

# The Cyprus sheep and goat sector: Results from the DoMEsTic project on economics, policies and social aspects

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# Presentation content

- Brief description of the ARIMNet-DoMEsTic project aims
- Overview of the Cyprus sheep and goat sector
- Institutional framework governing small ruminants
- Cyprus case study description and general results
- Sheep and goat milk marketing channels in Cyprus
  - Economics
  - Social Aspects
  - Constraints for marketing efficiency
  - Strategies for improvement



## A Network for Agricultural Research In the Mediterranean Area

### Rationale

- The countries of the Mediterranean basin face all the key global challenges in agriculture and food security
  - management and utilisation of natural resources
  - threats to agricultural production and sustainability due to climate change
- Mediterranean issues are often examined separately in various regions
- Global problems addressed by local research systems

### ARIMNet Objectives

- To create a community of research for the whole region through coordination of national agricultural research programmes
- To jointly address the common key issues for Mediterranean agriculture

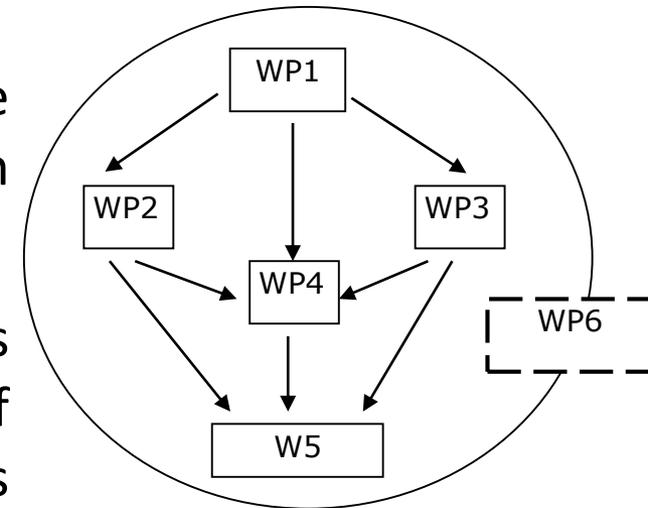


# DoMEsTic - [www.arim-domestic.net](http://www.arim-domestic.net)

Mediterranean biodiversity as a tool for the sustainable development of the small ruminant sector: from traditional knowledge to innovation

## The DoMEsTic project:

- Studies the factors that influence the sustainability of sheep and goat production systems in the participating countries
- Examines the involvement of various stakeholders and policy makers and the role of (local breed) sheep and goat production systems in local development.
- Proposes adaptation strategies to the socio-economic and environmental challenges



Mediterranean biodiversity as a tool for the sustainable development of the small ruminant sector: from traditional knowledge to innovation

## Partners - Research teams

- **Greece** (coordinator) (Hellenic Agricultural Organisation-DEMETER)  
Ch. Ligda, E. Sossidou (VRI, Thessaloniki), I. Tzouramani (AGRERI, Athens)
- **France** (Institut National de la Recherche Agronomique)  
A. Lauvie, F. Casabianca, J.C. Paoli (SAD LRDE, Corte)
- **Cyprus** (Agricultural Research Institute, Lefkosia)  
G. Hadjipavlou, G. Adamides, A. Stylianos
- **Morocco** (Institut Agronomique et Vétérinaire Hassan II, Rabat)  
A. Araba, A. Boughalmi



# The Cyprus sheep and goat sector

- Important part of animal production in Cyprus
- Contributes ~18% to the total value of animal production
- Faces challenges of different types and does not fulfill its full economic and production potential

**Sheep population:** Estimated around 267,500 (Agr. Census 2010)

**Goat population:** Estimated at 241,600 (downward trend)

- Recent population changes associate with management of scrapie disease
- Population trends correlate with meat and milk production



## the Cyprus sheep and goat sector

### Veterinary Services

Rules and regulations regarding farm and animal identification, genetic material transfer, animal health and sales, milk safety and disease control (esp. scrapie)

