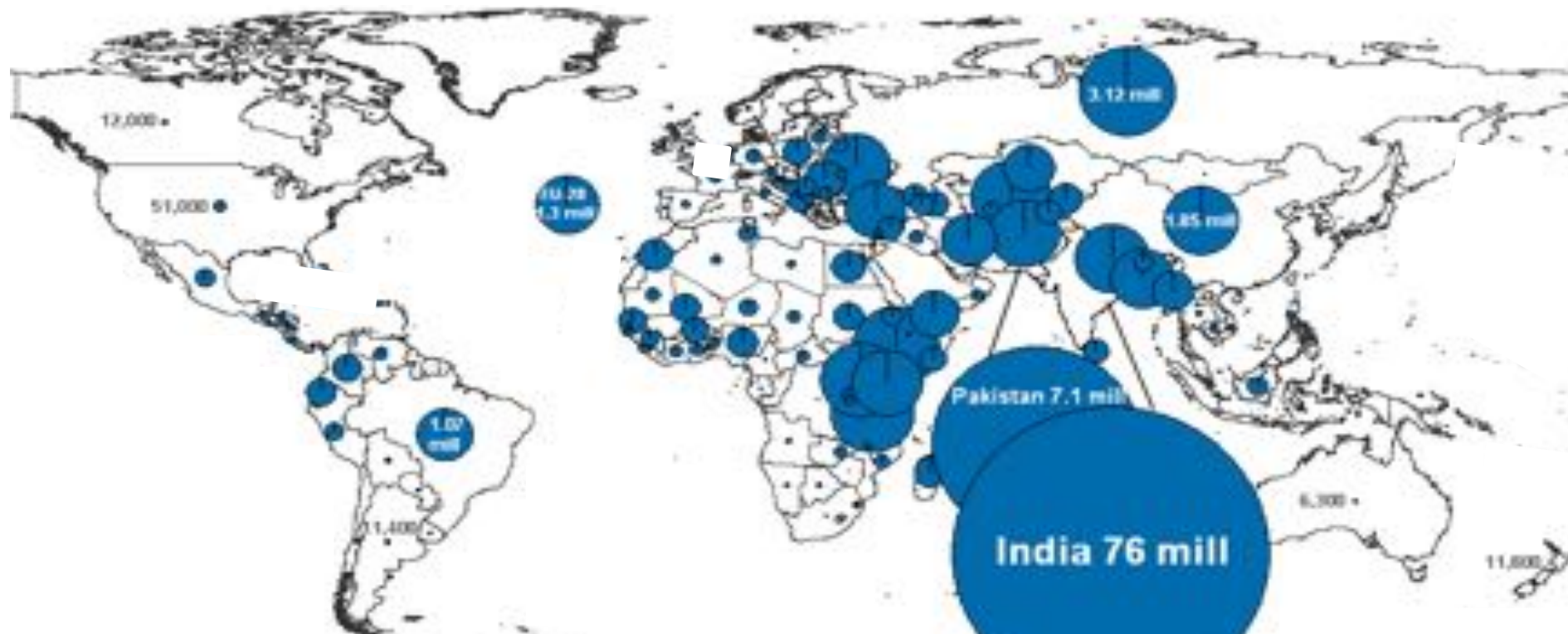
IFCN Dairy Conference

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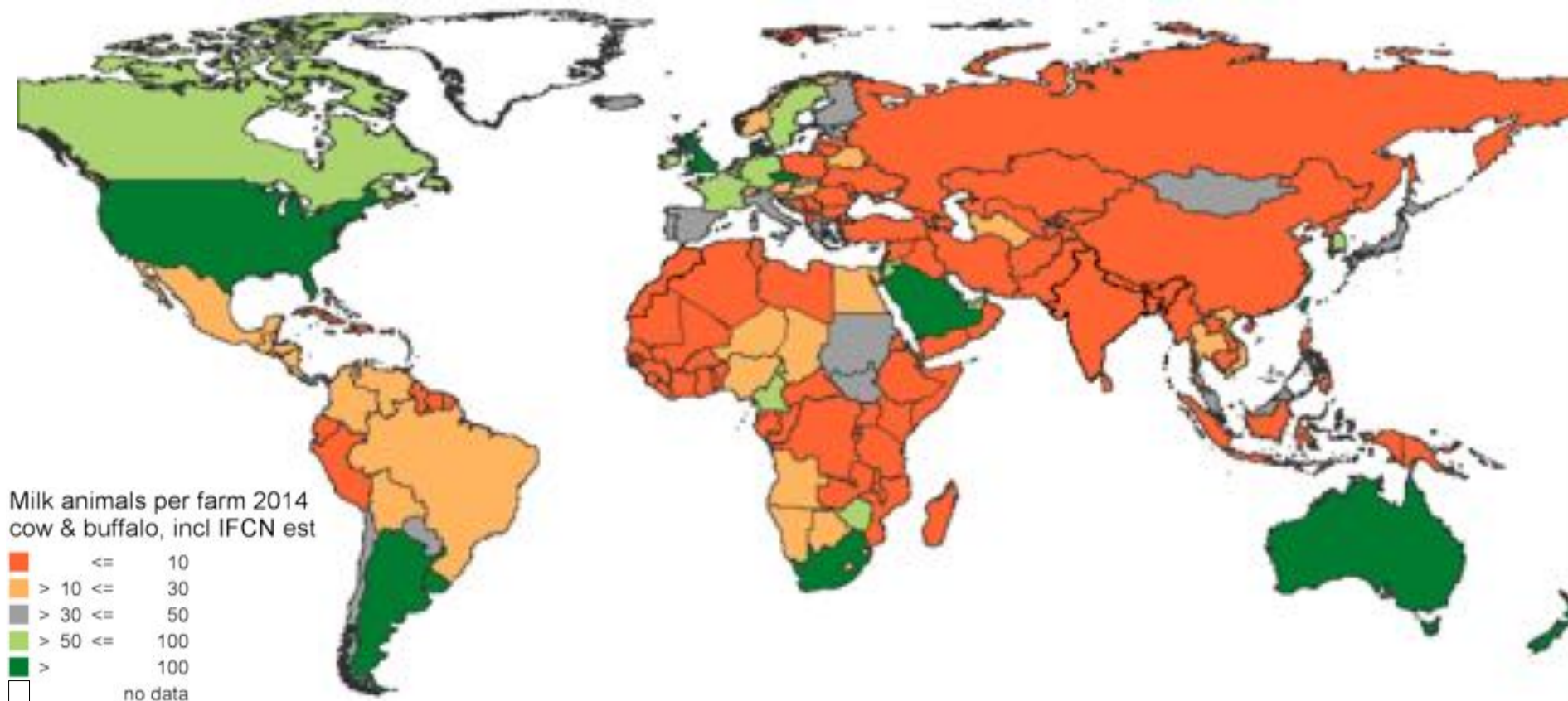
Dairy farm numbers in the world



