

# **The best dairy cow system for the future** in terms of environment, economics and social criteria – worldwide

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# Switzerland - is this the system for the future?

- + landscape and rural culture preserving,
- extremely high in costs (1 US\$/kg milk)
- highly depended on policy (tariffs + direct payments)



**Typical farm**  
**60 cows/ farm**  
**6.000 kg milk/cow**





## USA - is this the system for the future?

- + High yield, + low CO<sub>2</sub> emissions
- high in costs especially once grain price rise (0,4\$/kg milk)
  - the dairy cow a competitor for human food?



Typical farm  
2000 cows/ farm  
10.000 kg milk/cow



# Bangladesh - is this the system for the future?

- very low yield - very high CO<sub>2</sub> emissions
- + The dairy cow a converter of straw into milk, + very low costs (0,25\$/kg)



Typical farm  
2 cows/ farm  
800 kg milk/cow



# Outline


## 1. Introduction

## 2. IFCN method & Status quo analysis

## 3. Ideas for the future

## 4. Summing up





# World Dairy Map 2011

For a better understanding of milk production world-wide

Results of the IFCN Dairy Report 2010 – [www.ifcndairy.org](http://www.ifcndairy.org)

### IFCN Ranking 2011 – Top milk processors by milk intake

Rank	Company	Country	Production (1000 t)	Intake (1000 t)
1	Danone	France	1000	1000
2	Unilever	UK	800	800
3	Arla Foods	Denmark	700	700
4	Land O'Lakes	USA	600	600
5	Emmentaler	Germany	500	500
6	Westland	UK	400	400
7	Alm	Sweden	300	300
8	Westmead	Australia	200	200
9	Westmead	Australia	200	200
10	Westmead	Australia	200	200

### National milk prices vs world milk price development

### Balance of national milk supply to world market milk price

### Milk production and share of milk delivered in 2009

● milk produced in 2009  
 ● milk produced and delivered in 2009  
 ● milk produced and not delivered in 2009  
 ● milk not delivered in 2009

Source: Data on milk production and milk delivered 2009 (in 1000 t) from FAO. Source of data: National statistics, IFCN, FAO estimates for some countries. Share of milk delivered to the world market: 2009 (in %). Source: IFCN Dairy Report 2010. Copyright © 2010 IFCN. All rights reserved.

### Revenue of the dairy enterprise and decomposed parameters

### Costs of milk production

### Average cost of milk production in 2009 (Estimation by IFCN)

### Top 20 dairy countries in 2009 - with EU-27 as aggregate

Rank	Country	Production (1000 t)	Share of EU-27	Share of world
1	India	1000	0.0	1.0
2	USA	800	0.0	0.8
3	France	300	100.0	0.3
4	China	200	0.0	0.2
5	Germany	150	100.0	0.15
6	UK	100	100.0	0.1
7	Spain	80	100.0	0.08
8	Italy	70	100.0	0.07
9	Canada	60	0.0	0.06
10	Japan	50	0.0	0.05
11	Sweden	40	100.0	0.04
12	Denmark	30	100.0	0.03
13	Poland	20	100.0	0.02
14	Belgium	15	100.0	0.015
15	Switzerland	10	100.0	0.01
16	Australia	8	0.0	0.008
17	South Africa	5	0.0	0.005
18	Canada	4	0.0	0.004
19	USA	3	0.0	0.003
20	USA	2	0.0	0.002

### Agribusiness partners

These companies use the new knowledge for their strategic planning

### Research partners / organisations participating

These research partners help to disseminate the new knowledge and to develop the new technology

### Institutional partners

# What is IFCN ? – International Farm Comparison Network

The IFCN is a global dairy **network of researchers, companies and other stakeholders** who are active in the dairy chain.

The IFCN has a **Dairy Research Center (DRC)** with 15 dairy researchers coordinating the network & running research activities.