### Department of Agriculture

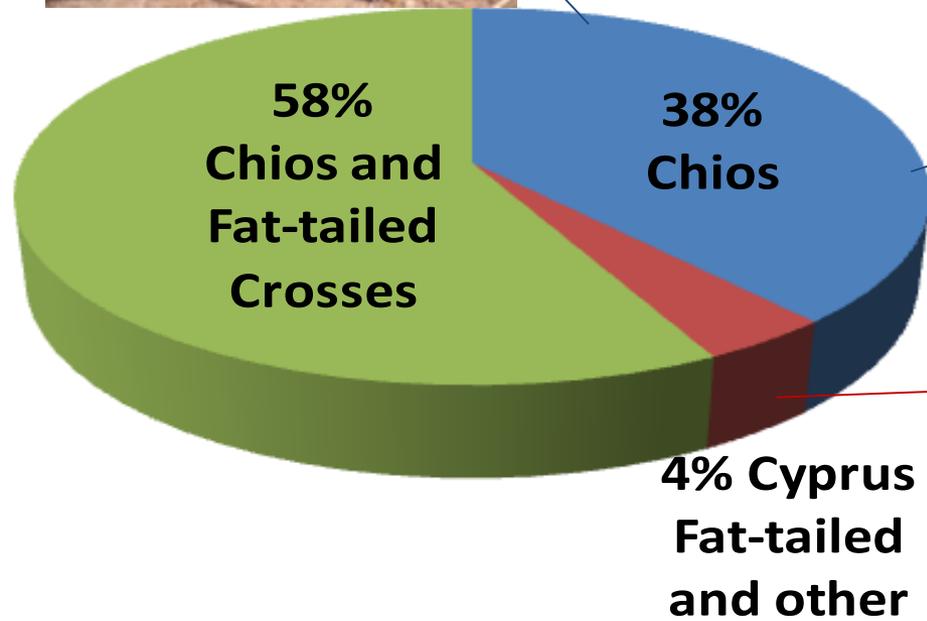
Responsible for farm permits, farm location, shed building, eligibility for subsidies, CAP implementation, yearly surveys, extension services

### Agricultural Research Institute and Department of Agriculture

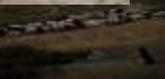
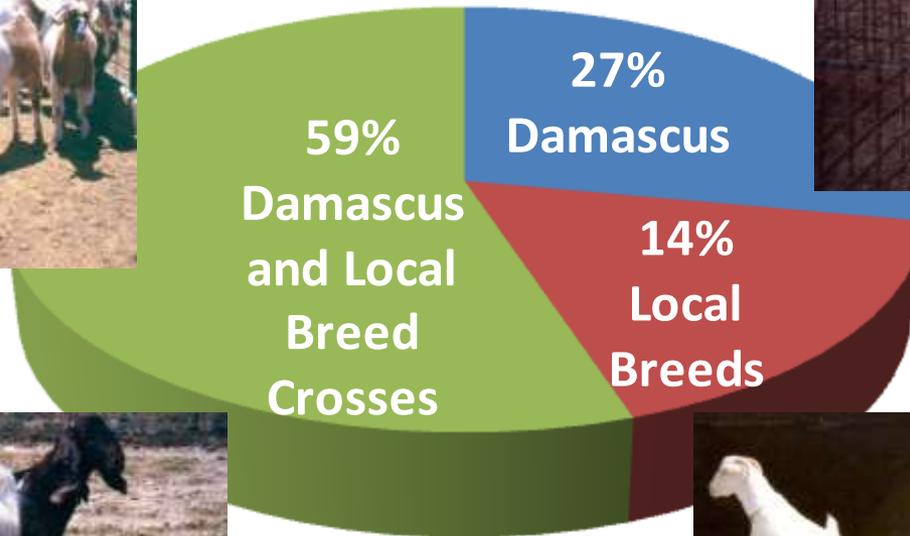
Genetic management: maintenance of nucleus flocks for Chios sheep and Damascus goats and provision of superior genetic stock to breeders



# Breed Composition of Sheep



# Breed Composition of Goats



# Sheep and goat products

## Meat production

- Covers ~90% of consumer demand
- Corresponds to 7% of total meat production
- Contributes 10% to the total value of animal production