◀ Number of dairy farms 2014, incl. IFCN est.

- 121 million dairy farms (Africa ca.13,5 million)
- The majority in emerging dairy countries
- **1 billion people** related to milk production (600 people on farms, ca. 400 up/downstream)

Average dairy farm size per country



2.9: The Ø world dairy farm has 2.9 cows & produces (Africa 5,3 cows)
= 17 litres milk / day

13 countries have Ø farm size >100: US, DK, GB, CZ, CY, AR, UY, AU, NZ, SA, IL, ZA, TW

Farm ownership & their key drivers

Small farms “Household farms”

Key characteristics: Small farms 1-3 cows, dairy is one income source, 50% of the milk is consumed on the farm, 50% sold.

Key driver: Selling milk provides daily cash for family needs.

Medium farms “Family farms”

Key characteristics: Work is mainly done by the family, size in developed countries 10 up to 100/300 cows?

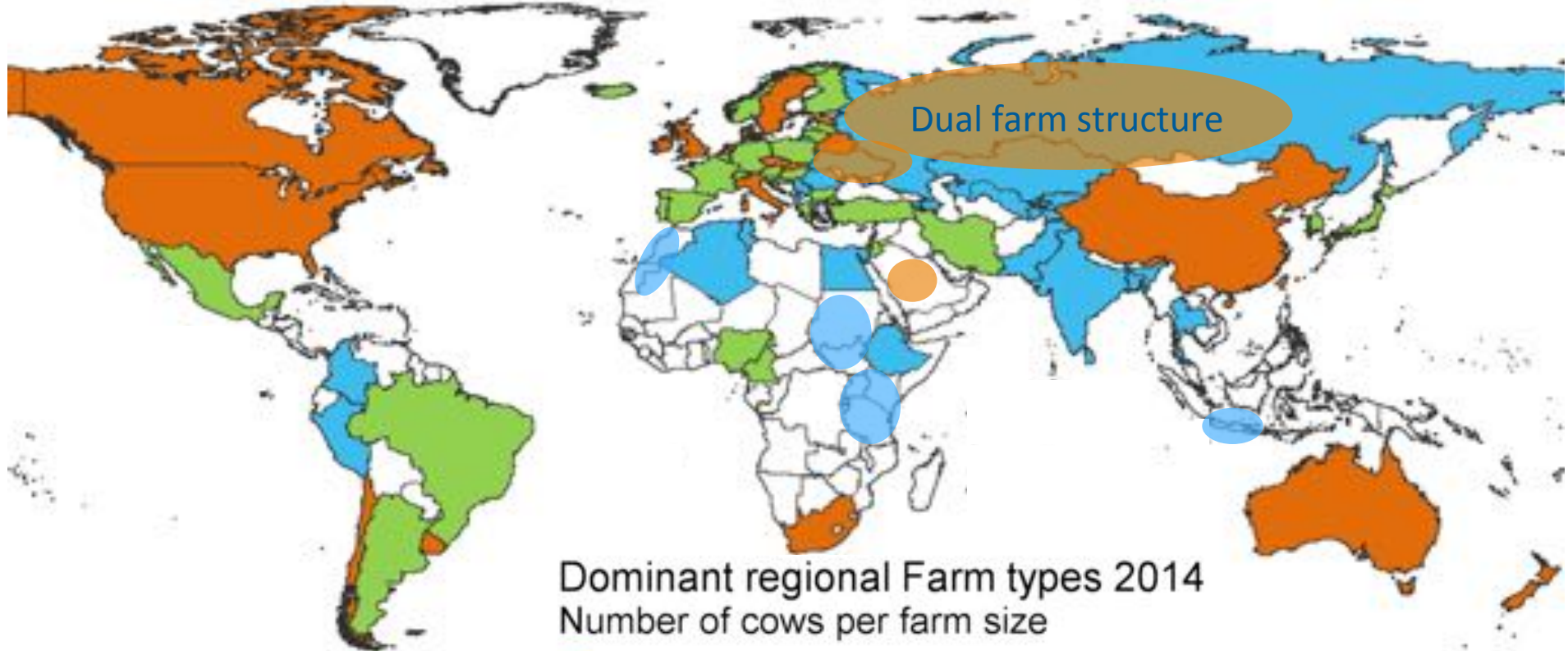
Key driver: Generate an income.

Large farms “Business farms”




Key characteristics: Work is mainly done by employees, size in developed countries > 300 cows?

Key driver: Generate the expected ROI.

What farm type is dominating per country?



