

AN ASSESSMENT OF EFFICIENCY AND PROSPECTS FOR DAIRY AND BEEF SECTORS IN SERBIA

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CONTENT OF PRESENTATION:

- ❑ Short introduction**
- ❑ Material and methods – surveys**
- ❑ Main findings from surveys – farm level**
- ❑ Prospects for future sector development:**
 - From farmers' perspective**
 - From resource availability**
 - SWOT analysis**
 - Measures to be taken**

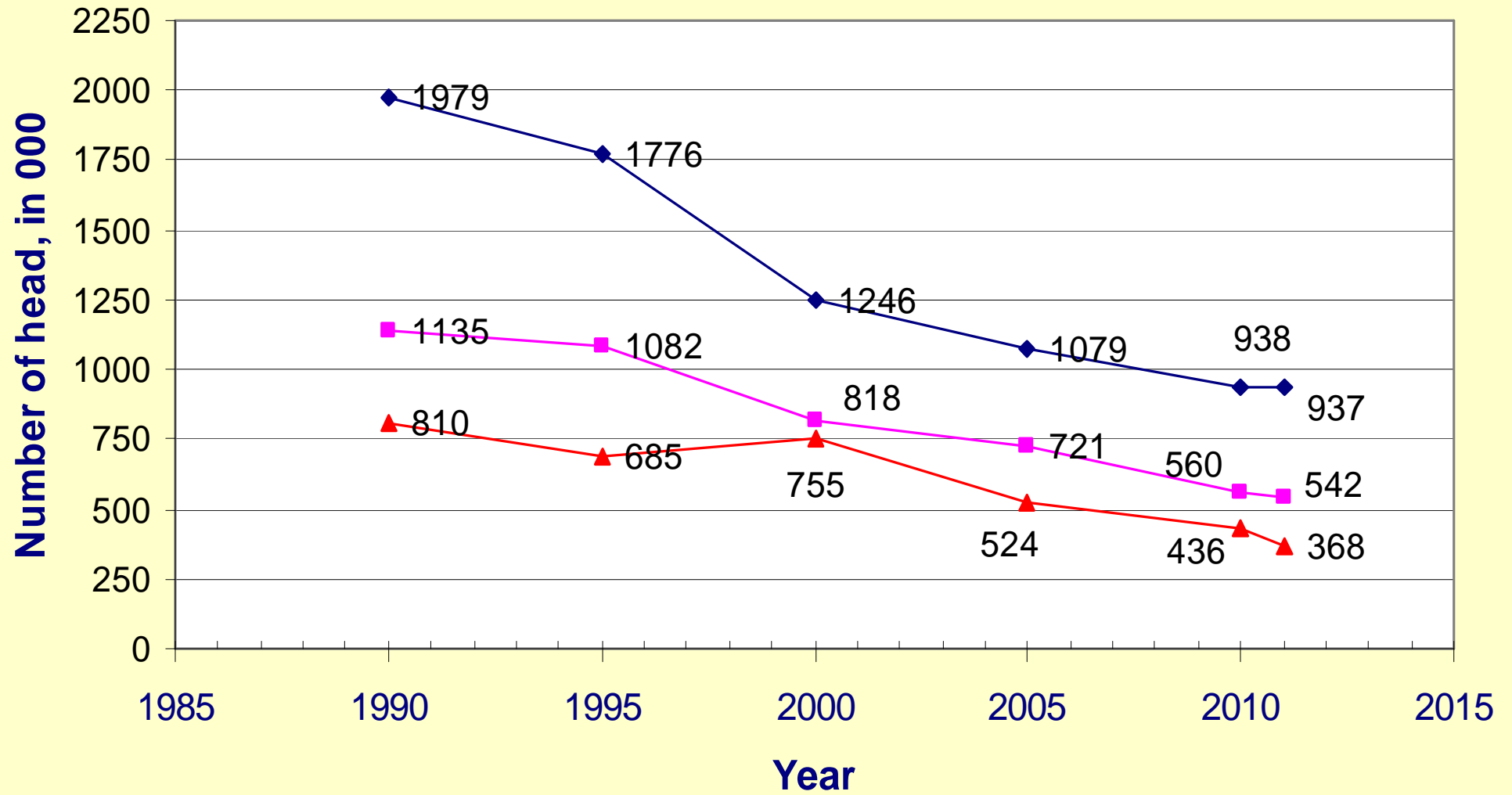


BASIC DATA

- **Serbia has 5.1 mil ha of agricultural land;**
- **3.3 mil ha of arable land;**
- **0.84 mil ha of pastures;**
- **0.61 mil ha of meadows;**
 - **85% of agricultural land is private, while 15% belongs to the state or co-operatives;**
 - **Rural areas cover 85% of the territory of Serbia with 55% of the population creating over 40% of the GDP**