## Sheep and goat milk

- Corresponds to 22% of total milk production in Cyprus
- Contributes 8% to the total value of animal production



# Sheep and Goat Farm Description

Animals Kept	Average flock size	Percentage of total farm units (%)
Sheep	150	21
Goats	110	46
Sheep & Goats	198 (106 & 92)	33

- Total number of sheep and goat farms (2011): **2771**
- About 20% of milk is processed on farm (within region variation)

## Main milk products:

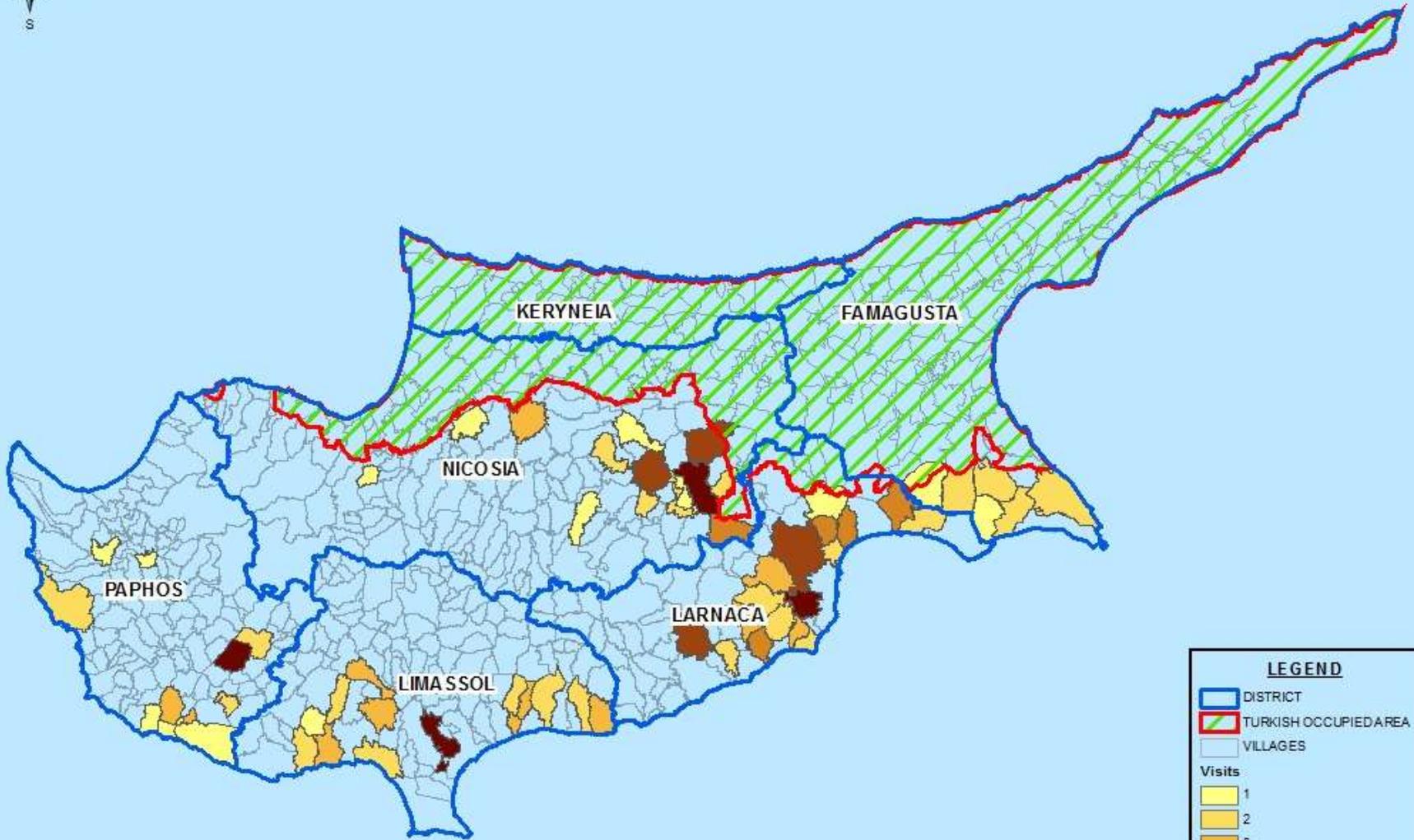
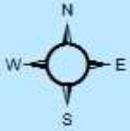
- Local halloumi cheese
- Yogurt
- Anari (whey cheese)
- Trahanas