Dominant regional Farm types 2014
Number of cows per farm size

-  > 1 <= 10 Small farms – in emerging countries
-  > 10 <= 100 Medium farms – in EU; BR, MX, TR
-  > 100 Larger farms – US; Oceania; China, ZA

Farm structure developments

Case of 3 countries – estimations for India

India

Ca. 2

∅ herd size change
1996-2014:

∅ annual %-change
in farm number:

2.8%

Brazil

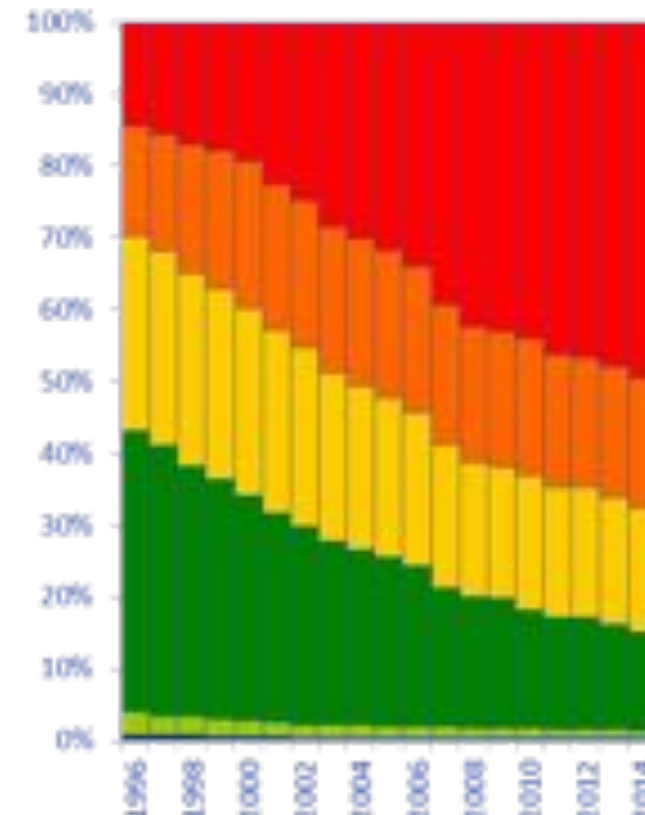
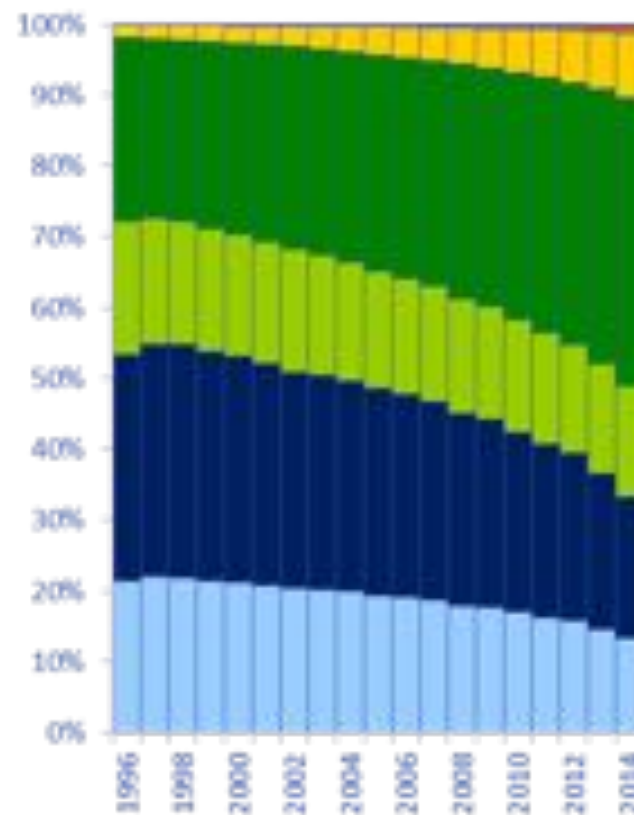
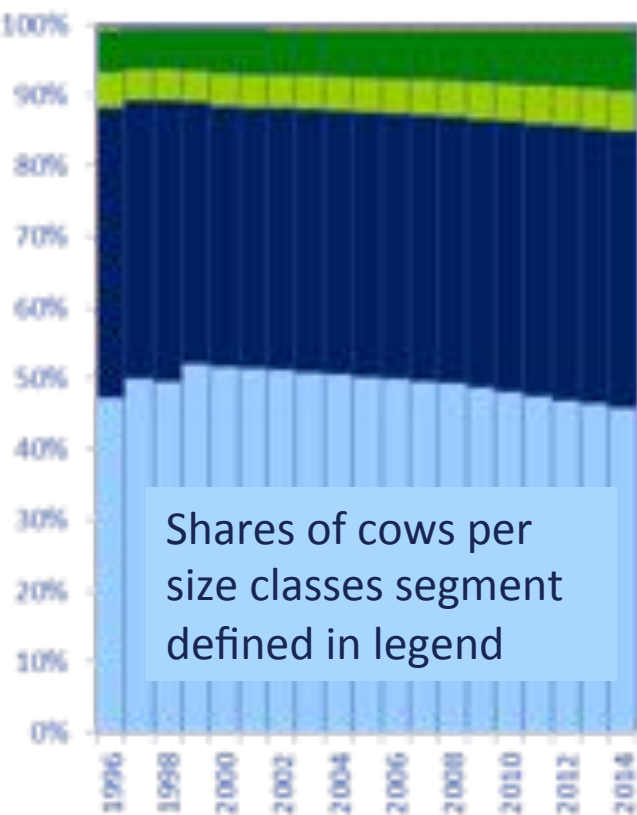
9.0 -> 22