Number of cattle

◆ Cattle ■ Cows + Heifers ▲ Slaughtered



Basic National Indicator (www.stat.gov.rs)	Year				
	2007	2008	2009	2010	2011
GDP (Gross Domestic Product) – Agricultural sector (mil €)	2,380.3 (8.36% of GDP)	2,845.5 (8.71% of GDP)	2,254.1 (7.78% of GDP)	Not available yet	Not available yet
GDP – Total national economy (mil €)	28,467.9	32,668.2	28,956.6	28,006.1	Not available yet
Gross output milk production in % of Gross Agricultural Output (GAO)	15.00	15.69	14.52	Not available yet	Not available yet
Gross output beef production in % of GAO	12.15	11.44	13.62	Not available yet	Not available yet

- In Serbian agricultural production **70% comes from plant** and **30% from livestock production**;
- Within livestock production, the share of **cattle sectors is about 43%**;
- The share of **cow's milk** in the total value of livestock production is **25%**, while share of **beef production** is **17.6%**.


SURVEY RESEARCH (1)

- In order to have a more precise description of cattle/dairy farm systems in Serbia, a **survey** was directed at a select group of farmers;
- **1180 questionnaires** have been mailed to farmers whose farms are registered for cattle, sheep, goat or mixed production.
- All the addresses to which the questionnaires were sent were obtained from the **Ministry of Agriculture** and from the **Agricultural Extension Service**;
- By sample, based on **random choice of farms** within statistical regions, the whole territory of Serbia was covered, except for the region of Kosovo and Metohia.

SURVEY RESEARCH (2)

- Questionnaire was divided into **6 sections**:
 - 1. General information** about farm & farmer
 - *Year of birth, education, additional sources of incomes etc.*
 - 2. Technical and structural** information,
 - *Farm tenure, farm size, number of animals etc.*
 - 3. Education and advisory** services,
 - 4. Perspectives** for future activities,
 - *Benefits of EU membership, way to expand production etc.*
 - 5. Sanitary, veterinary and zoo-technical aspects**
 - *Production parameters, husbandry management, feeding management, reproduction etc.*

SURVEY RESEARCH (3)

- Of a total of **1180** questionnaires, **209 responses** were received;
 - After basic data filtering and manipulating, a **total of 153 questionnaires were analysed.**
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MAIN FINDINGS FROM SURVEY (1)

FARM TANURE AND FARM SIZE – OWNED AGRICULTURAL AREA

- **95% of farms are privately owned**, while **5%** are cooperatives or (still) state owned;
- According to **Census from 2001**, the average farm size in Serbia is about 3.2 ha;

Share in %	Number of owned ha from survey
76	<=20 (S mall size farms)
9	20-50 (M edium size farms)
5	50-100 (L arge size farms)
3	>100 (eX tra L arge size farms)
7	Unknown

MAIN FINDINGS FROM SURVEY (2)

FARM SIZE – TOTAL UTILIZED AGRICULTURAL AREA

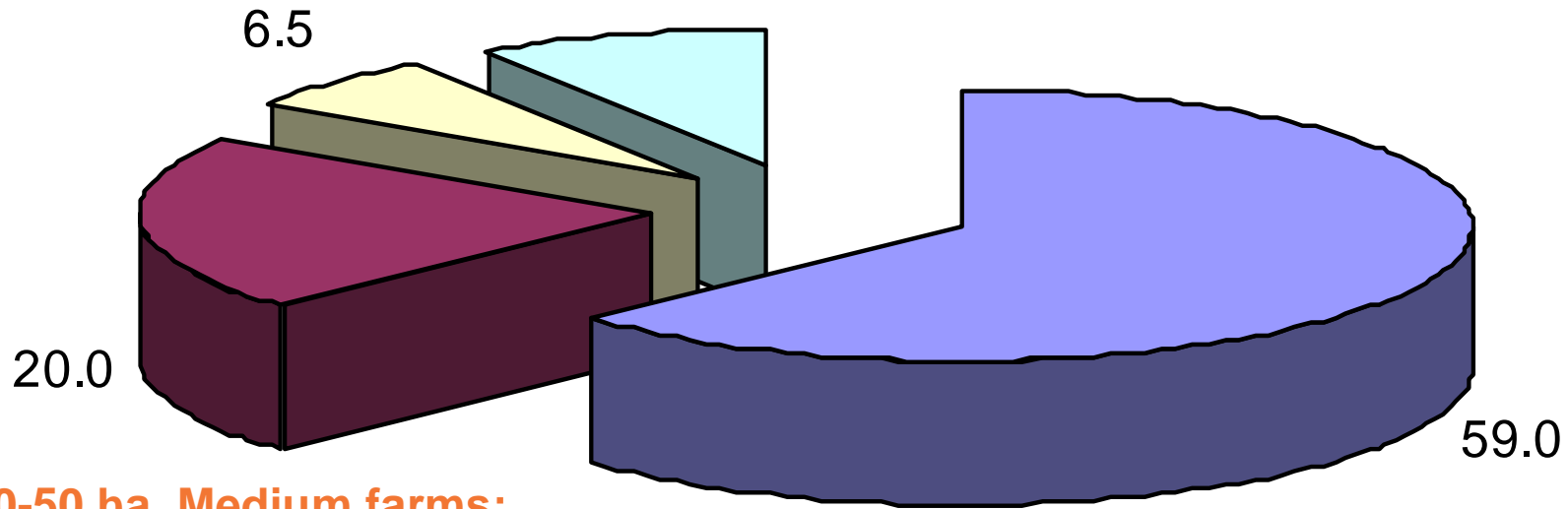
- From **this survey**, cattle farms are larger than average farm;
- The average total farm size is **about 18ha** (*total size is consisting of owned and rented land*);

