



# *In-situ* and *Ex-situ* gene conservation in Albania

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## ***ALBANIAN STRATEGY FOR CONSERVATION AND SUSTAINABLE USE OF FARM ANIMAL GENETIC RESOURCES***

***Overall objective of Albanian Strategy regarding the conservation:***

***Conservation of farm animal biodiversity***

## ***NATIONAL ACTION FOR CONSERVATION AND SUSTAINABLE USE OF FARM ANIMAL GENETIC RESOURCES***

***Overall objective regarding the conservation***

***Development of national capacities necessary for implementing In-situ and ex-situ conservation programs***

***Action plan***

- *Identification of local breeds/populations “At risk of extinction”*
- *Evaluation of conditions and factors affecting the decline of farmer interest for the management of local breeds / population stated at risk of extinction*
- *Compiling and implementing In-situ conservation programs:*
  - ▶ *Identification of farms target groups where to implement In-situ conservation program*
  - ▶ *Finding the necessary funds for the implementation of the In-situ conservation programs.*
- *Compiling and implementation of Ex-situ conservation programs:*
  - ▶ *Building up the cryo conservation national gene bank*
  - ▶ *Building up the ex-situ in vivo conservation national gene bank*

## Legal framework

The most important legal instrument is:

**Law No. 9426, on 06.10.2005 “For livestock management”**

### *Article 58*

#### *Protection of genetic diversity*

- 1. Republic of Albania maintains and provides genetic reserves for various species, breeds and lines of animals, at a minimum number of animals, doses of semen, ovum and embryos*
- 2. In order to maintain breeds and / or lines and to ensure sufficient production from animals, breeding program provides genetic variability of farm animals*
- 3. Funds for the conservation and management of genetic reserves are provided by State Budget.*
- 4. Ways and procedures of conservation and management of genetic reserves are determined by the Decision of Council of Ministers*

**The Albanian legal situation is favorable for implement the programs for *in-situ* and *ex-situ* conservation of FAnGR**

## Enhance of Institutional capacities

### **I. Strengthen the capacity building of National FAnGR Network**

Establishment of two national gene banks for ex-situ conservation:

**National Gene Bank with Somatic Cell – Fushë Kruja**

***National Ex-situ in vivo gene bank - Korça***

Establish the two national working groups responsible for compiling and monitoring the implementation of in-situ conservation programmes

**Group “sheep and goat” – CATT, Korça**

**Group “buffalo, cattle, pig, poultry” - CATT, Fushë Kruja**

Establish the National Focal Point for AnGR – Agricultural University of Tirana

### **II. Training**

Regional training workshops with participation of technicians who will develop filed activities related to the National strategy and Action plans;

Capacity building workshops at local level to train different stakeholders

### **III. Capacity building to enhance capacities of NGO that work in the field of conservation and sustainable use of FAnGR:**

**ALBAGENE Association**

**BLEKALB –Foundation ect...**

## National Action Plan

### The projects for *in-situ* conservation



- Cattle
- Goat
- Sheep
- Buffalo
- Pig



## Current situation – inventory, trends and program of conservation

### Local cattle breed

**"Shkodra Red cattle" – *Ilyrian Dwarf Cattle, Busha type.***



Population size: **45 animals (28 cows, 3 bulls)**

Risk status : **Critical**

Trend population: **Decreasing**

### *In-situ* conservation program

Implementation in 4 farms

Activities:

- **Phenotypic and genetic characterization of breed**
- **Establish the herd book and select 5 young bull for natural matings**
- **Organizing of farmers community in Association of Farmers**

### *EX-situ* conservation program

**No**

## Current situation – inventory, trends and program of conservation

### Local cattle breed

#### Albanian Prespa Cattle- *Brachycerous* type



Size of population: **720 - 780 cows, 10 bulls**

Risk status : **Critical**

Trend population: **Increasing**

#### *In-situ* conservation program

25 farms, 4 nucleus breeding farms, three villages

##### Activities:

- Selection, earmarking of animals and data collection for establishing Herd Book
- Establishment of “Breeding nucleus” and select 20 young bulls for natural mating
- Promotion of breeding and economic values of breed
- Organizing the scheme for collecting, processing and marketing of animal products