-2.3%

USA

72 - >182

-3.4%

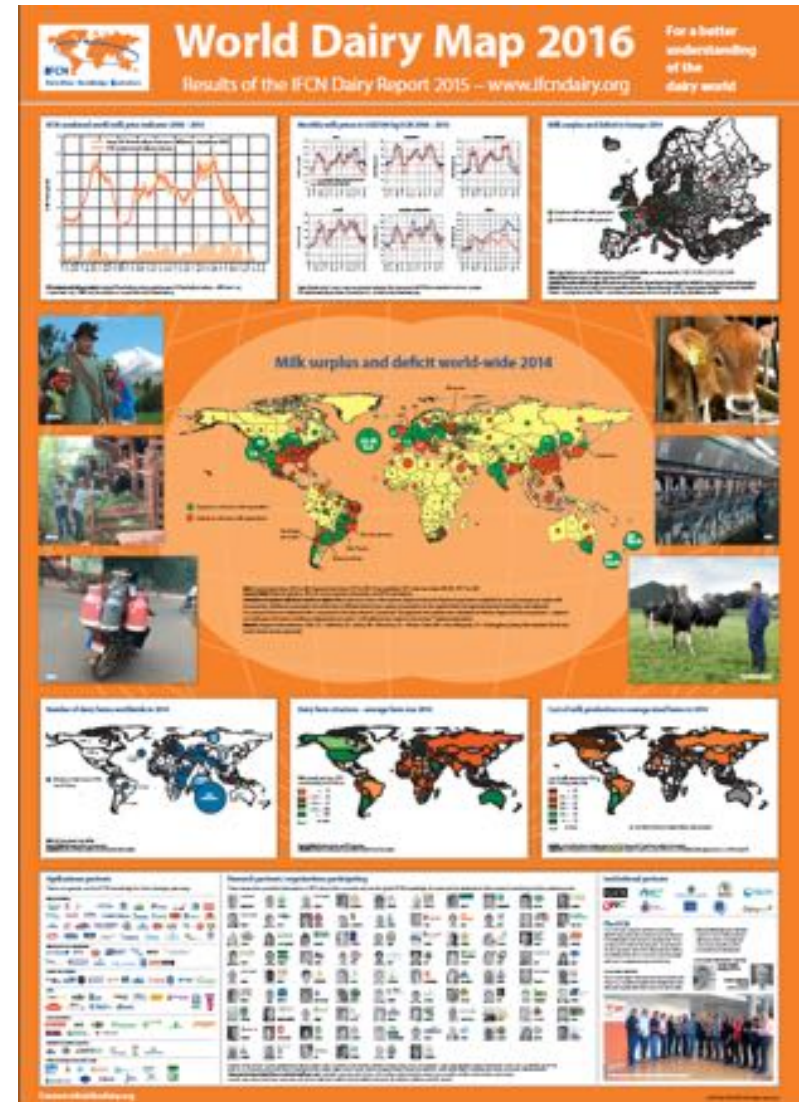


Legend:



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Dairy farm comparison analysis in 2016

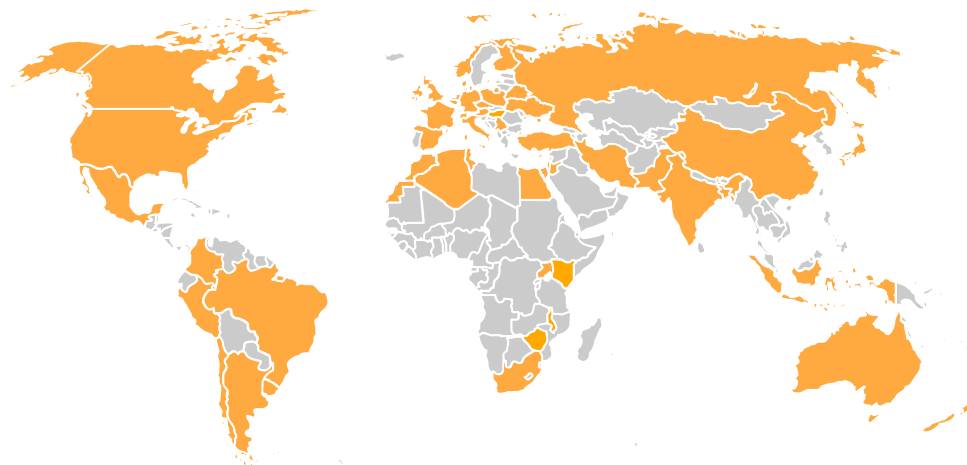
Why? The future of a dairy region is strongly driven by the competitiveness of milk production.

Method concept

- a) Typical farm concept
- b) Model TIPI-CAL
- c) Validation loops & quality check
- d) The cooperation between researchers



Participating countries 2016



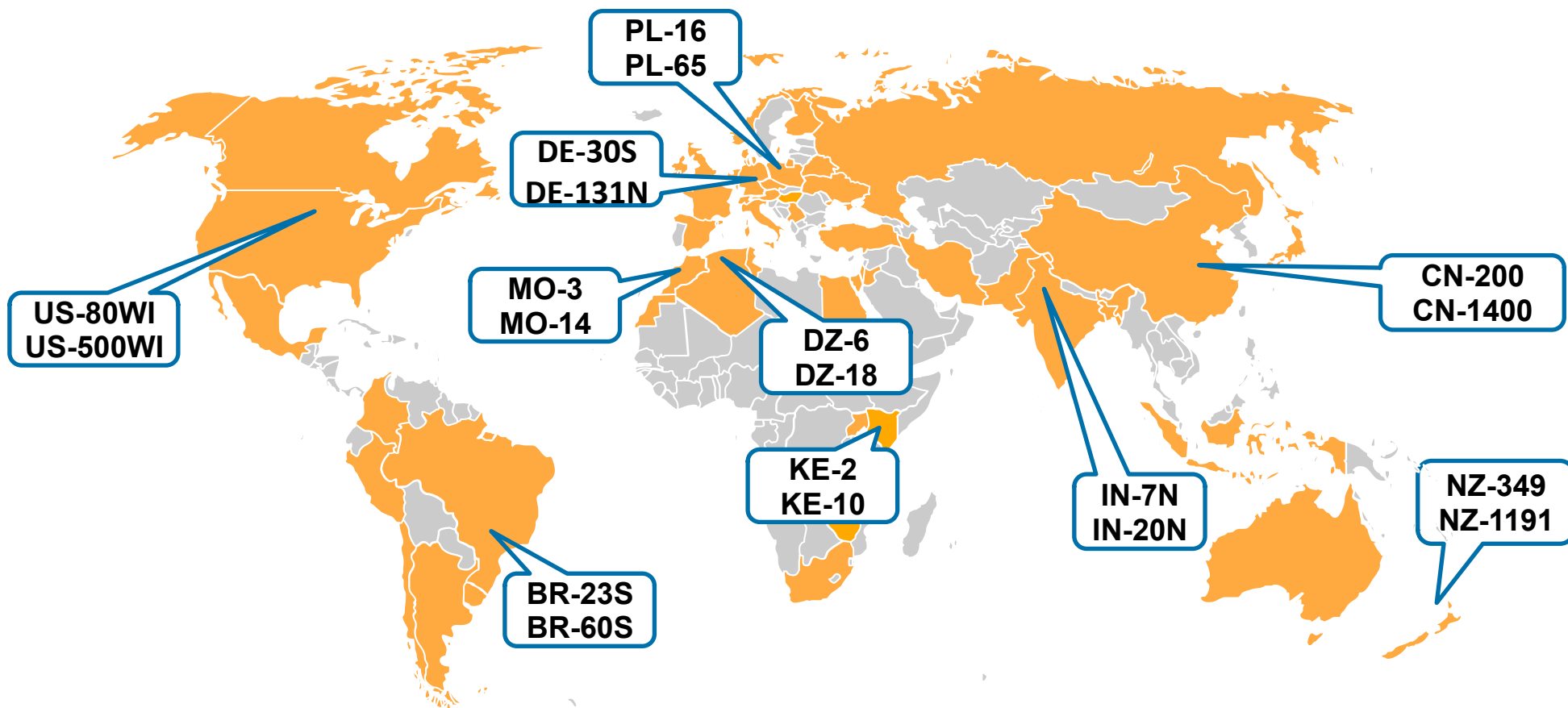
Coverage: 52 countries; 89% of world production, 146 typical farm types

