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## ***CURRENT STATUS ON CONSERVATION AND SUSTAINABLE BREEDING OF LOCAL AND INDIGENOUS GOAT BREEDS IN ALBANIA***

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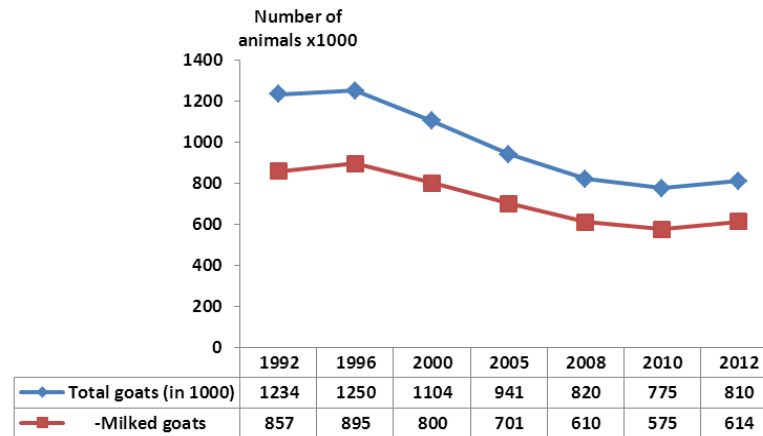
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# Size population and productions

## Farming of goat is a very old tradition in Albania.

Actually, 810 thousand goats (614 thousand milked goats) are farmed in Albania.



After 1996, the size of goat population was decreased. This decline is also reflected in the total milk production

Productions (in .000 ton)\*

Item	1992	1996	2000	2005	2008	2010	2012
Milk production	70	80	71	71	68	63	67
Meat production (live weight) <sup>1</sup>	30	33	35	41	43	44	48

### Genetic diversity and trend of size populations

About 82 percent of Albanian goat population can be classified in the group of Balkan goats. The rest are the native breeds, classified as ecotype-Dragobia, Velipoja, Mati, Bulqari, Caporre e Mokrres, Ligenasi Back of Dukate, Muzhake, ect. Imported breeds, Saaen and Alpine, and their crosses with native breeds, make up about 5 percent of the total Albanian goat population

**The size and trend of populations (milking goat)**

<b>Breed</b>	<b>Number</b>	<b>Trend in the number</b>
<b>Local breeds or ecotype</b>		
Dragobi	2950	▼ Decreasing
Has	12500	— Stable
Velipoje	1110	▲ Increasing
Bulqari	1950	▼ Decreasing
Mat	12800	— Stable
Capore e Mokrres	250	▼ Decreasing
Shyte	720	▼ Decreasing
Ligenas	3140	▲ Increasing
Dukat	1650	▼ Decreasing
Muzhake	62600	— Stable
Lara e Kallmetit	830	▼ Decreasing
Native unclassified	498100	▲ Increasing
<b>Exotic breeds and their crosses</b>		
Saanen	240	▲ Increasing
Crosses with Saanen	3270	▲ Increasing
Alpine	3860	▲ Increasing
Crosses with Alpine	7810	▲ Increasing

# Production Systems

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The production systems characterized by:

- (i) the selection of breeding animals carried out on the basis of empiric knowledge of farmers, only**
- (ii) the use of pasture is performed according to rules and traditional customs of communal property use,**
- (iii) reproduction based on natural mating.**
- (iv) to avoid inbreeding the bucks was exchanged amongst farmers according to the traditional rules.**

# Production systems

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***Small scale family farm system:*** A small number of goats (1 - 10 animals) are kept by the family, in order to meet its need for goat milk, cheese and kid meat. In 2013, about 12 percent of the total goat population was farmed under this production system

***Extensive with transhumance:*** The animals are usually moved from hilly areas to the nearby mountains. The goats remain in the mountains from early summer until October. The main production are milk for cheese making and meat. Kids which are going to be slaughtered, are suckling for a long period till 3-4 months. **The feeding is based on grazing** and only during the end of gestation and in the suckling period, concentrate feeds are give to them. The kids follow their mother to pasture at high altitudes and they are slaughtered at a live weight of 15 – 20 kg. In this system the main objective is meat production. In 2013, about 75 percent of the total goat population was farmed under this production system Performances of the local market are important for achieved the economic success of this production system

# Production systems

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***Extensive without transhumance:*** The animals stay in permanent installations near the villages in hills and graze nearby. The products are milk and milk-fed kids, after a suckling period of 3 - 4 months

***The semi intensive system :*** The flocks with more the 200 heads fed with forages and mixt concentrate feedstuffs. They produce milk and meat for local market and are located more in the lowland area.



