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GOAT BREEDING IN MONTENEGRO

Current status and prospective

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Presentation outline

- A. Introduction - general overview on agriculture with focus on the livestock sector*
- B. Goat breeding in Montenegro - current state*
- C. Future of the goat breeding*



Montenegro:

- Area – 13.812 km²,
- Total population – 625.000
- Popul. density – 45 inhab./km²
- Capital – Podgorica
- Divided into 21 municipalities
- Coastline: 293.5 km



MONTENEGRIN AGRICULTURE

The main characteristics

- **Land resources:**

- 515.740 ha of total agricultural land, or 0.82 ha per capita
- 190.000 ha of arable land, or 0.30 ha per capita

- **Economic importance – high share in GDP 8,3%,**

- Agriculture is **labor intensive (about 25% of total employment)**, plays a role of a social buffer – the main source or a part of income for close to 50,000 of rural households,

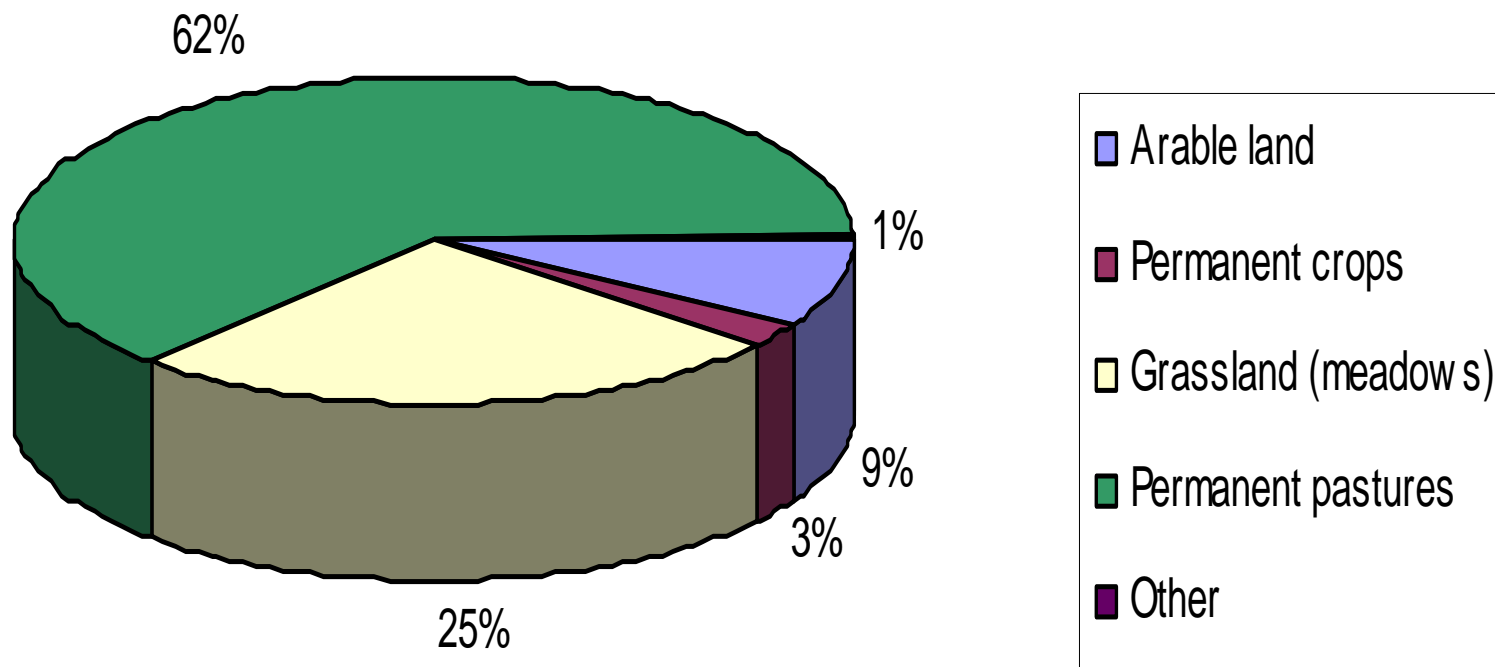
- **Structural characteristics:** small family farms prevail, average farm size \approx **4.6 ha**, low productivity