MAIN FINDINGS FROM SURVEY (3)

Cattle Farm Size

50-100 ha, Large farms;
average 66.4 ha

8.5 >100 ha, eXtra Large farms; average 131 ha

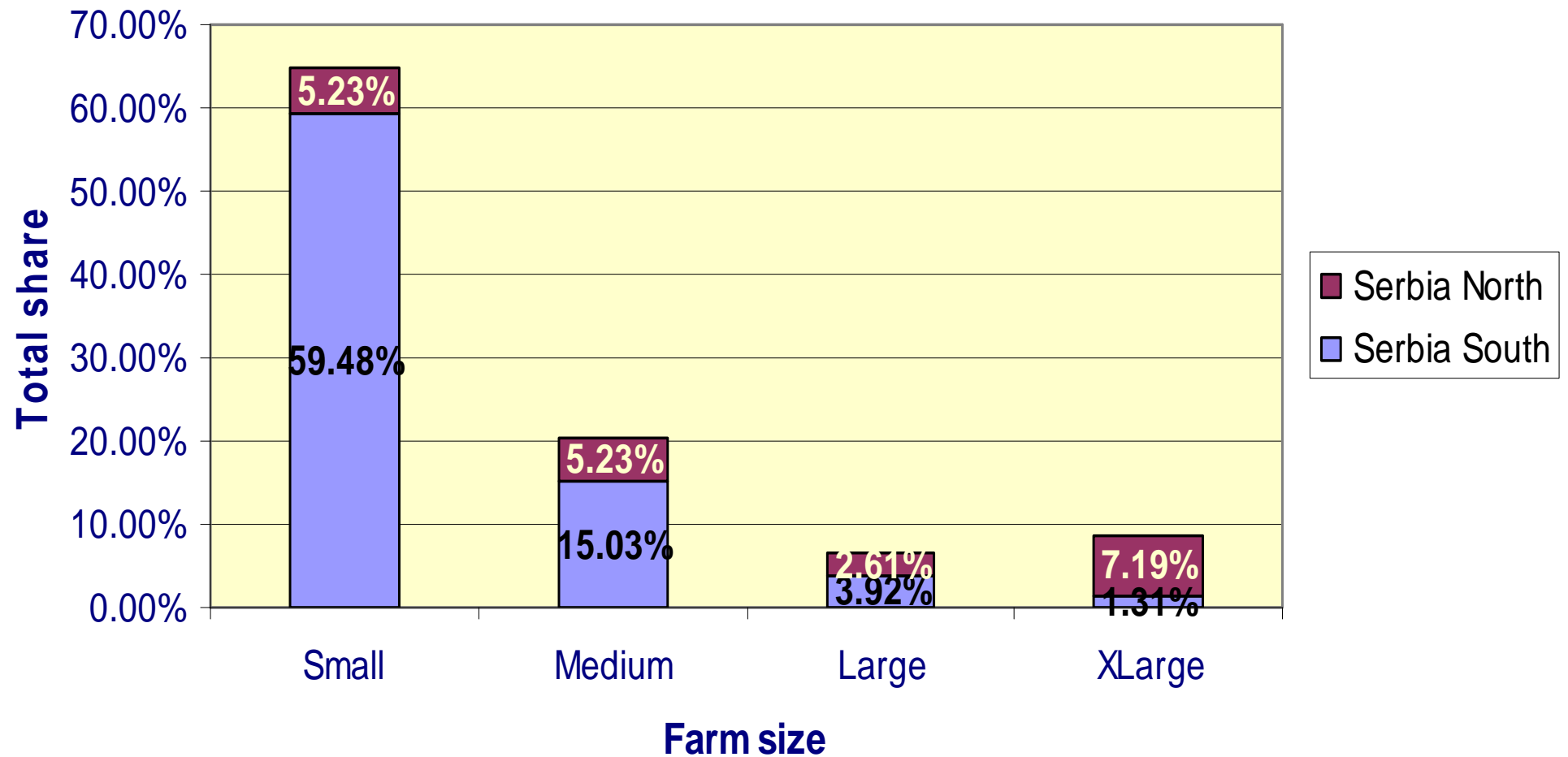


20-50 ha, Medium farms;
average 29.8 ha

<20 ha, Small farms; average 10.15 ha

MAIN FINDINGS FROM SURVEY (4)