# The Survey for DoMEsTic

- A proportional random stratified method was used to determine the reliable sample size per district
- Two prerequisites:
  - a) A flock size of at least 100 animals
  - b) Farm distribution in 5 districts (Lefkosia, Lemesos, Paphos, Larnaca, Ammochostos)
- A total of 158 farmers were interviewed
- Farms located in 63 distinct villages within the five districts
- 10 farms in Ammochostos, 54 in Larnaca, 36 in Lemesos, 36 in Lefkosia and 22 in Paphos





**LEGEND**

- DISTRICT
- TURKISH OCCUPIED AREA
- VILLAGES

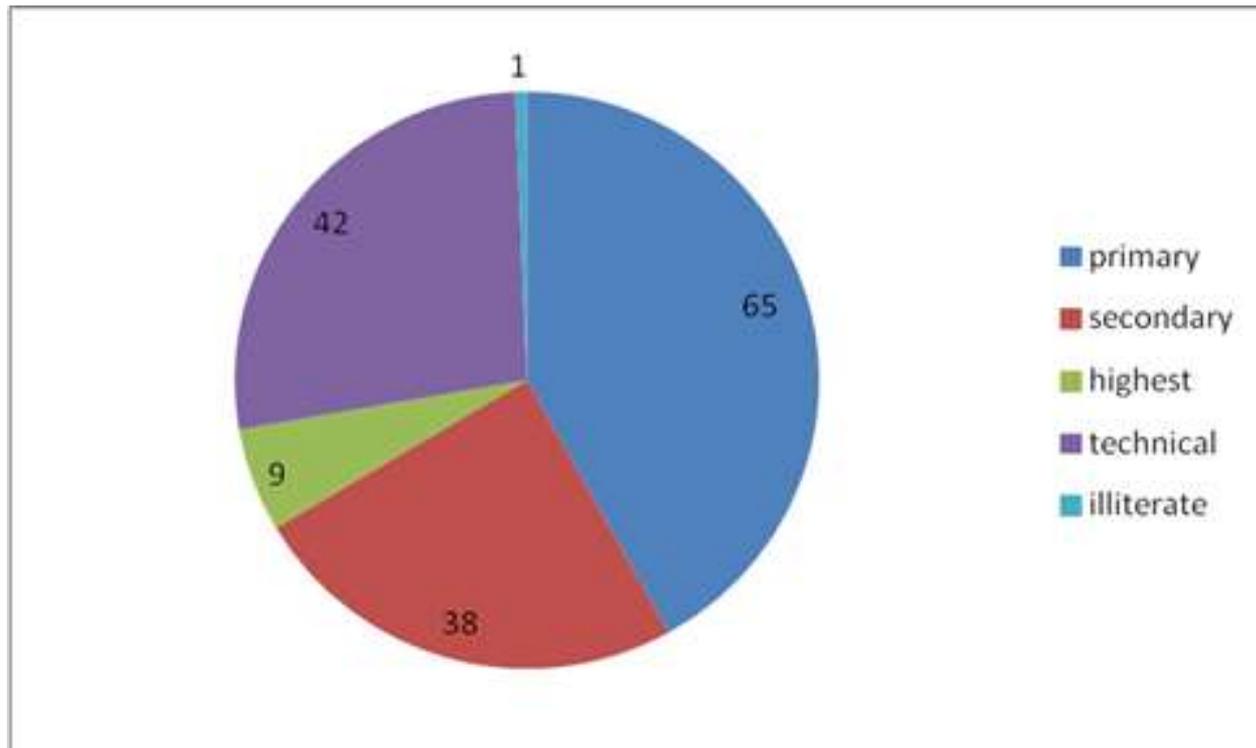