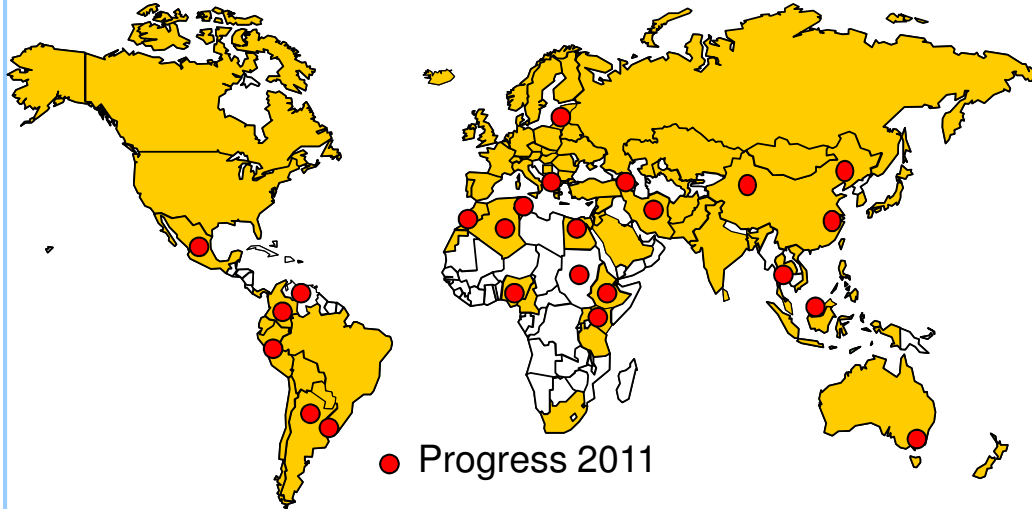




# Status of the IFCN Network in 2011

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## Researchers partners f. 86 countries