Distribution of farm size within NUTS1



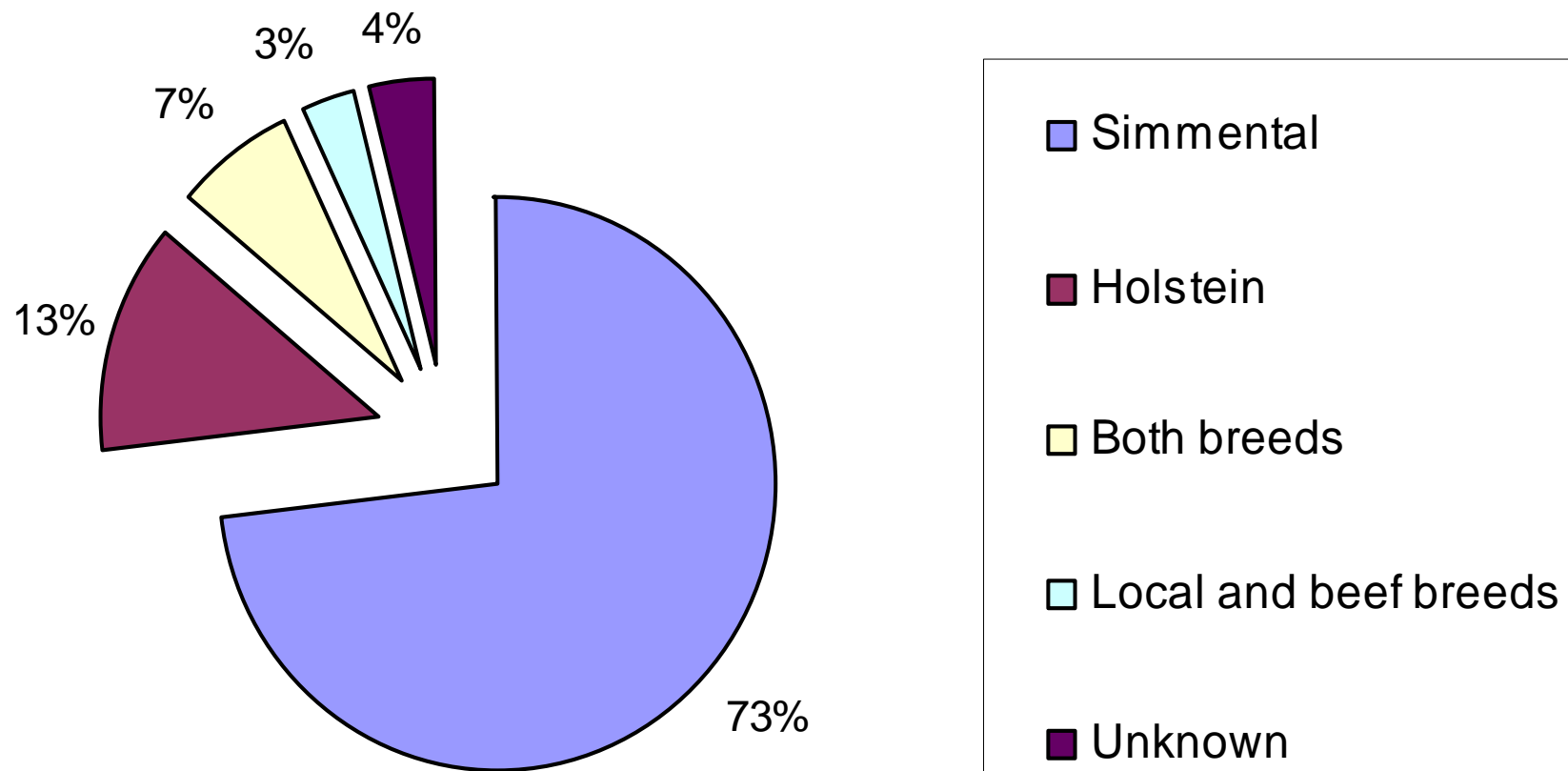
MAIN FINDINGS FROM SURVEY (5)

NUMBER OF CATTLE AT FARM

Share in %	Number of cows and heifers at farm
55	<15; average 6.3 heads
15	15-30; average 22 heads
5	30-100; average 55 heads
8	>100; average 220 heads
17	Unknown number of cows and heifers