**Visits**

- 1
- 2
- 3
- 4
- 5
- 6



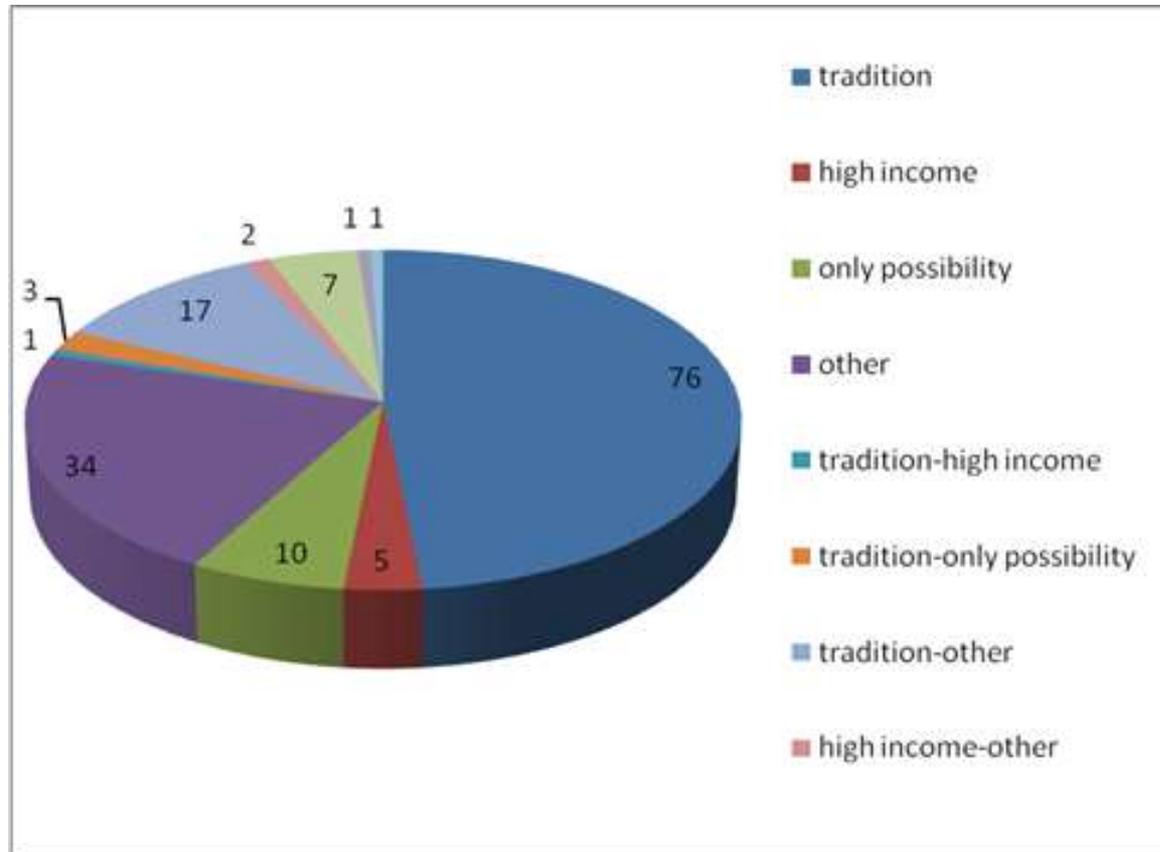
# Results from the survey

## Education level across 158 farmers interviewed



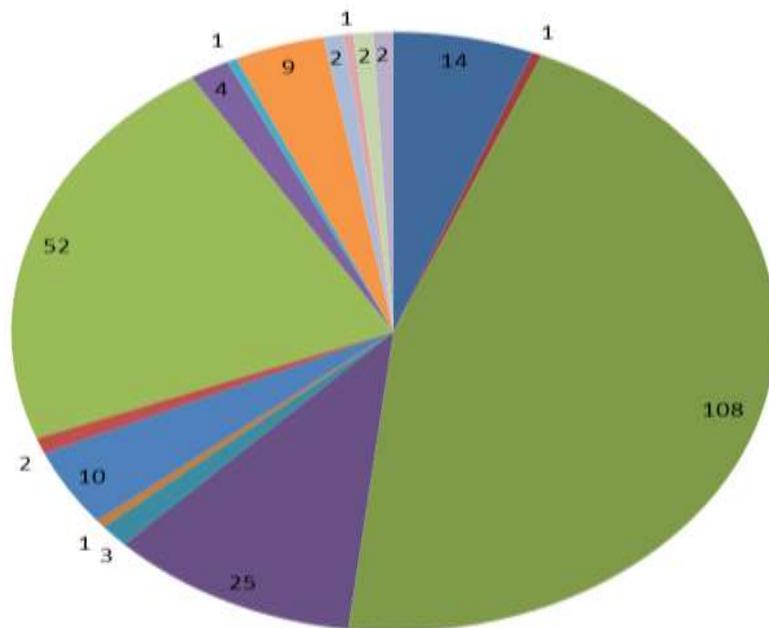
# Results from the survey

## Reasons provided by breeders for involvement in sheep and goat production



# Results from the survey

## Reasons for choosing particular (pure-bred or crossbred) sheep and goat breed

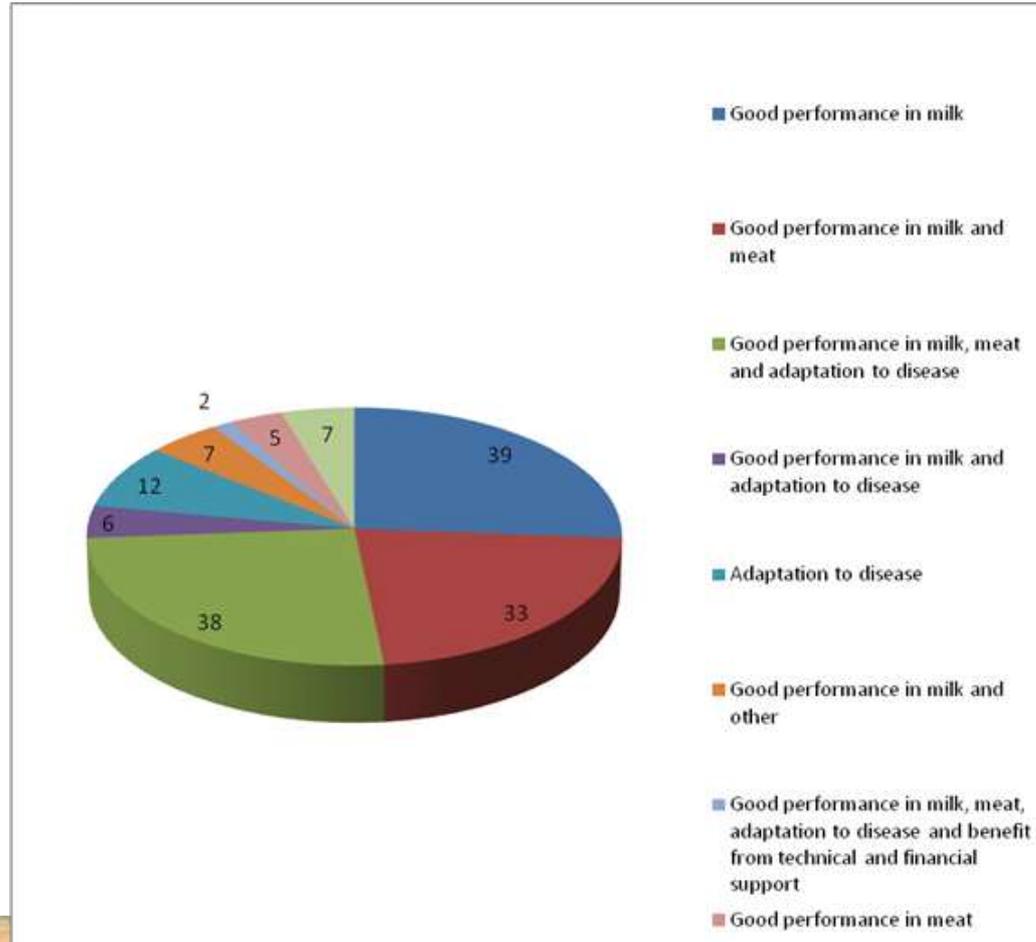


- Tradition
- Only breed in the area
- Good performance in...
- Good adaptation to...
- Other
- Tradition and only breed in the area
- Tradition and good performance in...
- Tradition and good adaptation to...
- Good performance in...and good adaptation to...
- Good performance in...and other
- Tradition, only breed in the area, and to benefit from...
- Tradition, good performance in...and good adaptation to...
- Only breed in the area, good performance in...and good adaptation to...
- Good performance in...good adaptation to...and to benefit from...
- Good performance in...good adaptation to...and other
- Tradition, good performance in...good adaptation to...and to benefit from...