## Institutional partners

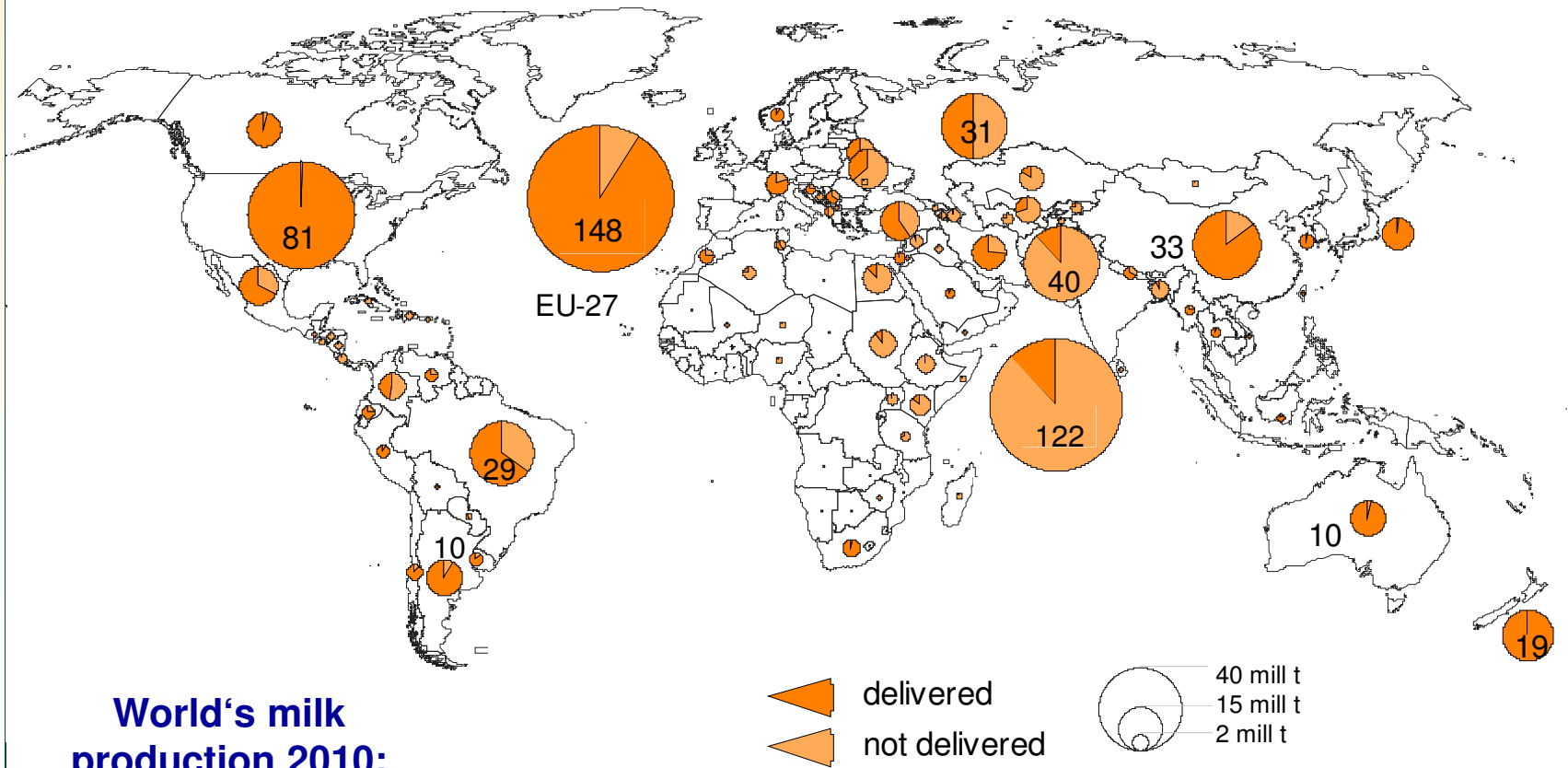


## 80 agribusiness partners

Milk processing	Milk packaging	Milking	Health & hygiene	Feed industry
Genetics	Forage & machinery	Other branches		

# Status of milk production in 2009

## Cow and buffalo milk in mill. t ECM



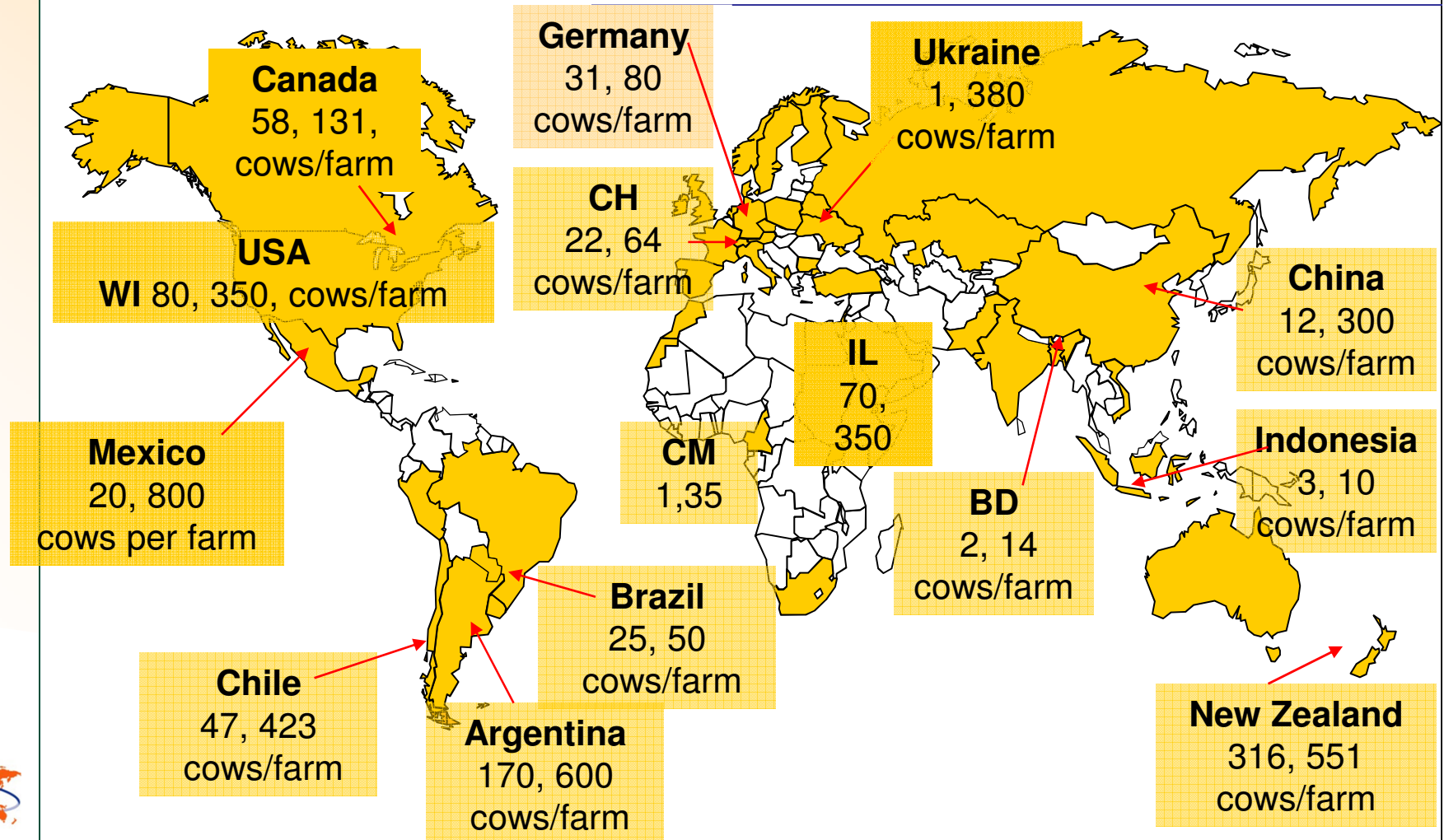
**World's milk production 2010:  
685 mill. t ECM**