- **Low level of use of chemicals** – good opportunity for environmental friendly ways of production, especially organic production

- **Agriculture is very diversified** – from olive and citrus growing in the coastal part, vegetables and vine growing in the central to the extensive livestock breeding in the northern part;



STRUCTURE OF AGRICULTURAL LAND, 2011



Total Agricultural land - 515,740 ha			
Arable land (fields and gardens)	45,748 ha	Grassland (meadows)	126,990 ha
Permanent crops	16,107 ha	Permanent pastures	323,953 ha
Other	2,642 ha		

THE LIVESTOCK SECTOR IN MONTENEGRO

The main characteristics

- Traditionally, the livestock plays a major part of the whole agriculture (more than 50% of total output),
- Rearing of ruminants (cattle, sheep and goats) prevails due to the natural resources,
- Pig and poultry production are not well developed primarily due to the lack of production of cereals,
- There are positive structural changes, size of farm/flock is increasing,
- Domestic production of meat and milk are far below the consumption (including tourism), self sufficiency for meat is about 36%, for milk is about 80%



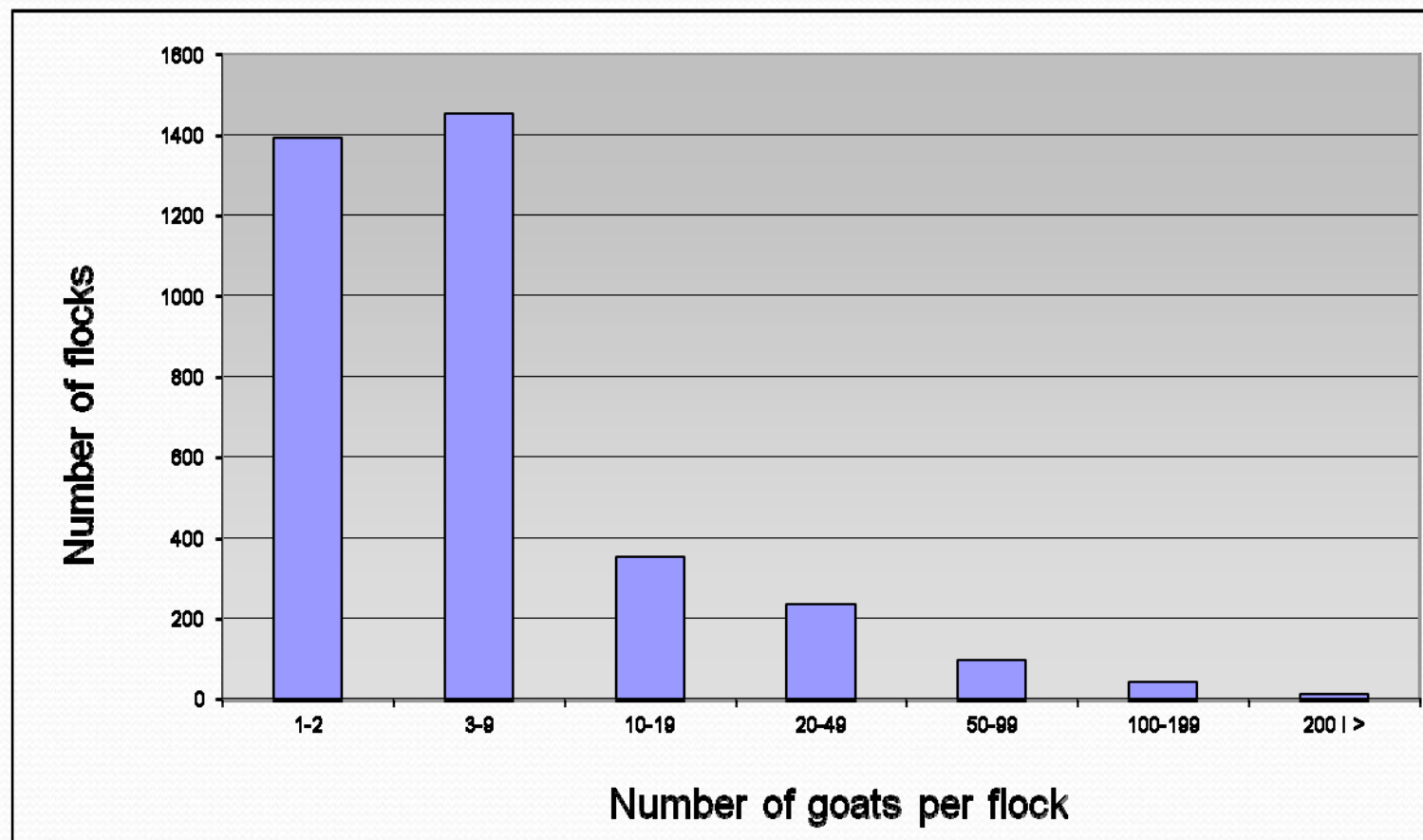
THE LIVESTOCK SECTOR

Size of population by species, 000

The species	2005	2006	2007	2008	2009	2010	2011
Cattle	117,0	118,0	115,0	106,5	101,0	96,0	87,2
Cows and heifers in calf	85,5	83,0	80,0	73,4	70.4	67.2	62,2
Pigs	11,0	13,0	10,0	10,0	12,0	11,0	21,4
Sheep	255,0	249,0	222,0	209,0	199,8	198,2	208,8
Horses	7,1	6,2	5,4	5,1	5,0	4,8	4,0
Poultry	462,1	448,5	505,4	432,0	416,7	506,5	470,0
Beehives	42,6	41,6	36,6	29,0	18,1	21,7	42,2
Goats	n/a	n/a	n/a	n/a	n/a	n/a	35,0

Note: Goat population in 1939 was **180,000 heads**, and in 1949 after adoption of Tha Law which prohibited goat breeding, the population decreased to **90,000 heads**

STRUCTURE OF GOAT FLOCKS



Agricultural census in 2010:

Total number of flocks – 3580, with 35,140 heads

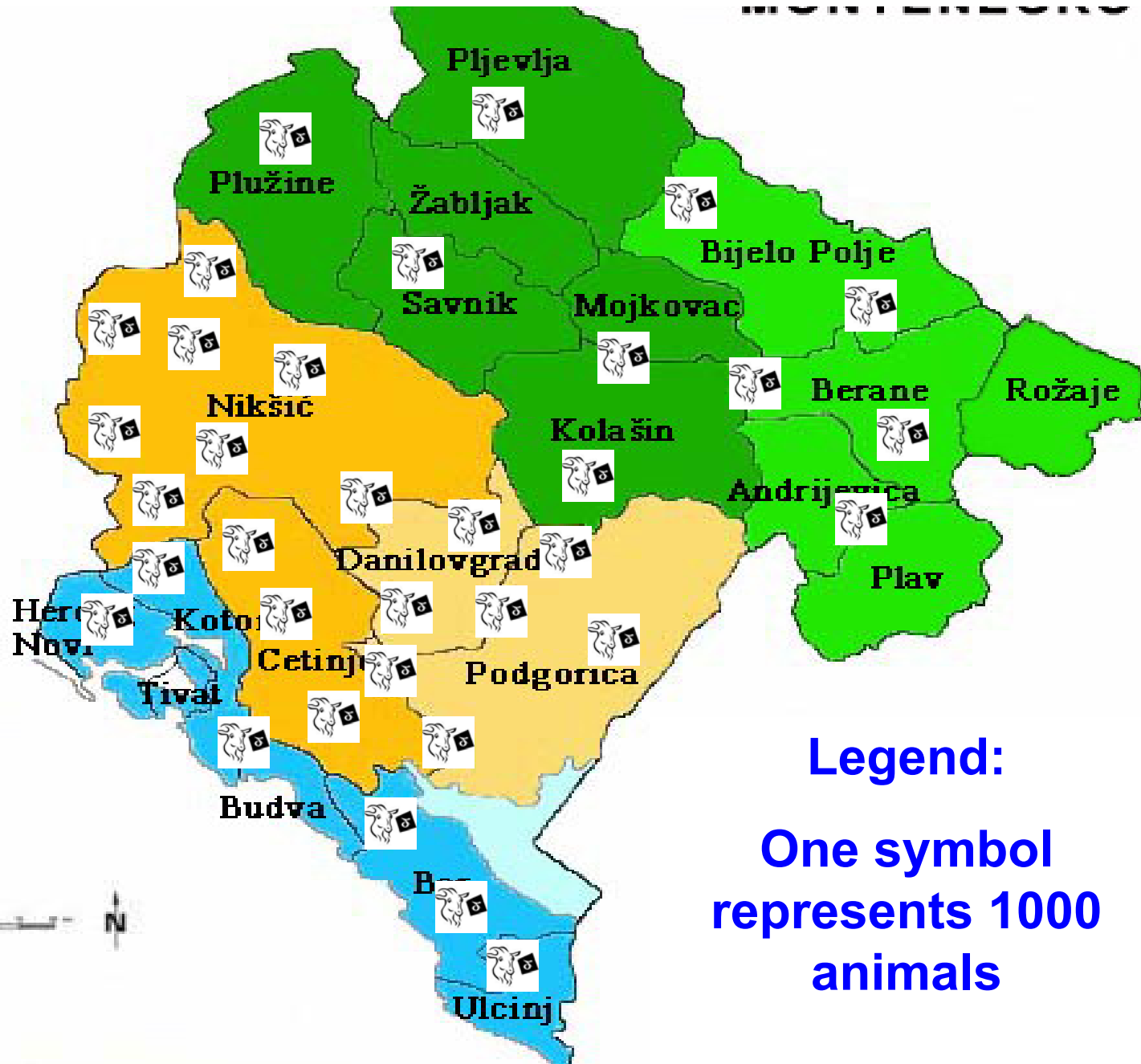
GOATS SECTOR IN MONTENEGRO

The main features

- Extensive or semi-extensive farming prevail – mainly for milk production;
- Goat production is mostly present in karst region (area of Niksic, Cetinje, Danilovgrad, partly Podgorica and Coastal region);
- Flocks with more than 10 goats (subsidies 2012) – in 402 flocks 18538 breeding animals are reared (46 heads in average);
- Average milk yield is 140 kg per goat annually
- Half of the population is reared as individual animals, with much higher milk yield and number of kids born per goat (doe)
- Autochthonous **Balkan breed** is dominant, especially in bigger flocks reared, in smaller flocks there are crosses with **Alpine** and **Saanen** breed



GOAT DISTRIBUTION IN MONTENEGRO



Legend:

**One symbol
represents 1000
animals**

0 100 200

GOATS SECTOR IN MONTENEGRO

The main breeds

Autochthonous Balkan breed



- Domestic Balkan breed is typical breed with very good adaptation ability to scarce rearing conditions
- The main characteristics are: rough constitution, long tick and shiny coat.
- There are several different varieties: **red-brown** considered as authentic representative of domestic Balkan breed in Montenegro; reddish/bay; even black, white or spotted.
- Majority of heads are horned.
- Average live weight of breeding animals is about 45 kg, height to withers 65 cm,
- Milk yield 140 kg with 3,4% butterfat content in lactation of 7 months in average.
- Fertility is 1.2 to 1.3 kids per partum
- In good conditions, this breed reacts very quickly by increasing milk yield and fertility



GOATS SECTOR IN MONTENEGRO

The main breeds

Alpine breed



- Alpine breed is becoming more and more popular (above 10 % in total population).
- In the past it was used only for improvement of the existing goat population,
- In last 10 years, many newly established farms started to rear Alpine purebred goats
- No data on milk performance of Alpine breed in Montenegro, except personal communication with farmers, which says that milk production is above 400 litres in lactation that lasts around 7 months.



