



# Dairy farming systems and development paths in Slovenia

**Marija Klopčič<sup>1</sup> & Abele Kuipers<sup>2</sup>**

<sup>1</sup>Univ. of Ljubljana, Biotechnical Faculty, Dept. of Animal Science, Slovenia

<sup>2</sup>Wageningen UR, Wageningen, The Netherlands

# Introduction of Slovenia (in 2014)



**Slovenia:** cattle (dairy and suckler), forest

**Croatia:** arable farming; some large dairy farms

**Serbia:** arable farming in Vojvodina; small scale cattle and sheep farms

**Bosnia and Herzegovina:** fruits, small scale cattle and sheep farms

**Montenegro:** small scale cattle and sheep farms, fruits

**Macedonia:** mixed farming, fruits and vegetable

# Slovenian Conditions

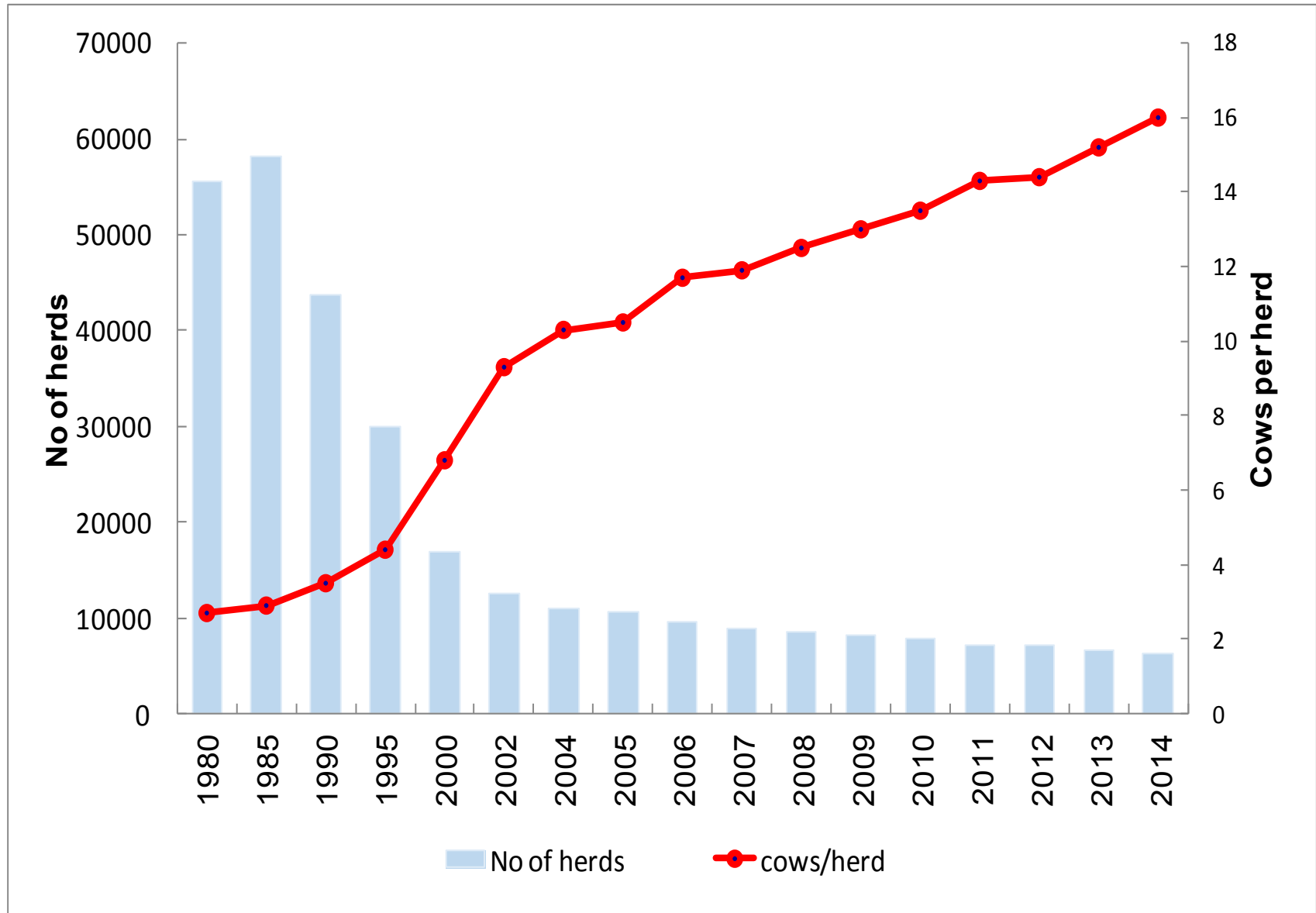
- Human population: 2,1 million
- Less favored areas (hilly, mountainous, sensitive):
  - 73% of agricultural land
  - 2/3 of rural population on these farms
  - 2/3 of all cattle; > half of milk and meat
- Land area: 63% forest; 37% agricultural, of which more than half grasslands
- Small farms: on average 7.5 ha; from history
- Maintenance of grassland and development of cattle production of strategic importance