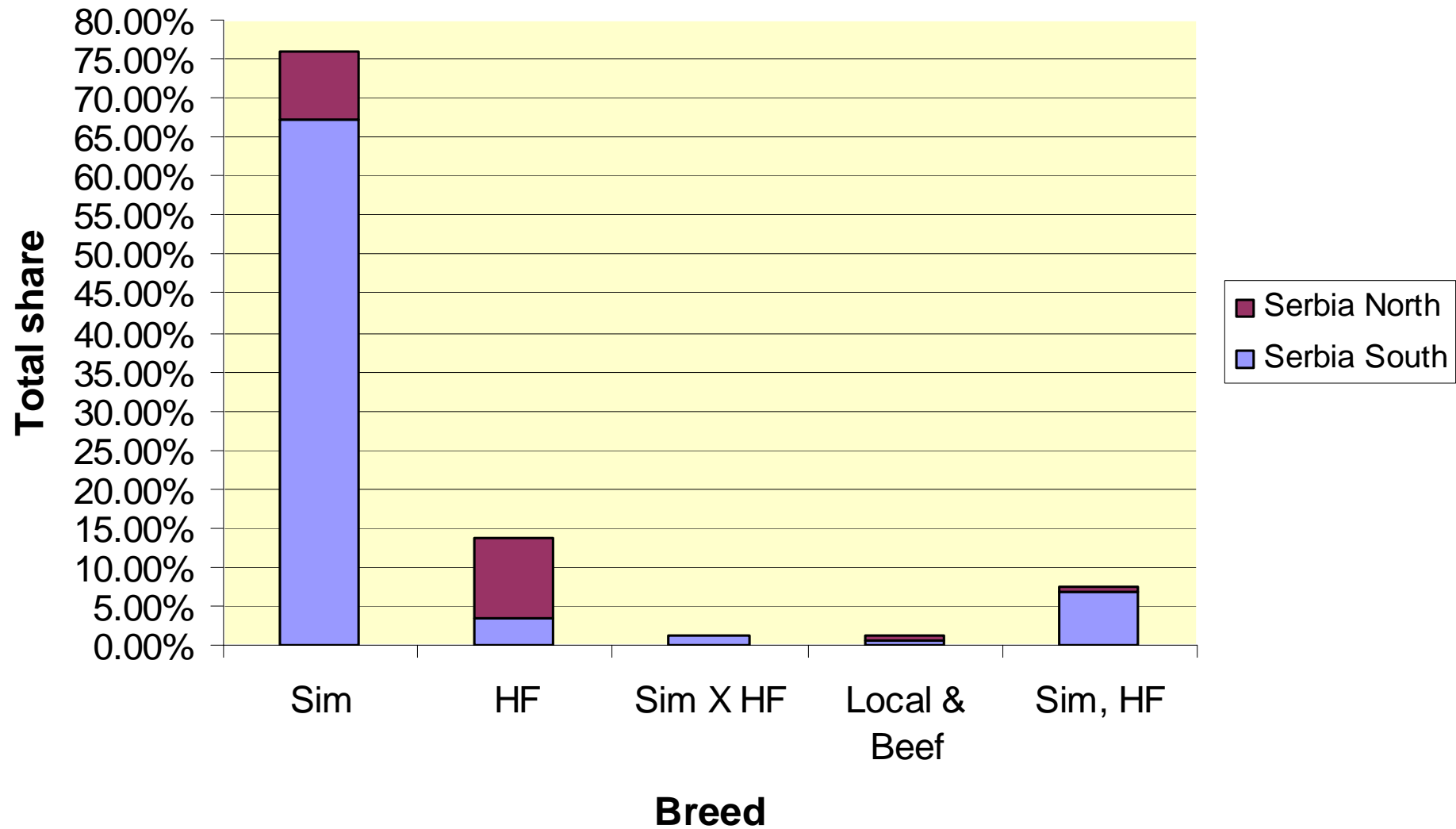
MAIN FINDINGS FROM SURVEY (6)

Cattle breeds distribution in Serbia



MAIN FINDINGS FROM SURVEY (7)

Distribution of cattle breeds within NUTS1



MAIN FINDINGS FROM SURVEY (8)

SOURCE OF FARM INCOME

- For **75% of farmers** the agriculture is the **only source** of income;
- **25% of farmers** have some **other sources** of income (mainly trade or agricultural services);

MAIN FINDINGS FROM SURVEY (9)