#### *Ex-situ* conservation program

##### *Ex-situ* in vivo conservation:

**5 cows and 1 bull farmed in CATT-Korça**

##### *Ex-situ* –cryoconservation

**Somatic cell – 50 female and 10 male  
250 doses of semen from 3 bulls**

##### Ark farm – Zaroshka village

**6 cows and 1 bull**

## Current situation – inventory, trends and program of conservation

### Local cattle breed

#### “Lopa e Lekbibajt” – *Ilyric Dwraf Cattle-Busha Type*



Size of population: **700-750 cows, 15 bulls**

Risk status : **Critical**

Trend population: **Increasing**

#### *In-situ* conservation program

12 farms, 350 cows, 10 bull, two villages

##### Activities

- Capacity building of farmers groups to implement *In-situ* conservation program.
- Select 20 young bulls
- Support the traditional processing method of animal products
- Organizing the cattle show and the local traditional processing of cattle products

#### *Ex-situ* conservation program

##### Ex-situ –cryoconservation

Somatic cell – 50 female and 10 male

750 doses of semen from 4 bulls



## Current situation – inventory, trends and program of conservation

### Buffalo



Size of population: **380-430 cows, 15 bull**

Risk status : **Critical**

Trend population: **Increasing**

#### *In-situ* conservation program

12 farms, 130 buffalo and 6 bulls, 3 villages

#### Activities

- Establish 3 farms “nucleus herds” with of them farmed 35-40 buffalos and 2 bulls.
- 10 male lines will be produced
- Support the processing of milk and marketing

#### *Ex-situ* conservation program

#### *Ex-situ* – cryoconservation

*Ex-situ* in vivo: 4 buffalo in zoo

Somatic cell – 30 buffalo

## Current situation – inventory, trends and program of conservation

### Goat breed

#### “Velipoja” goat ecotype



Size of population: **1000-1100** goats, **60** bucks

Risk status : **Critical**

Trend population: **Increasing**

#### *In-situ* conservation program

**15 farms, 500-600 animals**

**Objective: Conservation and economic sustainable use.**

#### **Activities**

- Establish the herd book
- Implementation the mating scheme
- Support for setting up units of milk processing. Objective: Production of local products – cheese, curd cheese named: **“Products of “Velipoja” Goat**
- Organizing and implementation of the scheme for collecting and marketing dairy products
- Organizing and carrying out the promoting activities of animal products of “Velipoja” goat ecotype

#### *Ex-situ* conservation program

**Non**

## Current situation – inventory, trends and program of conservation

### Goat breed

“Lara e Kallmetit ” goat ecotype



Size of population: **900 goats, 50 bucks**

Risk status : **Critical**

Trend population: **Increasing**

### *In-situ* conservation program

**7 farmers-Commune of Kallmet**

**3 farmers in Trashan- commune of Dajç. About 600-650 animals**

#### Objective:

Increase of number of animals about 60%

Increase of milk production about 30%, meat production from kids 20%

Marketing of animal product milk, curd cheese and meat with label

“Products of Lara e Kallmetit” goat

Increase the income of smallholders from livestock at the rate of 80%

#### Activities

- Establish the herd book
- Implementation the mating scheme
- Support for setting up units of milk processing.
- Organizing and carrying out the promoting activities of animal products of “Lara e Kallmeti” goat ecotype

### *Ex-situ* conservation program

**Non**

## Current situation – inventory, trends and program of conservation

### Goat breed

“Capore e Dragobise” goat ecotype



Size of population: 3 500 – 3 800 goats and 120 bucks.

Risk status : **Critical**

Trend population: **Decreasing**

### *In-situ* conservation program

**10 farms, 750 animals**

#### Objectives and Activities

- Increasing the size of population
- Establishing the conditions and infrastructure for implementing *In-situ* conservation program:
  - Identification and animal earmarking
  - Selection of male and female reproducers
  - Setting up Milk Recording System in “breeding nucleuses”.
  - Establishment of Herd Book.
- Setting up and developing capacities of milk processing Units to produce of local dairy products
- Implementing the advanced technologies for meat production and procesing
- Promoting and development of network for collecting and marketing dairy and meat products, labeled “ Products of Goat “ Capore e Dragobise”

### *Ex-situ* conservation program

**Non**



## Current situation – inventory, trends and program of conservation

### Goat breed

#### “Capore e Mokrrës” goat ecotype



Size of population: **850-900 goats, 40 bucks**

Risk status : **Critical**

Trend population: **Increasing**

#### *In-situ* conservation program

**14 farms, 450-500 animals**

#### Objective:

**Increase the number of animals and milk production**

**Establish the local market**

#### Activities

- Establish cooperative of farmers and the herd book
- Implementation of mating scheme
- Organizing and carrying out promotion activities of animal products of “Caporre e Mokrrës” goat ecotype