A typical farm type represents in each country a certain production system and x% farm and y% cows

Time period: data for calendar year 2015*

* Seasonal data for New Zealand

Examples of typical farm types

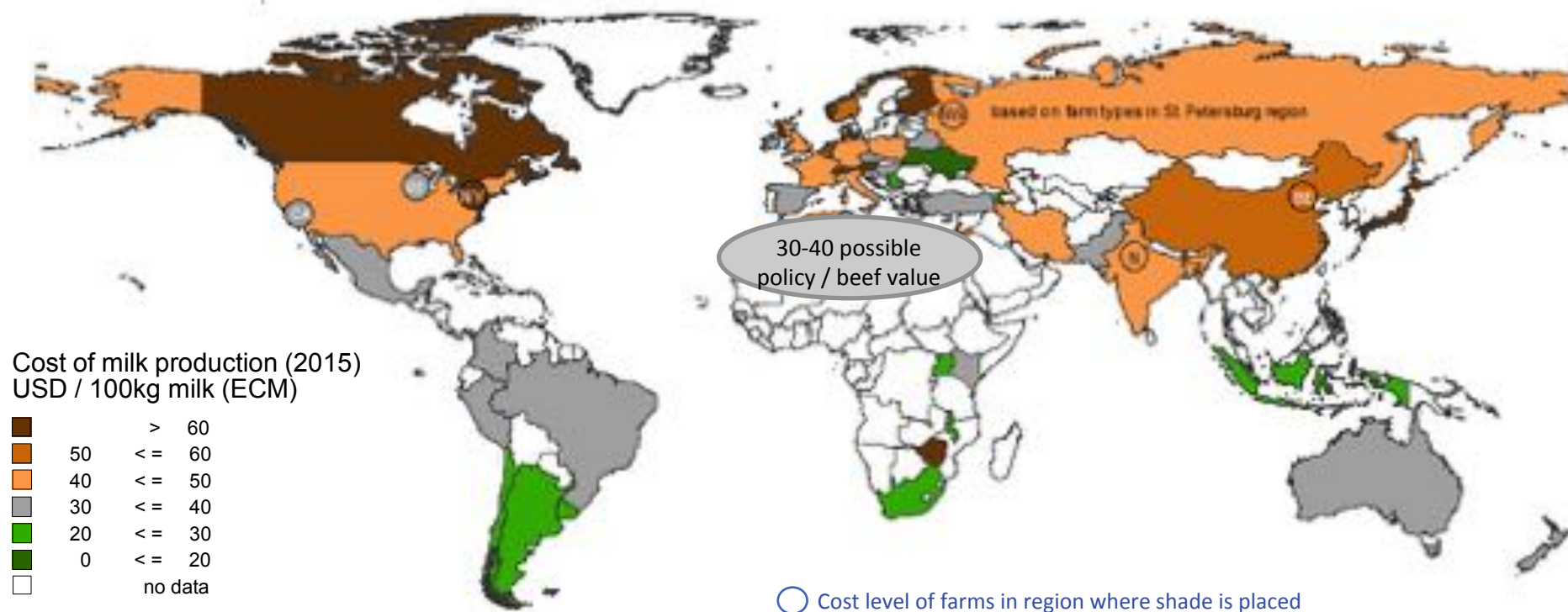


Legend: ● Countries where IFCN Typical farms are analyzed

DE-30S: Typical German dairy farm with a herd size of 30 cows in the southern part of the country

Cost of milk production – 2015

On average sized typical farms in USD/100 kg milk (ECM)