# Productions according to the regions

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**In the coastal lowland - Albanian region which is more developed in the social-economical point of view, and most populated regions – farming of exotic breeds and their crosses are most preferable**

The meat production is the most preferable – the needs of market is increasing

The milk production is increasing :

Import and farming of exotic breeds, Alpine and Saanen characterise the actual situation

Develop the capacities for milk processing to produce the goat cheese

**In hill and mountainous regions – farming of local, native and indigenous breeds are dominated**

The flocks are kept for milk and meat productions

The wool, generally, is considered as a by-product of a little value

The goat milk is usually used for family consumption, fresh or processed for cottage cheese and cheese. The surplus of the product goes to the local market. The predominant way of marketing milk is selling it to the milk collectors, who further process it.

The meat is marketed as live animals by the farmers themselves.

The export of the milk and its products and that of meat has not yet started

The export of skins is developed quickly during the last years.

# Challenges of goat products

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The quality of Albanian traditional goat products are distinguishable. Despite this:

- ▶ The lack of policies for the support of traditional production
- ▶ The actual situation regarding to the imported products - free market, conditions of participation in WTO)

**domestic market is very limited to these products.**

The Albanian goat dairy products are almost bio-products. Despite this:

- ▶ Insufficiency of service control for food quality and safety,
- ▶ Low standard of veterinary service,
- ▶ Lack of legal infrastructure and investments for establish the necessary conditions in

milk productions and processing, in accordance with EU regulations,

**these products do not enter into foreign market**



# Production, reproduction and morphologic features

**Statistical means of different morphologic traits of Albanian local goat ecotype/ breeds**

<b>Ecotype/ breed</b>	<b>Body length</b>	<b>Wither height</b>	<b>Heart girth</b>	<b>Tibia circumference</b>	<b>Udder circumference</b>	<b>Teat length</b>
Hasi	69.8±1.1	67.4±0.7	80.3±1.0	8.5±0.09	33.5±0.12	3.9±0.09
Dragobia	72.4±2.2	68.9±1.1	84.7±0.7	8.9±0.07	37.3±0.13	4.2±0.14
Skuqe e Matit	74.1±2.6	69.1±2.0	86.8±0.9	7.8±0.09	37.8±0.18	3.8±0.09
Velipoja	77.4±1.3	68.6±0.8	87.2±1.2	9.2±0.13	39.6±0.12	4.1±0.01
Bulqari	72.4±2.3	68.4±0.9	85.2±1.2	8.6±0.14	38.6±0.16	3.9±0.06
Lara e Kallmetit	76.9±2.4	70.1±0.6	86.8±1.6	7.7±0.11	37.1±0.19	4.3±0.07
Caporre e Mokrres	65.4±2.3	61.8±1.0	81.2±0.7	6.9±0.04	36.8±0.14	3.6±0.11
Liqenas	65.1±2.2	66.2±1.1	78.3±0.9	7.2±0.06	33.6±0.16	3.7±0.08
E zeza e Dukati	62.5±2.7	56.8±0.8	72.6±1.0	6.4±0.09	30.6±0.16	3.3±0.08
Muzhake	64.8±2.1	61.1±0.7	75.8±0.8	7.2±0.04	31.2±0.15	3.6±0.06
Non classifiable	63.8±2.2	58.9±0.9	73.8±1.2	7.0±0.06	32.7±0.17	3.5±0.04

# Production, reproduction and morphologic features

Statistical means of production and reproduction traits of Albanian local goat ecotype/ breeds\*