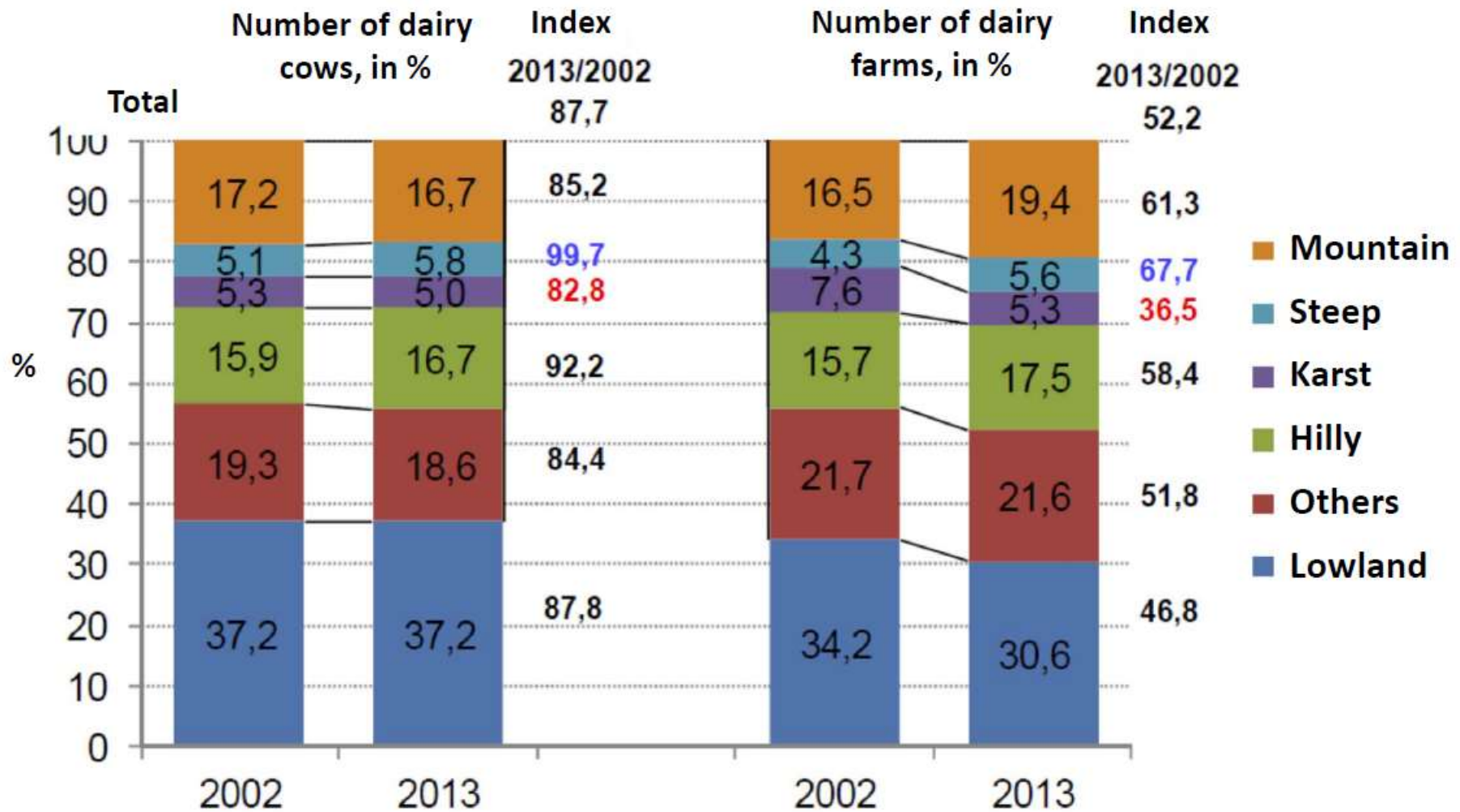
# Importance of livestock production in 2011/2012