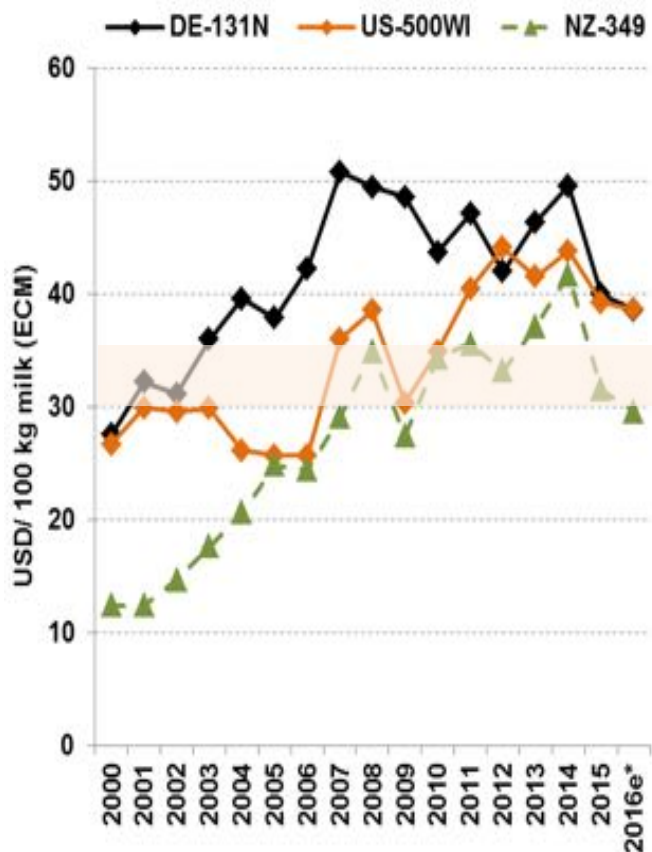
- Low cost (< 30 USD):** Ukraine, Argentina, Uruguay and Peru, South Africa, Indonesia
- Moderate (30 – 50 USD):** Oceania, parts of Latin America, parts of Europe, US, South Asia
- High cost (>50 USD):** Canada, Japan, Switzerland, Scandinavia, China, Russia

Cost trend analysis of typical farms

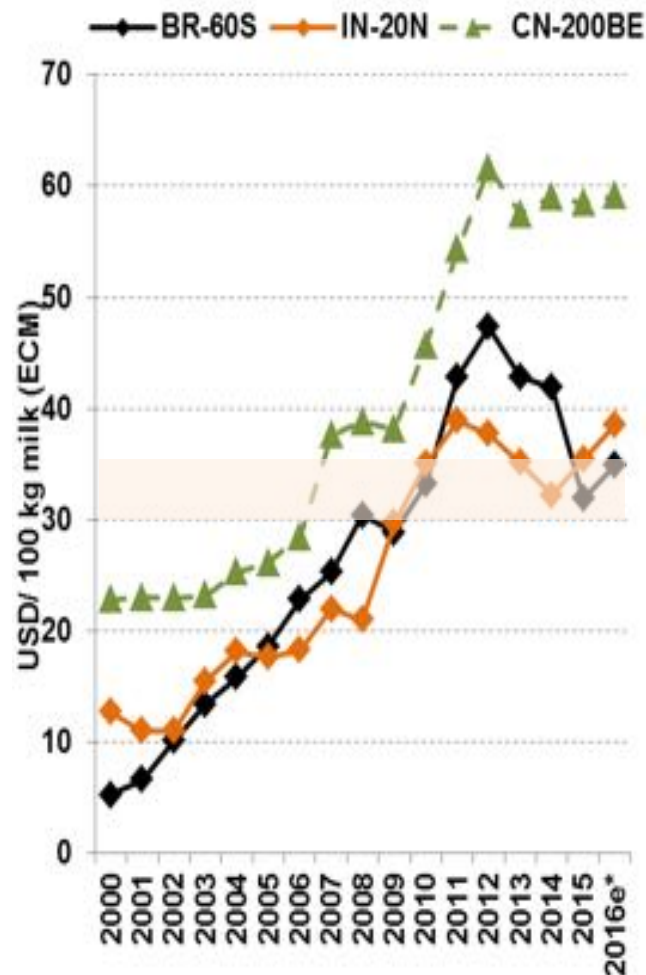
For 6 countries 2000 - 2016

China, India, Brazil

Germany, USA, New Zealand



2016e*: estimated for 2016



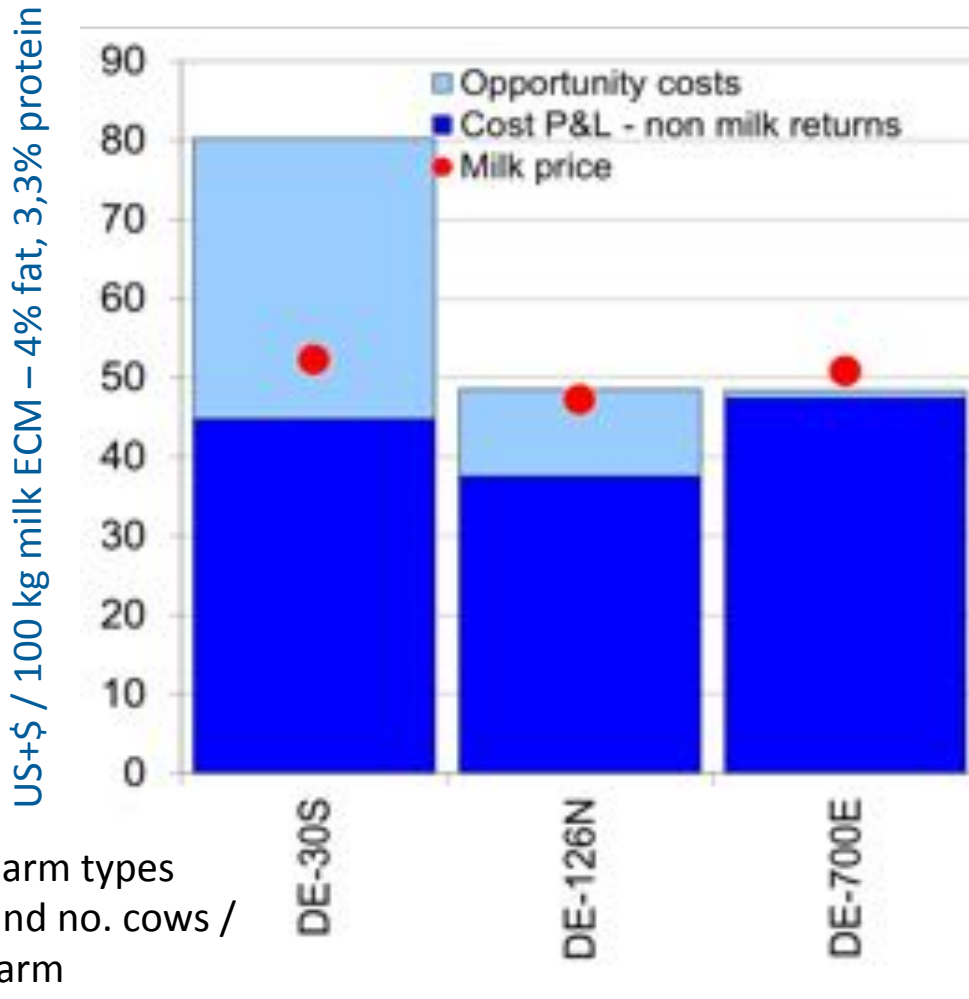
- Costs in the **US** and **DE** are on a level around 40 USD/100 kg ECM, while costs in **PL** are at 30 USD/100 kg ECM.
- Costs in **BR** and **NZ** are moving towards the 40 US-\$ mark upwards, while costs in China have consolidated around 60 USD/100 kg ECM for the last 5 years.
- Milk production costs are between 30 and 40 USD/100 kg ECM in many countries. China has developed into a high cost country.