# IFCN concept of typical farms

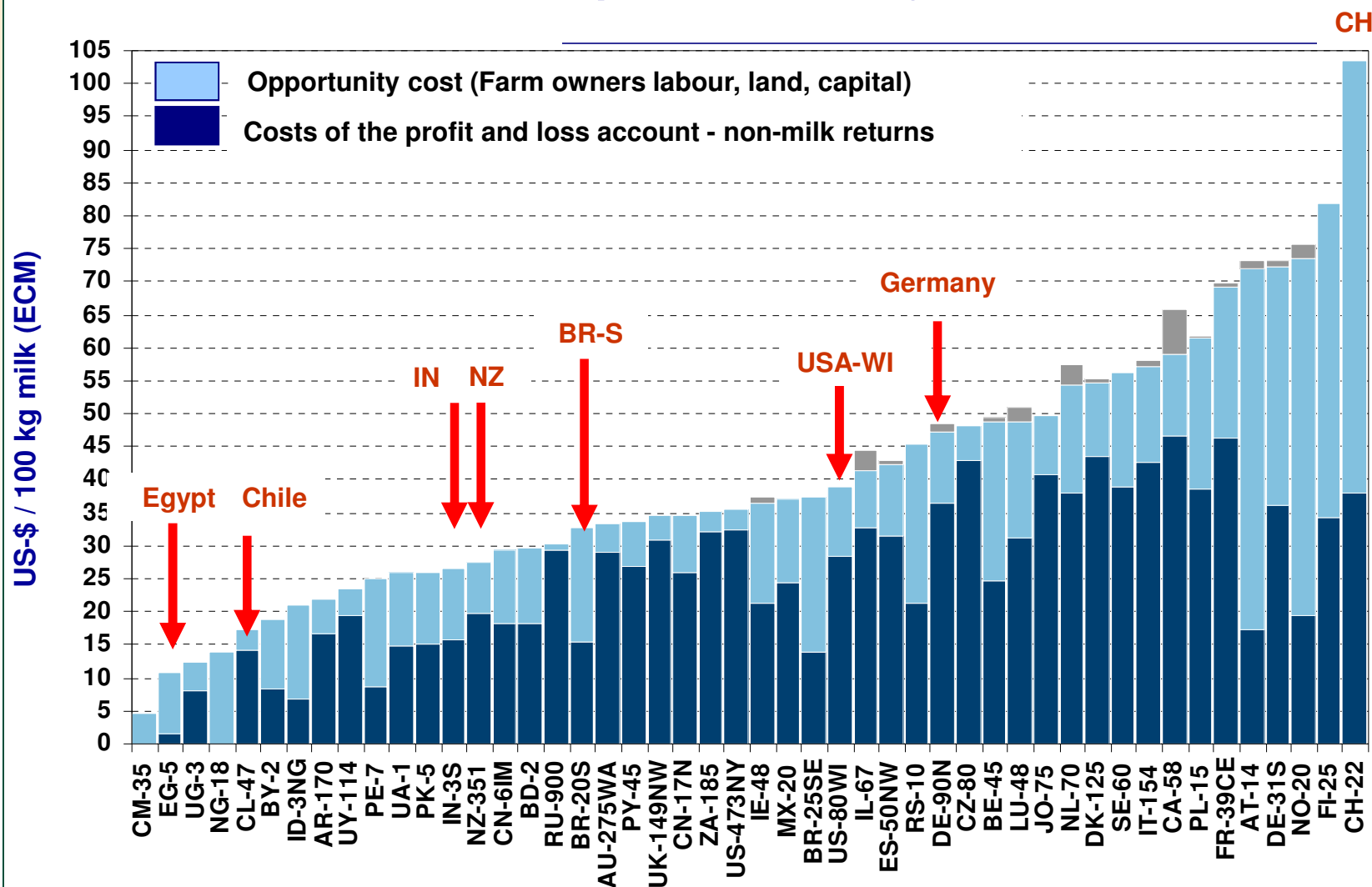
they represent in a country a certain share of milk production