Ecotype/Breed	Live weight (kg)		Milk (kg)	Milking days	Fertility %	Birth live weight (kg)		Weaning live weight (kg)	
	M	F				M	F	M	F
Dragobi	84.2±2.6	65.4±2.1	124.4±6.1	155	97	2.7±0.3	2.2±0.1	16.3±0.2	15.2±0.2
Has	82.8±3.1	56.2±2.4	165.2±5.3	176	95-105	3.6±0.2	2.7±0.1	16.2±0.1	15.1±0.3
Velipoje	68.7±2.8	48.6±2.1	179.1±5.7	192	100	2.7±0.2	2.5±0.2	13.2±0.1	12.6±0.3
Bulqari	75.5±3.5	53.2±2.8	164.3±4.3	184	100	2.8±0.1	2.4±0.2	14.4±0.3	12.9±0.1
Mat	74.1±2.8	54.6±3.5	147.2±3.2	178	98-100	3.2±0.1	2.9±0.2	15.2±0.3	13.4±0.1
Capore e Mokrres	68.4±2.9	51.2±2.7	212.5±6.8	190	95	1.8±0.3	1.6±0.1	11.5±0.2	9.3±0.0
Shyte	63.7±3.1	48.6±4.1	208.3±5.1	185	95	1.8±0.2	1.6±0.2	10.6±0.2	8.7±0.1
Liqenas	58.3±2.9	43.2±3.4	140.3±4.2	184	98	2.3±0.3	1.9±0.2	15.1±0.1	12.3±0.2
Dukat	51.4±3.2	36.7±3.1	83.4±4.7	154	90	1.5±0.1	1.3±0.1	11.5±0.1	10.7±0.2
Muzhake	52.6±4.1	42.1±3.3	136.1±6.2	170	95	2.2±0.1	1.9±0.1	16.4±0.3	14.5±0.3
Lara e Kallmetit	89.2±2.1	62.3±4.1	169.5±5.3	169	90-95	3.3±0.2	2.5±0.2	18.3±0.3	14.3±0.2
Non classified	65.3±4.6	46.3±5.2	115.2±6.4	178	95	2.1±0.2	1.8±0.3	12.4±0.1	10.8±0.1

\*Estimated data



# **Programs for conservation and sustainable use of local goat populations**

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Following the strategic priorities of Global Plan of Action for genetic resources for food and agriculture (FAO, 2007), in Albanian National Action Plan for conservation and sustainable use of local/native, indigenous and exotic goat breeds are provided actions that has been elaborated the issues regarding to:

**Identification, phenotypic and genetic characterization  
and monitoring of trend and risks**

**Conservation, sustainable economic use and  
development of breeds/ecotypes/ populations**

# Programs for conservation and sustainable use of local goat populations

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**Programs for *in-situ* conservation of native/ indigenous/ecotypes/local goat populations in Albania have begun to be drafted and implemented after year 2007.**

In Albanian National Action Plan three main directions has been elaborated:

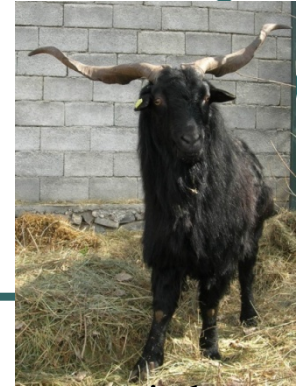
**SUSTAINABLE DEVELOPMENT OF COMMERCIAL FARMS** - medium and high input production systems. Encouragement and support of private initiatives is the focus of policies for such developments. Currently there are several large farms where local breeds and/or crosses with Alpine goats farming under the intensive production system.

**SUSTAINABLE DEVELOPMENT FARMS THAT BREEDING THE GOATS UNDER THE LOW INPUT AND TRADITIONAL PRODUCTION SYSTEM** - Use of local sources, like local/ native/ indigenous animals breed, spontaneous flora of meadows, pastures, forests ect., as well as traditional techniques for breeding of animals and exploitation of environmental capacities takes part in the traditions of the Albanian farmer. The traditional production system need for efficient and sustainable use of agro biological diversity. The obligation to provide a sustainable development of this diversity bring in light the priority of this system. Capacity building to support family farms and traditional production system are important objectives of Albanian National Action Plan. Actually, in north and north east Albanian regions the implementation of the projects that have the above mentioned objectives has started.