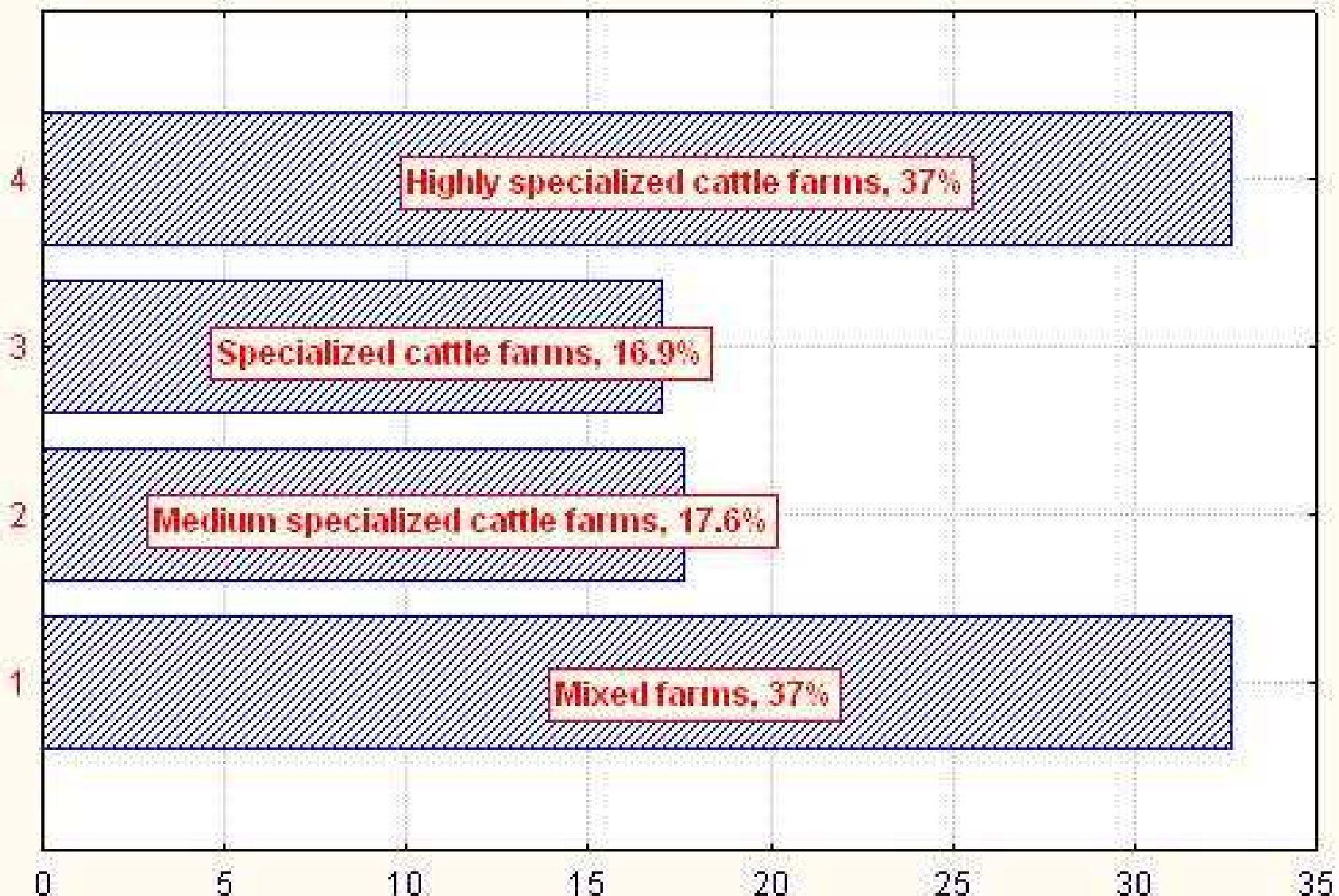
LEVEL OF FARM SPECIALIZATION

- Level of cattle farm specialization:

1. **Mixed farm:** up to 50% of total income from dairy/beef production,
2. **Medium specialized cattle farms:** 50-70% of total income from dairy/beef production,
3. **Specialized cattle farms:** 70-85% of total income from dairy/beef production,
4. **Highly specialized cattle farms:** more than 85% of total income from dairy/beef production

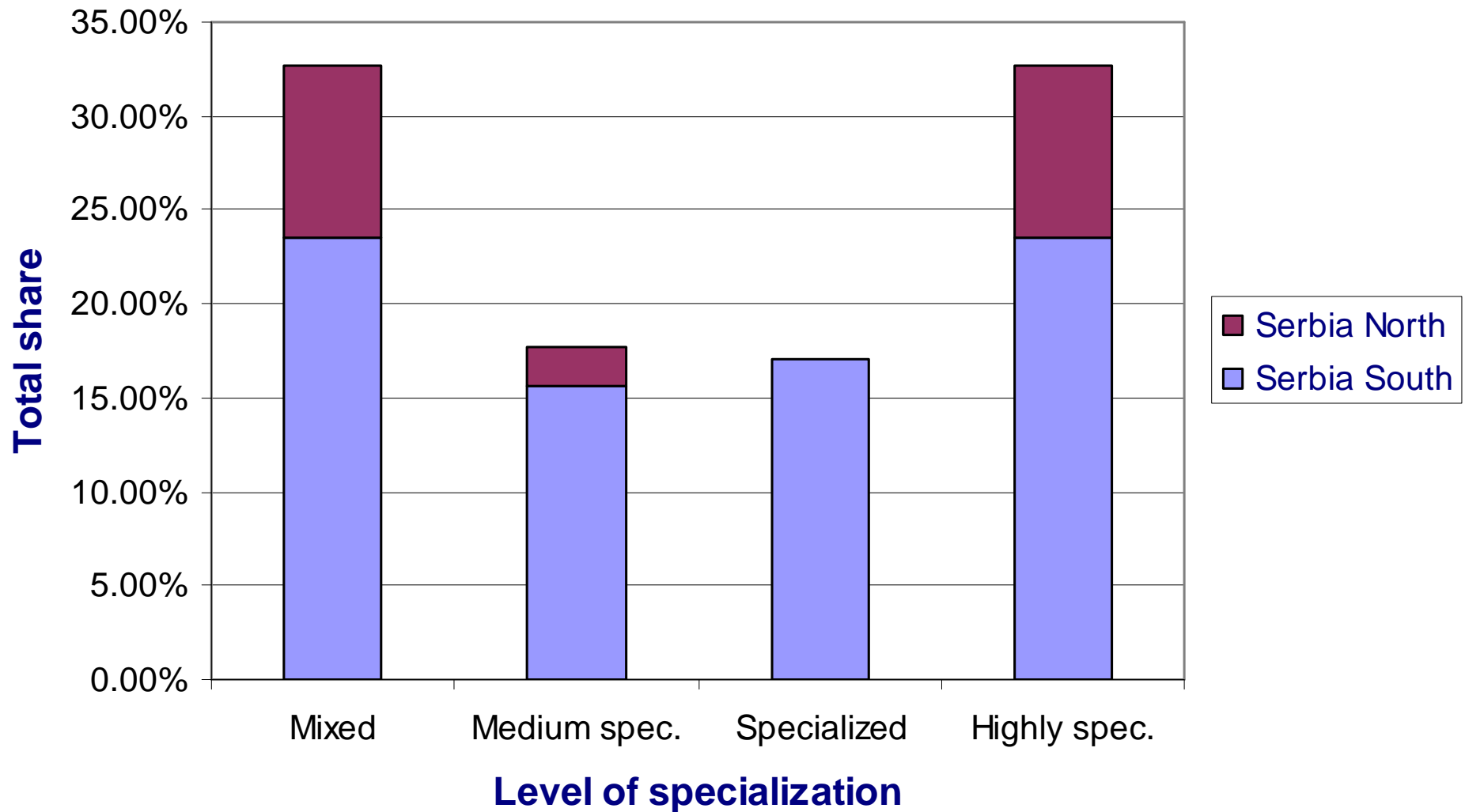
MAIN FINDINGS FROM SURVEY (10)