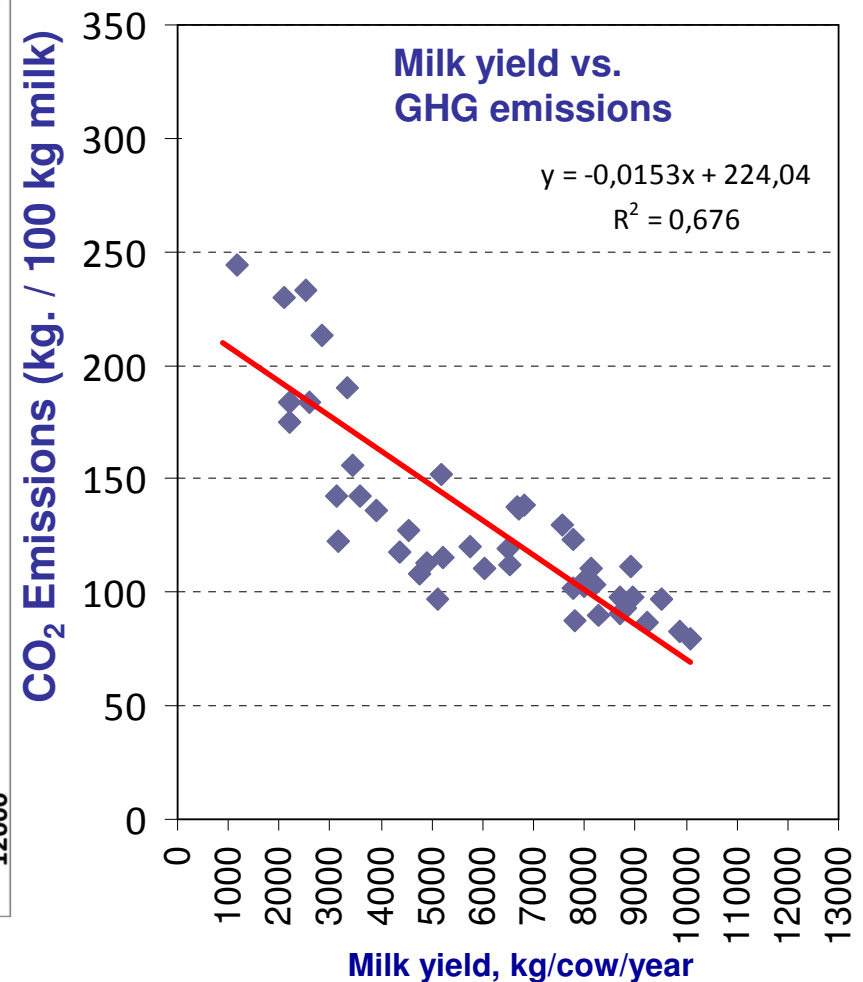
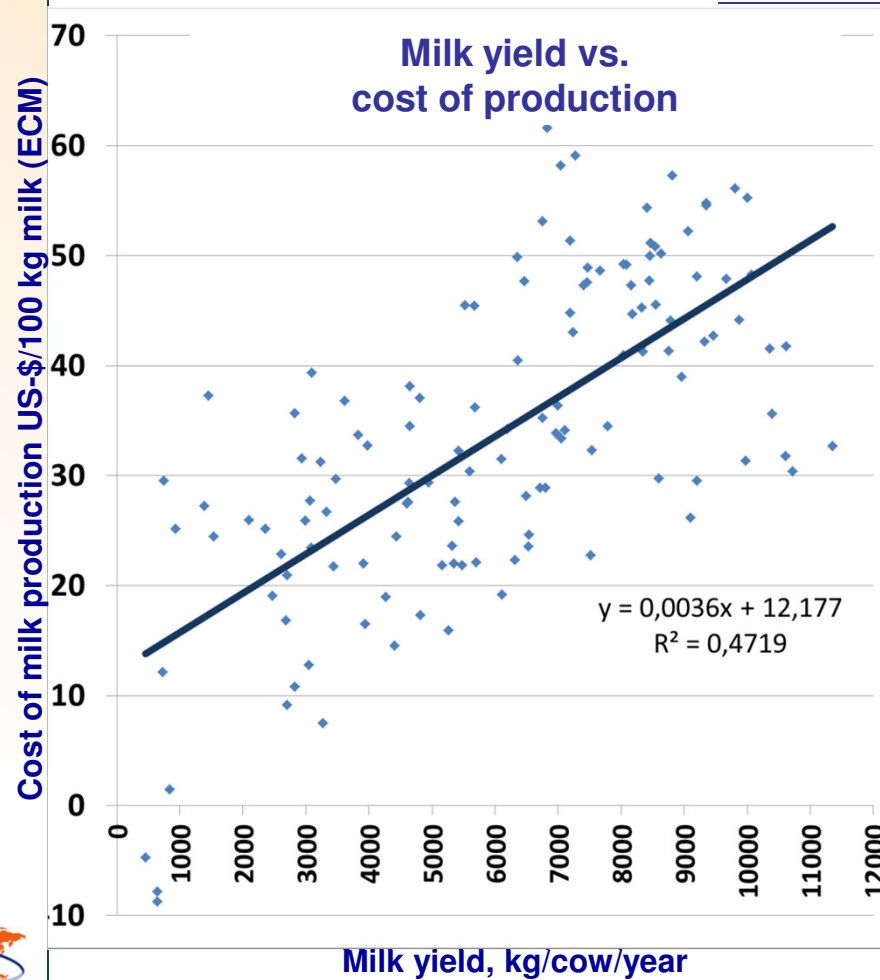
# IFCN comparison of “Ø size” farm types