# Results from the survey

## Performance and adaptation reasons to justify the chosen sheep and/or goat breed(s)

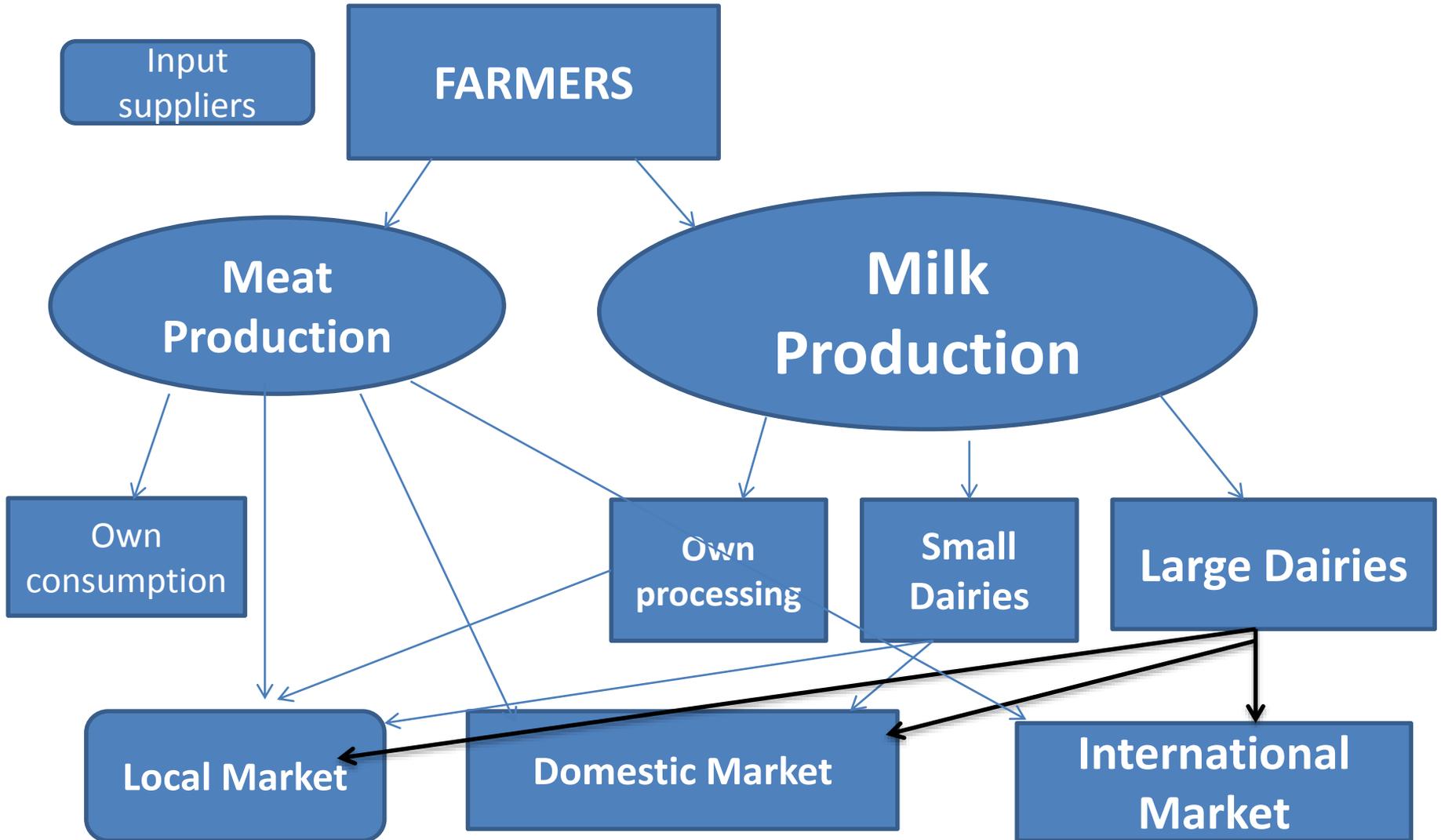


# Sheep and Goat Marketing Channels

- Which are the main marketing channels?
- Which factors affect channel choice decisions?