Share of farms in relation to level of specialization



MAIN FINDINGS FROM SURVEY (11)

Farm level specialization within NUTS1



MAIN FINDINGS FROM SURVEY (12)

LEVEL OF FARM SPECIALIZATION

- For **2/3 of all specialized farm**, cattle production is main source of farm income:
 - average share of **milk production** in **total farm income** is about **58%**,
 - average share of **beef production** in **total farm income** is about **39%**.
- For **mixed farm**:
 - average share of **milk production** in **total farm income** is about **22%**,
 - average share of **beef production** in **total farm income** is about **23%**.

MAIN FINDINGS FROM SURVEY (13)

BASIC ZOOTECHNICAL DATA

- Age at first conception: 15-16 months;
- Age at first calving: 24-25 months;
- Age at last calving: HF 8 years, Sim 9 years;
- Weaning age: 2.5 months;
- 92% of farmers prepare their own animal feed (at least partially), while 55% purchased ready-made animal feed from feed manufacturers;

MAIN FINDINGS FROM SURVEY (14)

BASIC ZOOTECHNICAL DATA

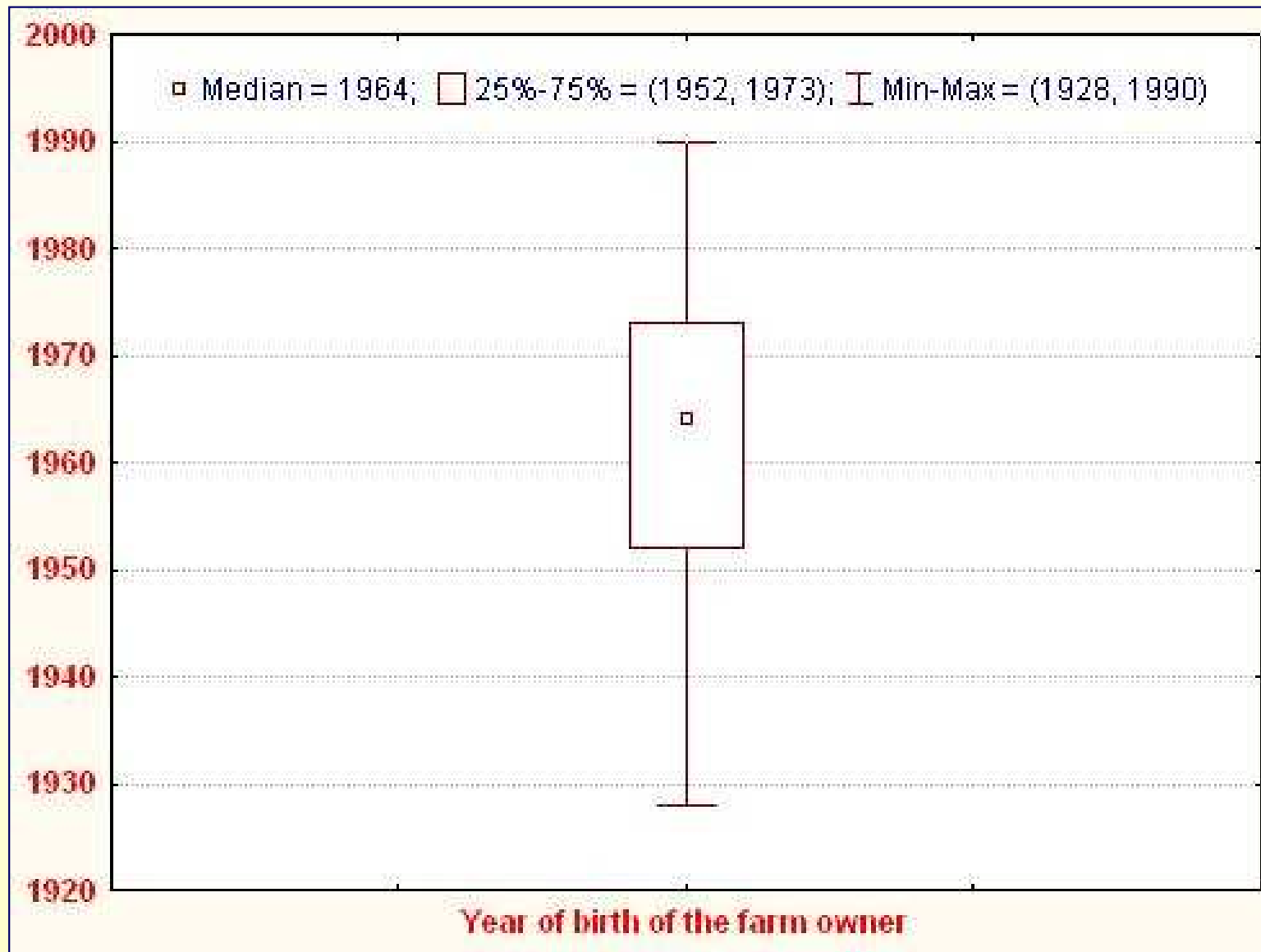
- Average milk production/cow/year in kg in controlled herds:
 - HF: \approx 7800 kg, 3.55% fat content;
 - Sim: \approx 4600 kg, 3.94% fat content;
- Average SCC: \approx 310,000
- Average milk purchase price in Eur/100kg at farm gate (without subsidies): 24.19 €