## Cost of milk production only in 2009





# Milk yield and its relation to production costs and CO<sub>2</sub> emissions



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N=153 farming systems in 45 countries, Dairy report

2010, Excl CH, AT, NO, FI farms

N=45 farm types from 38 countries - 2007



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### IFCN Ranking 2011 – Top milk processors by milk intake

Rank	Company	Country	Milk Intake (1000 t)	Value (1000 USD)
1	Danone Waters of India	India	157	124
2	Unilever	India	152	121
3	Amul	India	148	118
4	Amul	India	148	118
5	Amul	India	148	118
6	Amul	India	148	118
7	Amul	India	148	118
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Source: Data on milk production and milk delivered 2009 (www.ifcn.org)  
 Source of data: National statistics, FAO, IFCN estimates for some countries.  
 Share of milk delivered to the world market: India 24%, Turkey 10%,  
 Cameroon 10%, EU-27 27%, other 20% (2009), source: IFCN Dairy Report 2010, p. 10.

### Revenue of the dairy enterprise and decomposed payments

### Costs of milk production

### Average cost of milk production in 2009 (Estimation by IFCN)

### Top 20 dairy countries in 2009 - with EU-27 as aggregate

Rank	Production (1000 t)	Value (1000 USD)	Share (%)	Country	Share (%)
1	100	100	100	EU-27	100
2	80	80	80	India	80
3	60	60	60	China	60
4	40	40	40	USA	40
5	30	30	30	France	30
6	20	20	20	Germany	20
7	15	15	15	UK	15
8	10	10	10	Canada	10
9	8	8	8	Japan	8
10	7	7	7	Italy	7
11	6	6	6	Spain	6
12	5	5	5	China	5
13	4	4	4	USA	4
14	3	3	3	France	3
15	2	2	2	Germany	2
16	1	1	1	UK	1
17	1	1	1	Canada	1
18	1	1	1	Japan	1
19	1	1	1	Italy	1
20	1	1	1	Spain	1