GOATS SECTOR IN MONTENEGRO

Saanen breed

- Share in total population – up to 3%
- Saanen breed is reared as individual animals or in very small flocks.
- No any data or estimation on its performance, except statements of the farmers that milk production is about 500 kg.



- **The crossbred animals**, mainly Domestic Balkan goat with other breeds, - high share in population (about 35%).
- The crosses are raised mostly in the same flocks with domestic Balkan goat
- Due to popularity of Alpine breeds its crosses with Domestic breed will play more significant role in the nearest future.



Body measures and body weight of Domestic Balkan Goat in Montenegro

Lactation	Body measures, cm			Body weight, kg
	Withers height	Body length	Chest circumference	
First	63.10	65.12	75.22	33.95
Second	65.41	67.38	78.26	38.60
Third	66.65	68.74	79.93	41.56
Fourth & >	67.70	70.01	82.31	44.66
Average	65.71	67.81	78.93	39.69

Source: Marković B., 1997

Milk traits of Domestic Balkan goat in Montenegro

Lactation	Lactation duration	Milk yield, kg	Daily yield, kg	Fat content, %	Protein, %
First	186.53	98.97	0.552	3,39	3,27
Second	202.03	135.02	0.662	3,43	3,31
Third	207.42	149.21	0.719	3,38	3,31
Fourth & >	210.19	153.09	0.727	3,34	3,29
Average	201.54	134.07	0.665	3,38	3,30

Source: **Marković B., 2004**

Production of all categories of goat meat in Montenegro

Category	No of heads slaughtered	Average live weight, kg	Average carcass weight, kg	Meat production, t
Culled animals	6.000	45	19	114
Young kids (suckling kids)	17.000	18	9	153
Older – fattened kids	8.000	25	12.5	100
Fattened bucks	4.000	45	22.5	90
Total	33.000	27.3	13.2	457

* - Source – Meat sector study in 2010

SWOT analyses of the goat sector

Strengths

Family business with long tradition;
Many pasture and meadows available for fodder production;
Healthy goat population and favourable agro-climatic conditions for ruminants
Positive structural changes, farm size is increasing;
Consumers' preference for local products
Legal and strategic frame are in place

Opportunities

Improvement of technology by investments in barns, machinery, equipment;
Support from national source and EU grants - IPARD;
Tourism as a driving force for the local products
Development of specialized market niches for high value products

Weaknesses

Small scale production – subsistence farming,
Low performance in milk and meat production;
Inappropriate buildings, mechanization and equipment;
Collaboration among farmers is weak
Weakness in rural infrastructure, particularly difficult access in mountain areas
Ageing of the farmers
Lack of knowledge on modern farm management and EU standards

Threats

Opening of the market can threaten the sectors;
Problems in an access to the bank loans;
Rural area depopulation;
Failure in implementation of CAP-like agricultural policy and strong EU requirements
Implementation of policy and legal frame needs to be improved

THE MAIN CHALLENGES

On the farm level:

- ✓ Improve barns, fodder production, genetics
- ✓ To strengthen horizontal (farmers organizations) and vertical integration – link with the processing industry
- ✓ To improve skills (management, hygienic standards)
- ✓ To introduce and implement official performance recording

On the processing industry level:

- ✓ to implement the international standards;
- ✓ to develop better link with farmers.

Distribution channels and consumer side:

- To promote and market local products to the tourism
- To increase public awareness on the importance of local products for the total economy

CONCLUSIONS

- Low livestock density (below 0.5 LU per ha) and increasing demand in the local products – will enable further development of goat sector.
- Latest trends in tourism and consumer demands will support goat sector to enlarge commercial farms and to become more attractive:
 - a) goat cheese can reach very high price
 - b) kids meat is delicacy that is easily marketed; and
 - c) traditionally meat from castrated male animals is very popular in some part of the country.
- Future development of the sector will depend also on the farmers organisations
- The institutional support is very important
- Successful harmonisation of the agricultural policy with EU CAP will provide better environment for development of goats' production in Montenegro.



Thank you for your attention