National indicator	Netherlands		Poland	Croatia	Serbia	Slovenia
Agricultural GDP as % of national GDP	2,6		3,6	4,4	<b>9,2</b>	<b>4,9</b>
Labour force in agriculture as % of overall labour force	2,0		12.9	4,5	<b>24,4</b>	<b>8.6</b>
Gross agricultural output (%)						
- animal production	<b>47</b>		44	29	30	<b>46</b>
- milk production	<b>21.4</b>		15	15	15	<b>15</b>
- beef production	6.5		5	9	14	<b>14</b>
- pig production						<b>5</b>
- sheep production						<b>1</b>
- poultry meat and eggs production						<b>11</b>

# Changes in numbers of milk suppliers (number of herds with dairy cows) and average number of dairy cows per herd



# Number of dairy cows and farms in different farming conditions (2002 vs 2013)

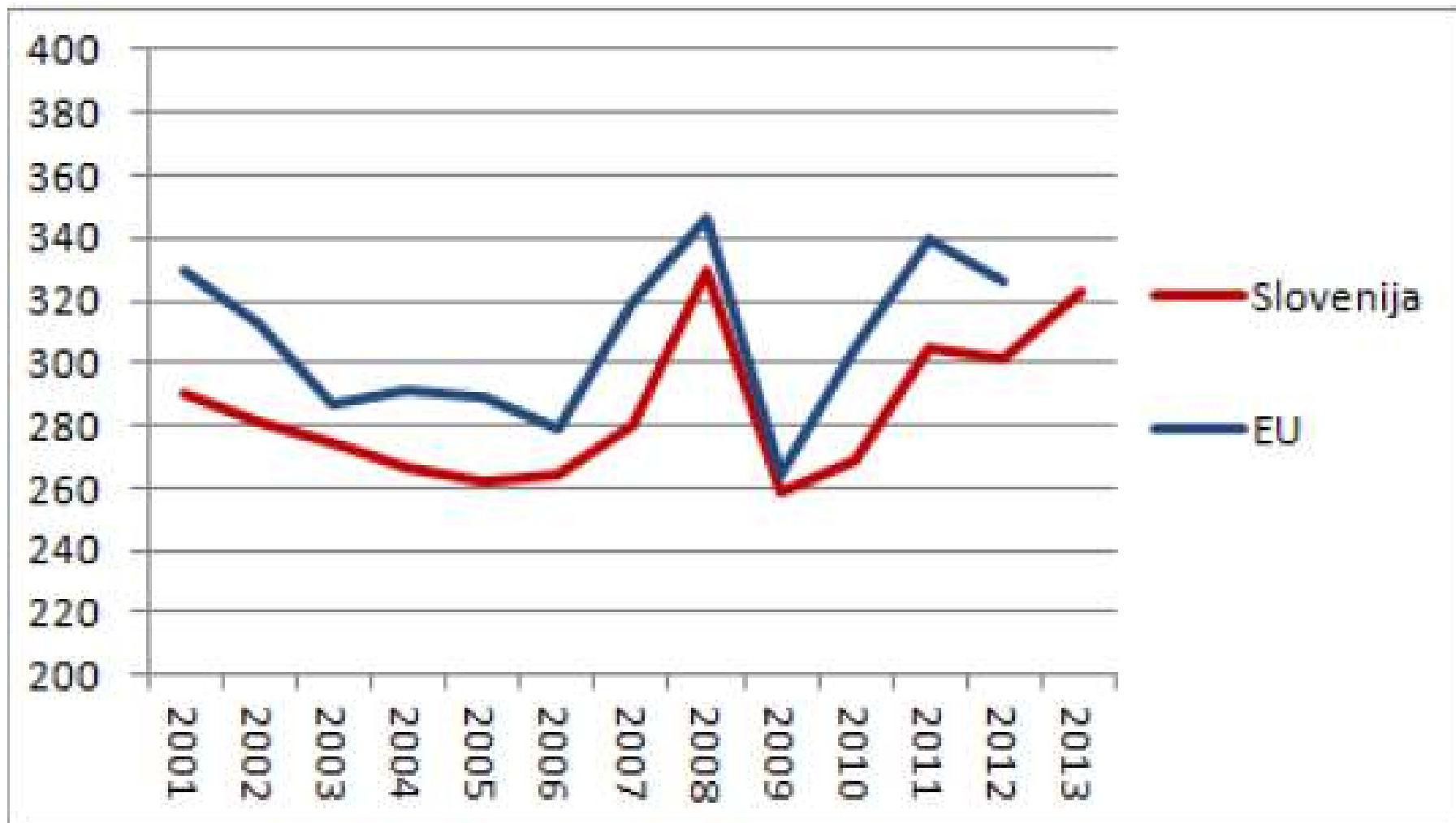


# Trends in milk price on farm gate (in €/ton): Slovenia vs EU

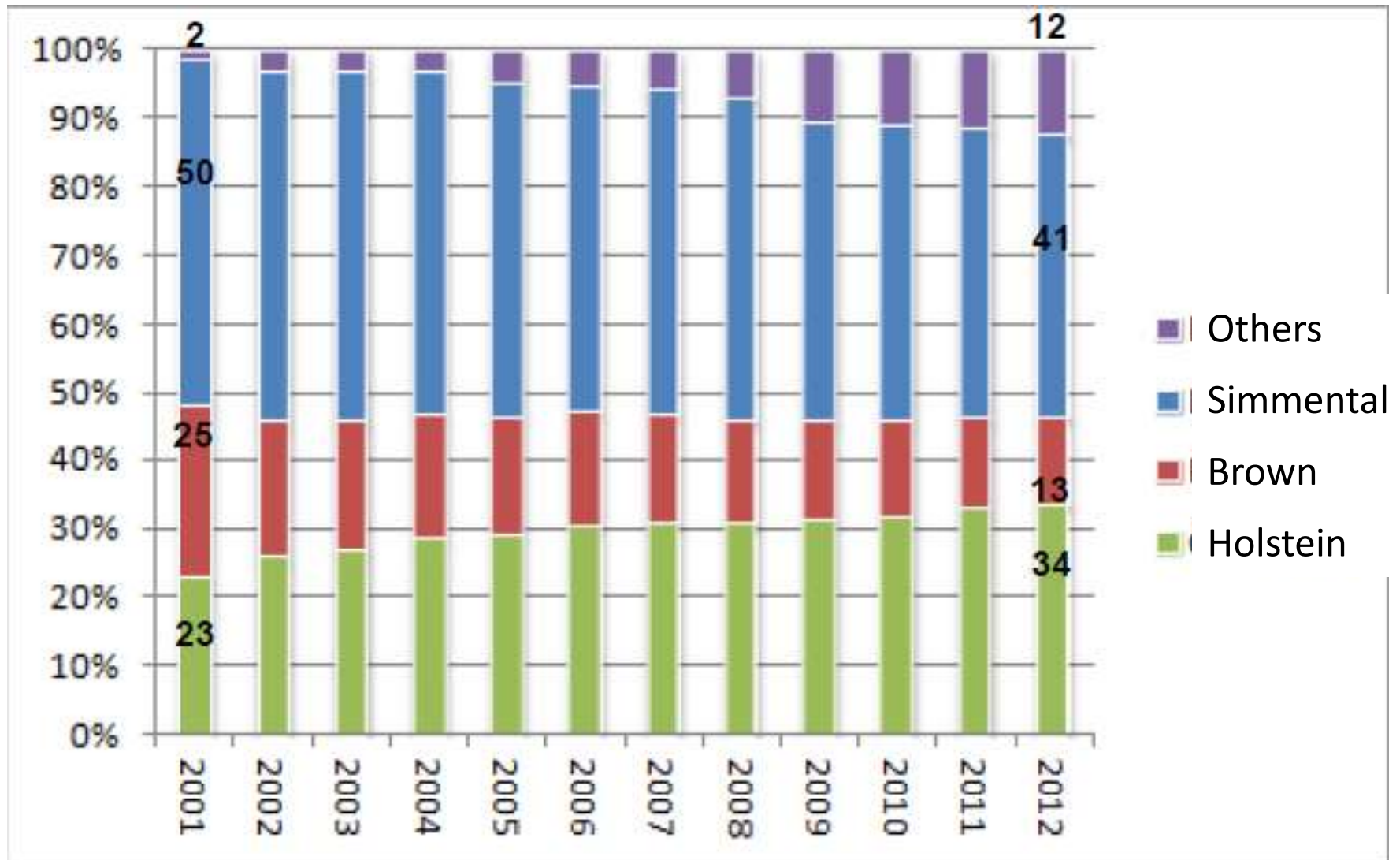
Number of milk cooperatives: 96

Number of dairyprocessing plants: 5 (+2)