Understanding costs of milk production

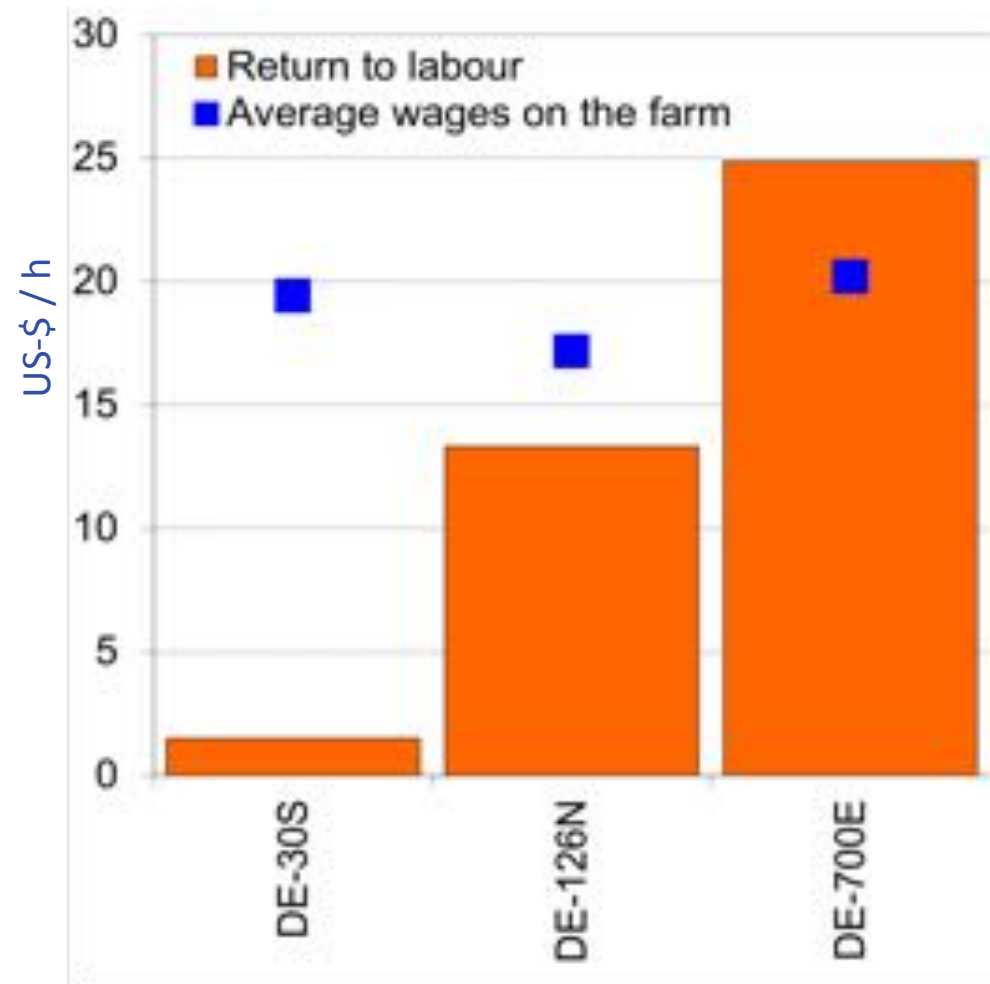
Germany—Comparison of 3 typical farm types in 2014