# Programs for conservation and sustainable use of local goat populations

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**DEVELOPMENT OF BIO FARM SYSTEM** - Capacity building to support bio farm and support of the local market for their labeling products are the middle terms objectives in frame of National Strategy for sustainable rural development. Actually a subsidies system has started to implement. The farm that breeding the local/ indigenous goat breed under the traditional production system and that are certified as the bio farms, are the potential beneficiaries



# Identification of Albanian goat resources

According to the Albanian National Action Plan for Farm Animal Genetic Resources, was carried out and working to carried out the following actions:

- ▶ Identification, phenotypic and genotypic characterization of the native/indigenous goat breeds.
- ▶ Research on the genetic characterization of Albanian goat breeds and evaluation of the distances between different Albanian goat breeds also between them and other regional breeds.

Actually, in Albania two working scientific groups are responsible in this field of research. They have carried out some results in evaluation of the polymorphism at level of DNA, and has evaluated the genetic distances between different native/ indigenous goats breeds.

Meanwhile, the results of identification and characterization of this animal genetic resource are not enough.

Me main obstacles are:

- ⊕ **Limited financial resources for organizing and carried out the field trips**
- ⊕ **Insufficient human capacity and in lab. infrastructures**



# *In-situ* conservation

Actually 6 ( six) *in-situ* conservation programs on going

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## “Velipoja” goat ecotype

### Description

Medium size animals, very developed and harmonic skeleton, chest girth 80-91cm, diagonal length 72-82 cm, shin girth 9-10cm, teat length 6.2-7.8 cm, long shaped head, bulging eyes, back above inward thin horns, red and black colored mantle. Beard and wattle are present ears are medium size



### Objectives

- Building of Breeders' Association of “Velipoja” goat breed as a voluntary union of farmers to make possible the implementation of *in-situ* conservation program. 15 farmers, 500-600 animals
- Setting up economic mechanisms to make possible the application of scheme for milk collecting and processing
- Establishment of local centers, on the basis of village, for milk processing in order to produce local products labeled “Cheese of Velipoja” goat

# ***In-situ* conservation**

**Actually 6 ( six) *in-situ* conservation programs on going**

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## **“Caporre e Mokrres” goat ecotype**

### **Description**

Small size body, arched nasal profile of males, straight nasal profile of females. Males have arched horns, females without horns. Both, females and males have tassel of wool on the front. Neck is short and a little muscular. Abdomen is rounded and a little voluminous. Well developed and rounded udder. White to reddish colored fleece. Wool covers all body, neck, basal part of head and tale. Length of hair is 40-45cm, shorter in parts of ribs and abdomen.



### **Objectives**

- Selection of new generation, male and females, which will used as reproducers. The establishment of 10-15 lines of male reproducers for a period of 5 years
- Capacity building to support sustainable use, milk processing and marketing of tradition goat products



# *Ex-situ* conservation

**Establishment of National Cryo-Bank for somatic cell conservation (SCCC)**

## **Activities**

- **Identification of farms that farming the autochthonous, native and / or local goat populations that are at risk of extinction**
- **Selection of animals, which have fully and clearly expressed the characteristics of the respective autochthonous/ native breeds and / or local goat populations**
- **Sampling and storing the Somatic Cells – tissue, blood**
- **Development the Legal framework and necessary legislation for establish and management of National Cryo conservation bank – SCCC**



# *Ex-situ* conservation



**National Gene Bank for *Ex-situ* – *in vivo* conservation.**

## **Activities**

- Identification of farms that farming the autochthonous, native and / or local goat populations that are at risk of extinction
- Capacity building to support establishment of necessary infrastructures for breeding the animal of “herd collection”
- Compiling and implementation of genetic program for *ex-situ in vivo* conservation
- Development the legal issues in light of international legal framework , EU legislations and CBD and ABS –Nagoya Protocoll.



**Thank for your attention !**

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