Milk sale to Italy: 40%



# Breed structure of dairy cows

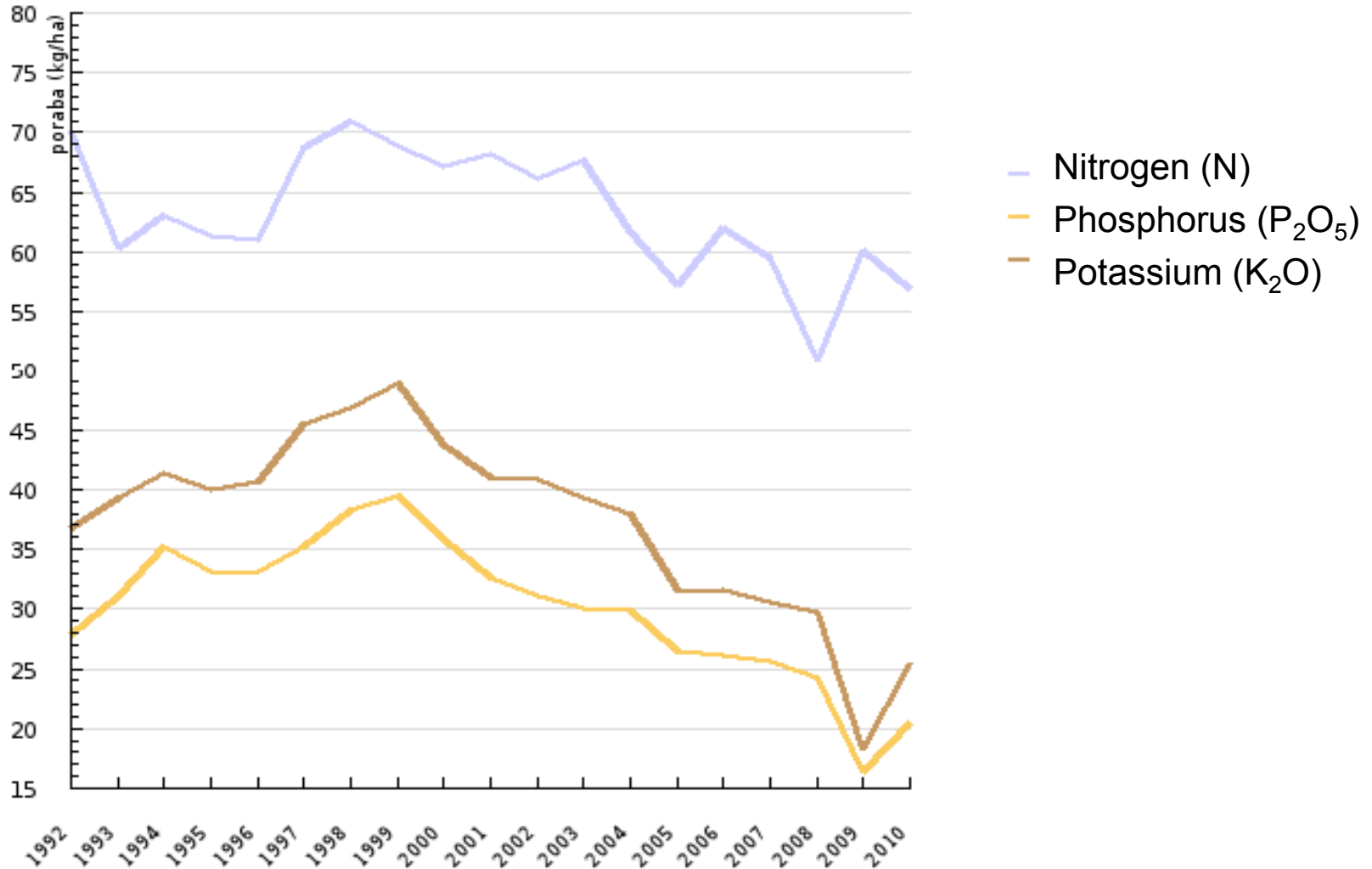






# Using of minerals (N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O) in kg/ha of utilized agricultural land

Lowlands fertilized like in Western Europe  
Mountain and hills like in Austria



# Two studies of dairy farmers development paths in Slovenia




## Twinning project study 2006-2007

# Results: Characteristics of the farms

Variable (answer)	Cika farmers	Suckler cow farmers	Dairy farmers
Number of farms	111	121	1,114
Average no. of cows / farm	4	11	19
Agricultural land in use (ha)	9	12	17
Land type of farm (% of total)			
Flat	6	17	43
Hilly	33	37	19
Mountain	46	32	14
Other less favourable land	15	14	24