Cost of milk production

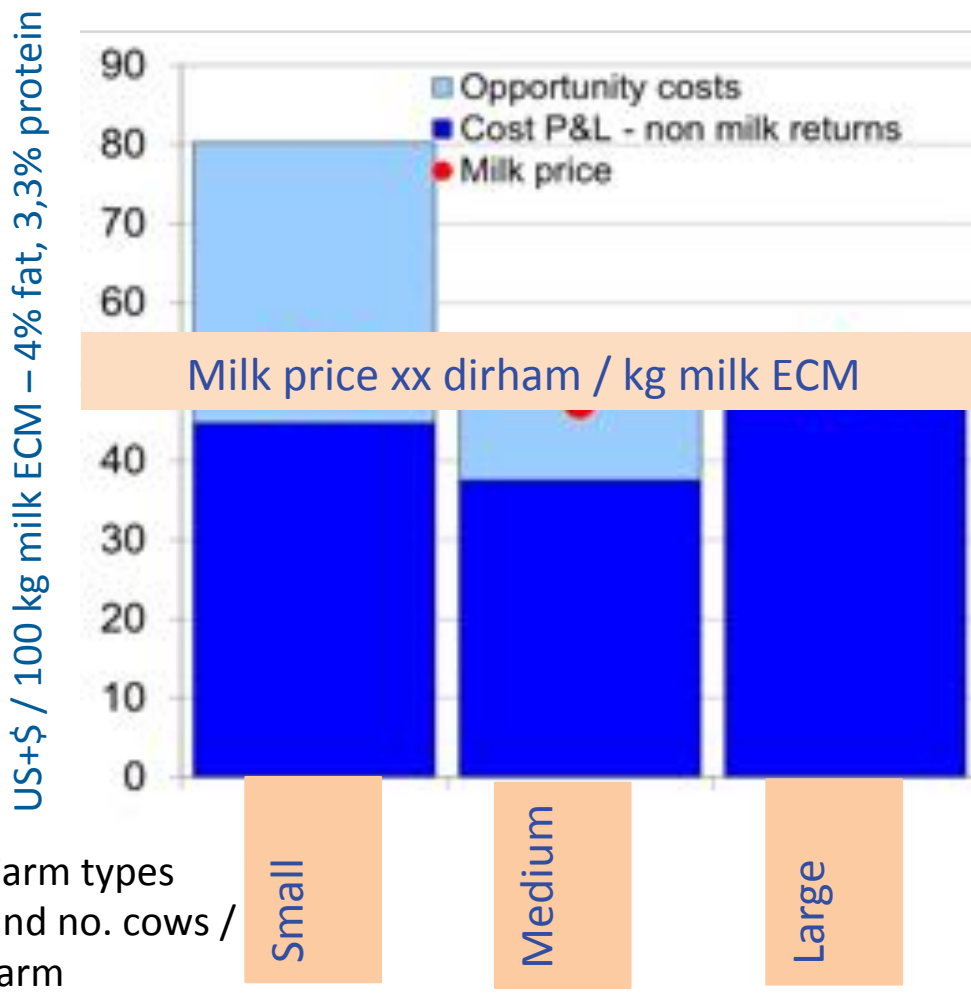


Return to labour \$/h

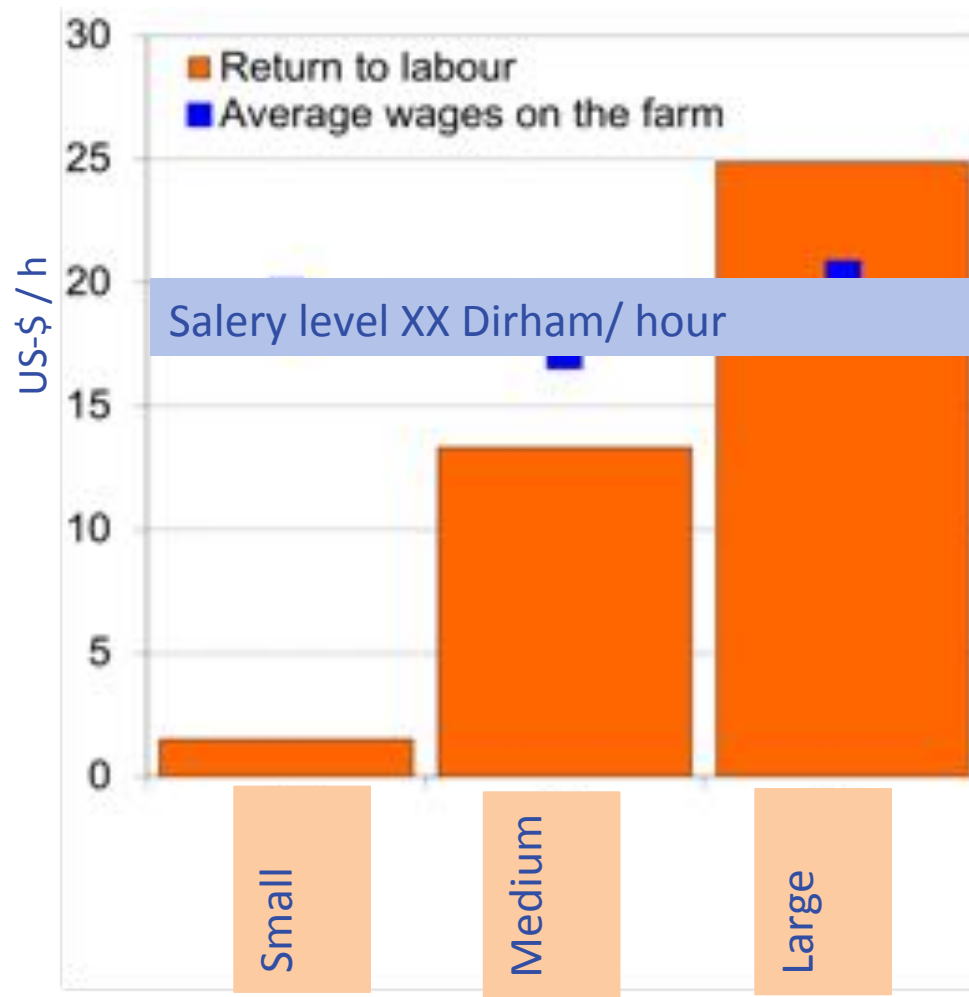


Morocco - How can it look like?

Cost of milk production



Return to labour \$/h



Future farming systems/model are the key for growth

The case of Indonesia a value creating farming system



Dairy farmer (3 cows)

Rice farmer (0,5 ha)

1. **The world milk price** – very volatile + impacting every country
2. **Social dimension of dairy** : 1 billion people livelihood relate with it
3. **Three farm types**: Simplified we have Household, Family and Business farms
4. **Dairy farm competitiveness**:
Cost global range from 10 - 100 US-\$ / 100 kg milk
Morocco - cost ca. 35- 40 US\$ - issue of beef prices / direct payments/ currency
5. **To steps to support prosperity of a dairy region**
 - a) **Status quo analysis**: In times of significant changes in dairy related output prices, farm input prices, and exchange rates, it is extremely important to benchmark the competitiveness of the current dairy farming system annually.
 - b) **Searching for sustainable farming model is a strategic task**. Economic sustainability arise one these models can at a given milk price provide a decent return for the labour, the land and the capital.

Thank you for your attention



Network of IFCN Researchers



Network of IFCN Supporters



IFCN Dairy Research Center

This presentation is the result of a large number of people working together since 2000.