PROSPECTS FOR FUTURE SECTOR DEVELOPMENT (1)

FARMERS' PERSPECTIVE / RESOURCE AVAILABILITY

- About **149,000 farms** are more or less involved in dairy production;
- For future sector development very important are:
 - the age of owner,
 - contact with Agricultural Extension Services,
 - willingness for applying new technological solutions,
 - **Ministry support,**
 - **availability of bank credits or other financial sources.**

PROSPECTS FOR FUTURE SECTOR DEVELOPMENT (2)



PROSPECTS FOR FUTURE SECTOR DEVELOPMENT (3)

FARMERS' PERSPECTIVE / RESOURCE AVAILABILITY

- About **71% of farmers** have **regular contact** with *Agricultural Extension Service*, while **23% of farmers** have “time-to-time” contact;
- **75%** of farmers have expressed a **positive expectation** from the future membership of Serbia in EU, although these expectations are not clearly defined;
- **Over 86% farmers intend to expand or improve** cattle production in the short term, while about 6.5% had no such intention;

PROSPECTS FOR FUTURE SECTOR DEVELOPMENT (4)

FARMERS' PERSPECTIVE / RESOURCE AVAILABILITY

- The **farmers ways** for the improvement of production:
 - increase in the number of animals / increase of the farm capacities,
 - adaptation of farm facilities and improvement in the conditions of nutrition, housing and care,
 - animals genetic improvement,
 - more favourable bank credit terms and regulation of the situation on the market;

SWOT ANALYSIS

Farm Strengths

- Family business,
- Good natural conditions,
- Tradition in dairy farming,
- Fast growing middle-sized family cattle/dairy farms,
- Dairy farm companies with specialised production.

Farm Weaknesses

- No cooperative action between farmers,
- Not enough high level of specialisation,
- Low yield and low milk quality level,
- Obsolete buildings, mechanisation and milking technology.

Farm Opportunities

- National (from Ministry) & EU grants,
- Future EU subsidies,
- Dairy development projects and investments in dairy sector,
- Infrastructure development in rural areas.

Farm Threats

- EU requirements,
- Further input price increases,
- Labour migration,
- Climate change.

HOW DO FARMS NEED TO CHANGE (1)

- **Become bigger:**

- implies more effective cattle farms.

- **Increase yields:**

- implies changes in genetic value, breed structure, feeding, calving index & overall management.

- **Increase milk and gain production per kg concentrate:**

- implies improvement in forage management & better ration formulation as well as better feed conversion.

HOW DO FARMS NEED TO CHANGE (2)

- **Improve hygiene:**

- implies not just housing & hygiene, but also health care, welfare, milking conditions, cooling.

- **Improve environment:**

- implies more effective management and utilisation of manure and silage effluent.

HOW DO FARMS NEED TO CHANGE (3)

- **What investments are needed:**

- More cattle of appropriate genetic value / potential;
- Bigger and better buildings & equipment for cattle, milking and milk storage;
- Better farm, forage & feeding machinery;
- Better storage for manure & silage.

HOW DO FARMS NEED TO CHANGE (4)

- **What training & advice is needed:**

- Feeding & nutrition,
- Forage production & conservation,
- Genetic improvement,
- Fertility management,
- Milk hygiene,
- Management & marketing.