# Future plans of cattle farmers

	Twinning		
	CIKA %	Suckler cow %	Dairy %
No future plans/to stop farming / hobby farm <b>Keep the farm as it is now</b> <b>Develop the farm further</b>	n=111 <b>20</b> 46 <b>34</b>	n=121 14 55 31	n=1114 10 41 49
 - by increasing number of cows - by starting/increasing with a new branch  Agro-tourism Local products	n=38 76 <b>82</b>	n=37 38 70	n=541 64 54
Changing to organic farming	<b>44</b>	<b>43</b>	<b>6</b>

# Cattle farmers with high interest (in %) in different tasks of farming

Tasks	Cika farmers	Farmers with suckler cows	Dairy farmers
Care for animal health and fertility	72	48	77
Feeding of cattle	59	49	75
Management of meadows and pasture	47	60	63
Farming in economical way	37	52	61
Animal breeding work	51	38	60
Working on sound environment (use of fertilisers, manure, etc.)	54	32	51
Protecting nature elements on farm	44	17	26



Prof. Martin Elsaesser on the grassland near Postojna



Sije Schukking and Abele Kuipers on the field near Ptuj



# Leonardo da Vinci study 2012-2013 - ISM



Education and Culture DG  
Lifelong Learning Programme  
Leonardo da Vinci

- **Which development paths do dairy farmers in Central and Eastern Europe choose?**

Poland (334 farmers), Lithuania (339),  
Slovenia (365), Netherlands (102)

- **Farming goals**
- **Resources**
- **Opportunities & Threats**



# Seven farmers' segments identified per country (%) Method: PCA

Country	Farmer who Wait & See	New starter	Cooperating specialists	Independent specialists	Chain integration	Cooperating diversifiers	Independent diversifiers
Lithuania	<b>19</b>	<b>6</b>	<b>8</b>	<b>45</b>	<b>4</b>	<b>3</b>	<b>15</b>
Poland	<b>11</b>	<b>2</b>	<b>15</b>	<b>49</b>	<b>20</b>	<b>1</b>	<b>4</b>
Slovenia	<b>10</b>	<b>7</b>	<b>16</b>	<b>31</b>	<b>14</b>	<b>12</b>	<b>10</b>
Total (%)	<b>13</b>	<b>5</b>	<b>13</b>	<b>41</b>	<b>13</b>	<b>6</b>	<b>10</b>



# Description of farmers' segments in Slovenia

	Farmers who Wait & See	New starters	Cooperating specialists	Independent specialists	Chain integration	Cooperating diversifiers	Independent diversifiers
Quota in tons	125	231	226	227	245	166	171
Land in ha	22	34	31	34	39	30	29
....							
Production per cow, kg	6,118	7,218	7,172	6,853	6,695	6,643	6,301
Apply pasturing in summer, %	41	37	37	39	22	44	47
% of farms w. unfavourable land	86	65	68	68	79	73	75
<b>Pieces of land</b>	<b>25</b>	<b>44</b>	<b>32</b>	<b>33</b>	<b>28</b>	<b>25</b>	<b>28</b>