### Agribusiness partners

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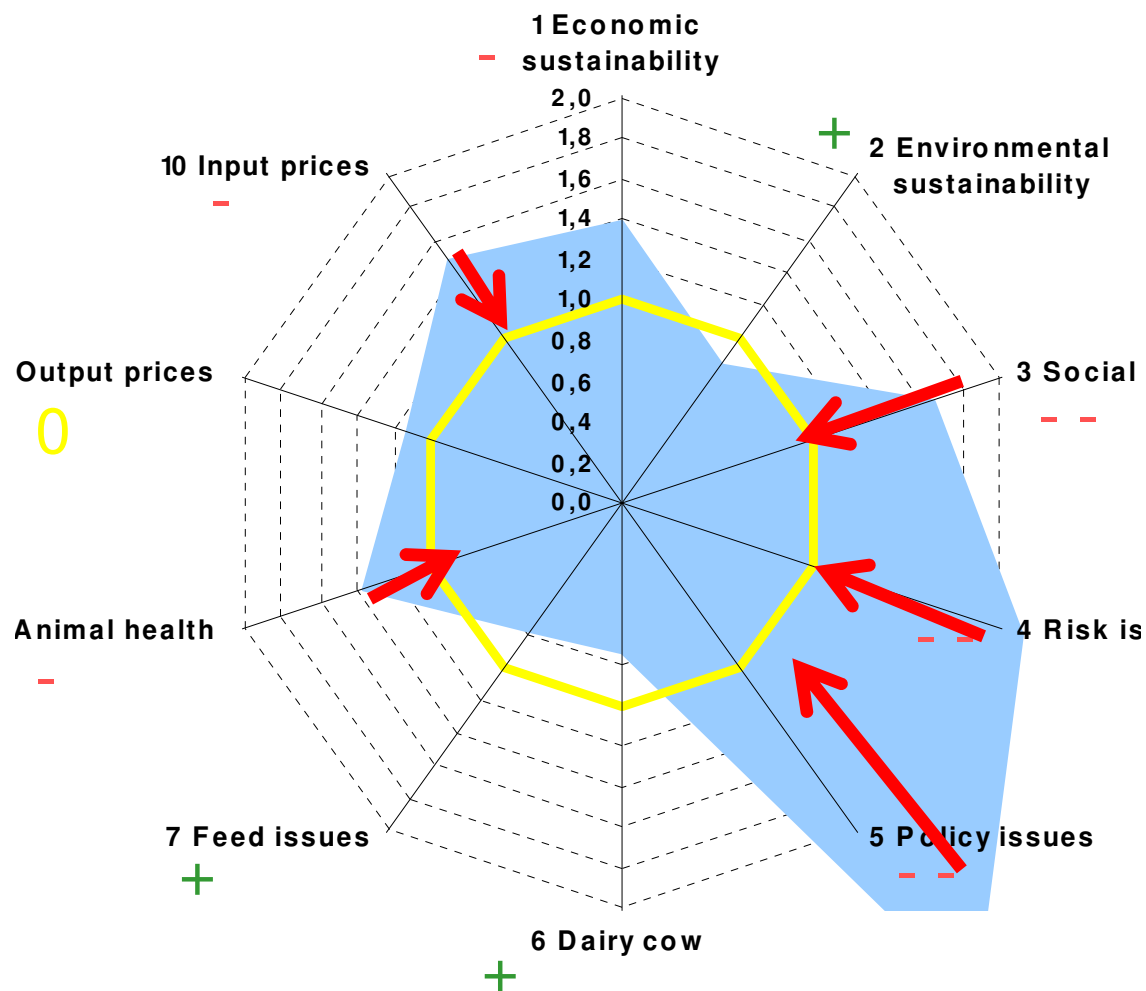
### Research partners / organisations participating

These research partners disseminate their knowledge and contribute to the global knowledge

### Institutional partners

# The future dairy farming systems has to match **various** criteria to be sustainable

IFCN idea  
to measure  
sustainability  
of milk  
production  
systems  
via 10  
indicators





# Comparing 3 countries farming systems a very simple approach – global scope

	Switzerland	USA	Bangladesh
<b>Economic indicator costs of production</b>	--	0	+
<b>Socially indicator employment/kg milk</b>	+	-	++
<b>Environmental ind. carbon footprints/kg milk</b>	+	+	--
<b>Sum Ranking</b>	<b>2</b>	<b>2</b>	<b>1</b>



## Sum up: The best dairy cow system

- 1. Management view:** The best system is the one you the dairy farmer can manage.
- 2. Regional perspective:** Every farming system has significant possibilities to improve.
- 3. System perspective:** Dairy farming is a complex system. Improving one item is easy – but what is needed is to find a solution on the future sustainable system.

**Question 1:** Where is the multidisciplinary research team -working with progressive farmers- coming together to develop the future system?

**May be this picture can inspire us?**