#### *Ex-situ* conservation program

**Cryconservation of somatic cell :**

**50 female and 10 male**



## Current situation – inventory, trends and program of conservation

### Sheep breed

### “Shkodrane” native sheep breed



Size of population: **450-500 ewes, 25 rams**

Risk status : **Critical**

Trend population: **Increasing**

#### *In-situ* conservation program

30 farmers in Oblika's commune, Murriqan and Ana e Malit villages. **200-250 animals**

#### **Objectives and Activities**

Institutionalization of Breeders' Association of “Shkodrane” sheep breed as a voluntary union of farmers

Implementation of the mating scheme following the rules of “Open nucleus herds”

Setting up the economic mechanisms to make possible the milk collecting and processing

Support the farmer's community to make possible efficient marketing of animal products in local market

Renewal of tradition in wool processing and marketing of wooly products

#### *Ex-situ* conservation program

#### **Ex-situ in vivo conservation:**

**60 ewes and 8 rams farmed in CATT-Korça**

#### **Ex-situ –cryoconservation:**

**Somatic cell – 50 female and 10 male**

## Current situation – inventory, trends and program of conservation

### Sheep breed

#### “Lara e Polisit” autochthonous sheep breed



Size of population: **1300-1400 ewes, 70 rams**

Risk status : **Critical**

Trend population: **Increasing**

#### *In-situ* conservation program

16 farmers, 4 villages, 550-600 animals

#### **Objectives and Activities**

- Selection, earmarking of animals and data collection for establishing the Herd Book
- Evaluation of socio-economic situation of farms that may be partners in project and establishing group of farmers responsible for implementation of *in-situ* conservation program
- Establishment of 4 Breeding nucleus farms
- Promotion of breeding and economic values of breed
- Organizing and implementing the collecting, processing and marketing of animal products
- Setting up centers for wool processing

#### *Ex-situ* conservation program

#### *Ex-situ in vivo* conservation:

**60 ewes and 8 rams farmed in CATT-Korça**



#### *Ex-situ* –cryoconservation:

**Somatic cell – 50 female and 10 male**

## Current situation – inventory, trends and program of conservation

### Pig

#### “White of Scutari” - native pig breed



Size of population: 17-20 sows  
and 4-5 boards

Risk status : **Critical**

Trend population: **Increasing**

#### “Pig with wattles” – native pig breed



Size of population: 8-10 sows  
and 4 boards

Risk status : **Critical**

Trend population: **Increasing**

#### “Spotted of Scutari” – native pig breed



Size of population: 30-35 sows  
and 8 boards

Risk status : **Critical**

Trend population: **Increasing**

### *In-situ* conservation program

8 farms, Back Rrjoll village

#### Objective:

- Increase of size populations
- Capacity building to increase access of farmers with local and tourism market

#### Activities:

- Establish the Rescue station **as a Local Network of Private Farms that farming the native pig breeds**
- Establish the Ark farms
- Implementation of boards rotation scheme

### *Ex-situ* conservation program

**No**

## **The main obstacles/problems regarding the implementation of *in-situ* and *ex-situ* conservation programs**

- The farmers are not organized in breeding associations, which are necessary in order to establish herd book and for the implementation of all other actions in frame of *in-situ* conservation programs**
- The farmers awareness about the value of animal matriculation system and production control is low. As consequence the farmers investment in this area are absent.**
- Lack of public funds necessary for the implementation of conservation programs, particularly relevant to *ex-situ* conservation**



## **The main obstacles/problems regarding the implementation of *in-situ* and *ex-situ* conservation programs**

- Insufficient level of public awareness, **in general** and of community of farmers **in particular**, concerning the values of native/autochthonous genetic pool in farm animals
- Insufficient capacities for the development of international, cross border and regional collaborations to support the development of biodiversity protection and sustainable economic use of FAnGR, *in general*, and autochthonous/ local transboundary breeds, *in particular*.

### **Main challenge**

**Development of farmers and public institution capacities, at national and local level, to support the implementation of both *in-situ* and *ex-situ* conservation programs**



# Workshop on *In situ* and *Ex situ* gene conservation

12-13-14 April 2016

Gödöllő, Hungary



# THANK YOU!