# Availability of resources

1=very difficult to get

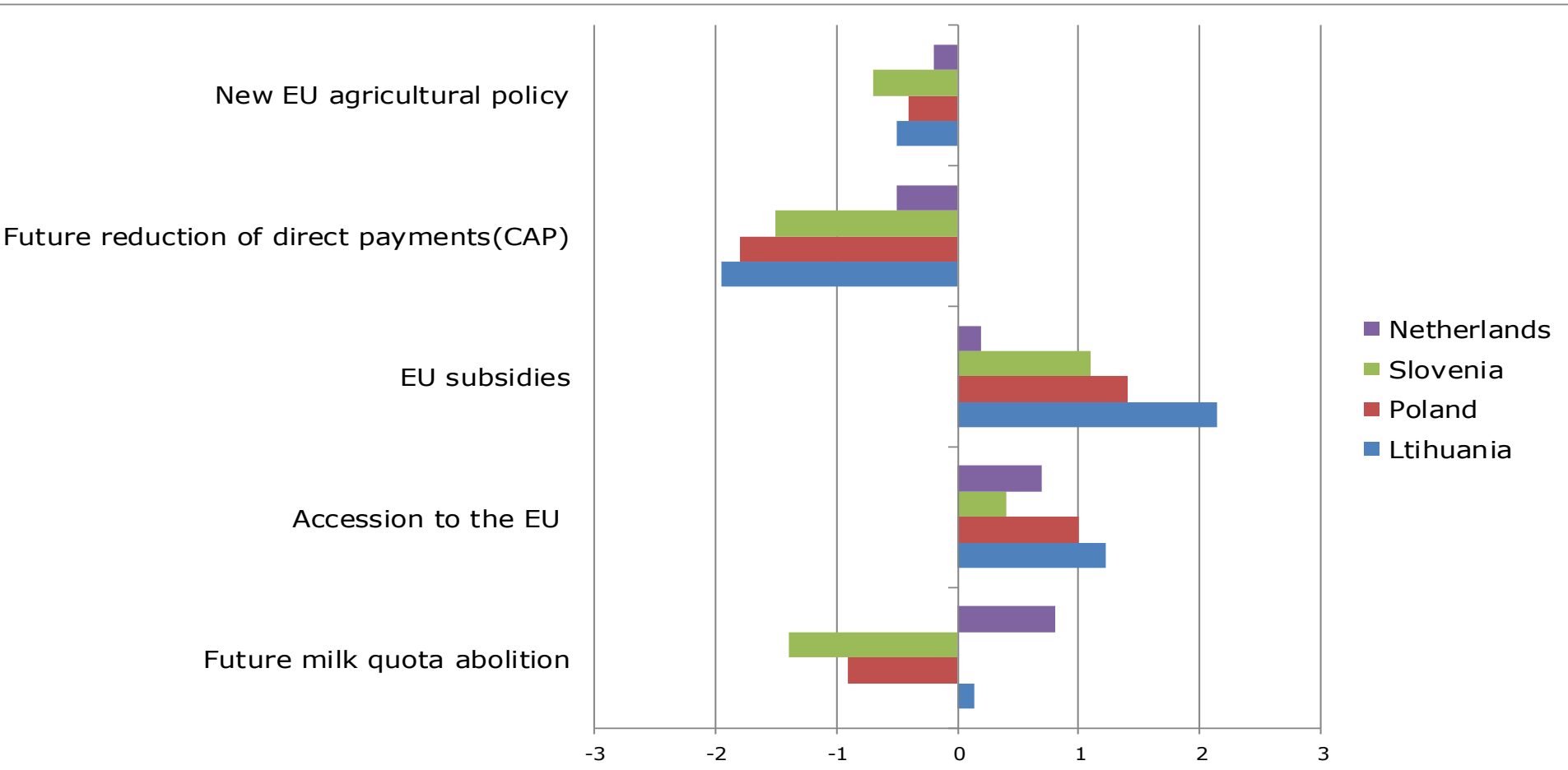
7=very easy to get

Resources	Slovenia	Lithuania	Poland
Land	2.53	2.48	<u>2.88</u>
Labour	<u>2.91</u>	2.56	2.55
Money	<b>3.71</b>	4.69	<u>5.23</u>
Quota	<b>3.95</b>	4.81	<u>5.33</u>
Knowledge	<b>4.84</b>	5.69	<u>6.00</u>

Underlined significantly higher (i.e. less problem); **Bold** significantly lower (i.e. bigger problem)

# Opportunities & Threats: EU policies

(-3 big threat to +3 big opportunity)



# The Market

(-3 big threat to +3 big opportunity)

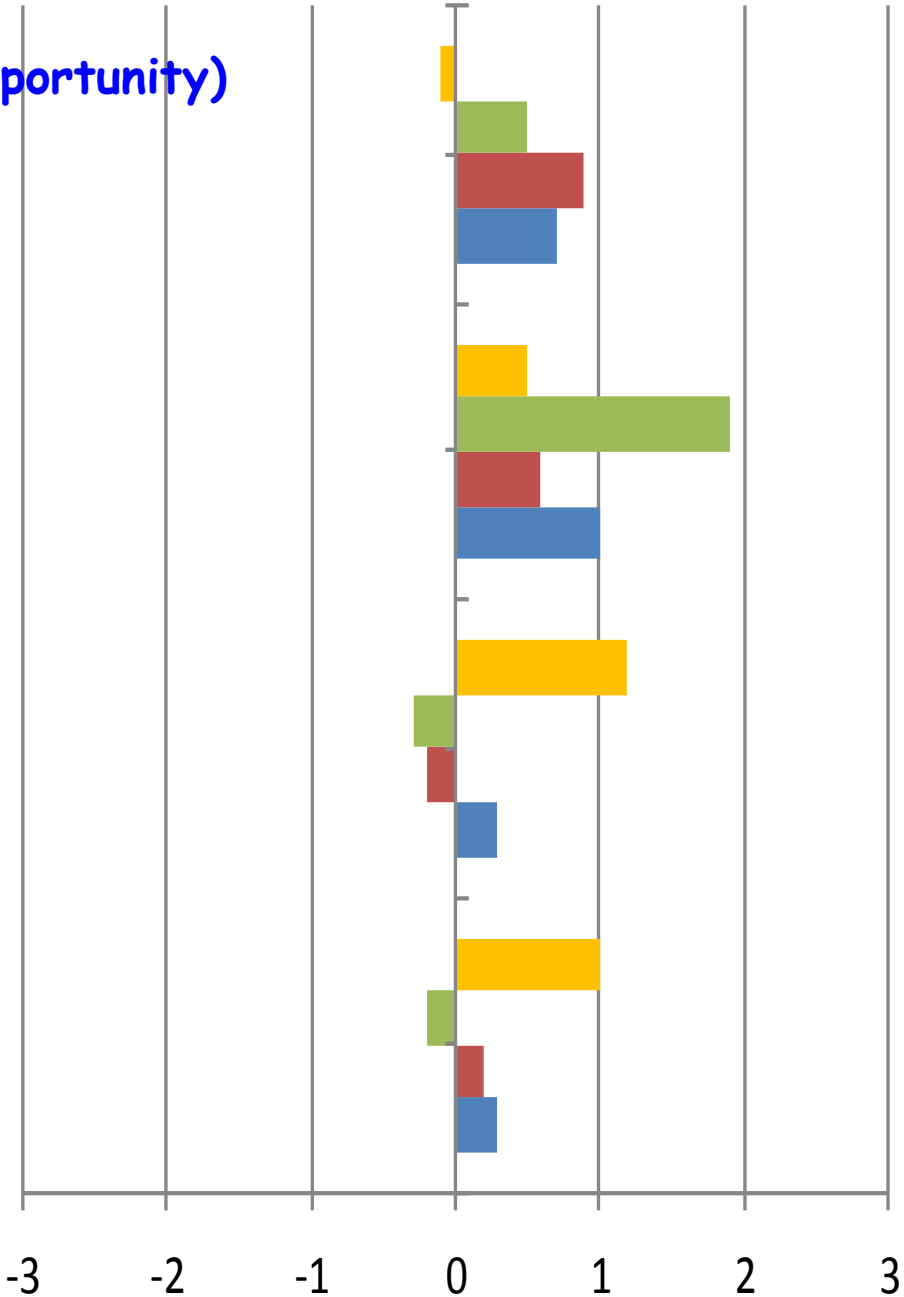
Consumers concerns

Client orientation

International milk market

National milk market

- Netherlands
- Slovenia
- Poland
- Lithuania



# Case of innovative dairy farmer in Slovenia

- 5 ha arable land
- 11 ha meadows
- 10 ha forest
- 20 to 25 cattle
  - 15 cows
  - 110.000 kg milk
- 4 generations
- 2 LU on the farm
- 1 farm off employment
- Processing of milk
- Direct marketing



# Simulation of the Development of a Mountain Landscape (Kucan & Simonic):



Dairyfarming determines landscape



Decline of biodiversity if dairy farming disappears



# Conclusions

- Spatial distribution of milk production in Slovenia is relatively stable
- Milk price is low compared to EU-15 countries; this stimulates sale of milk to Italy
- Dairy farmers are more economically oriented than Suckler and Cika cow farmers;
- Dairy farmers give a high priority to the management of grassland; Cika farmers are more nature minded.
- High output in valleys (mostly dairy), low in/output in hills and mountains
- For Slovenian dairy farmers, cooperation among the farmers and in the chain, and diversification are also important development paths besides specialisation in dairy
- Interest in ecological farming is lower than expected
- Land and labour availability and land fragmentation are the biggest problems for all segments of farmers
- Strengthening of the dairy chain is a key factor for success!



**Thank you for your attention! HVALA!**