- Identify constraints
- Suggest improvement options



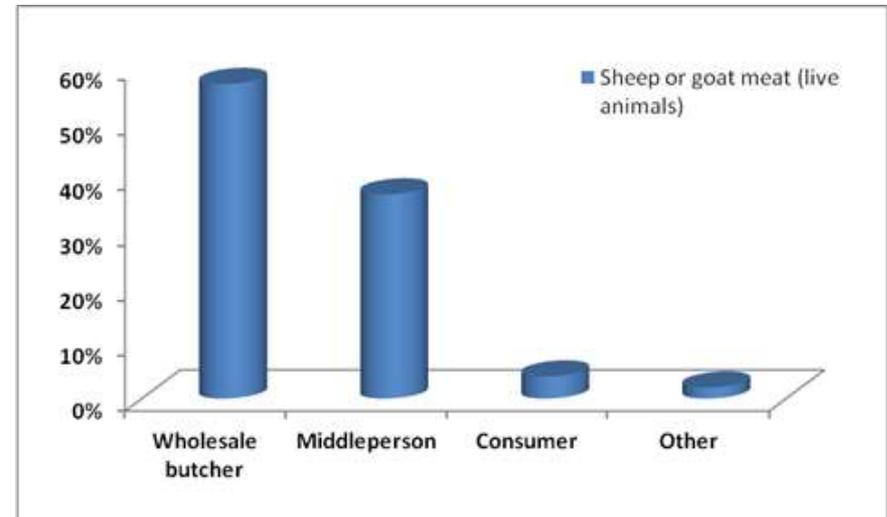
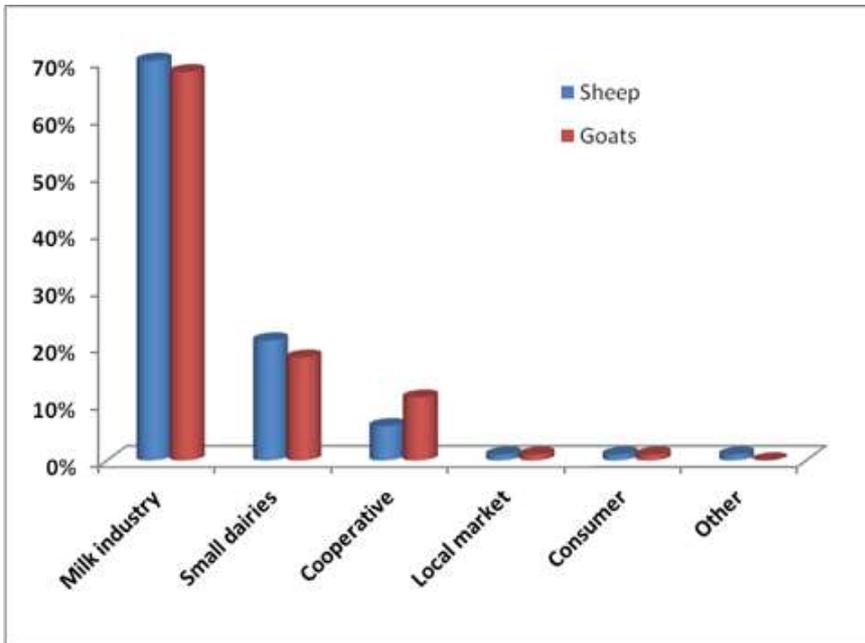
# Map of Small Ruminant Supply Chain



# Results from the survey

## Destination of main farm products

### Market channels for milk and meat from sheep and goats

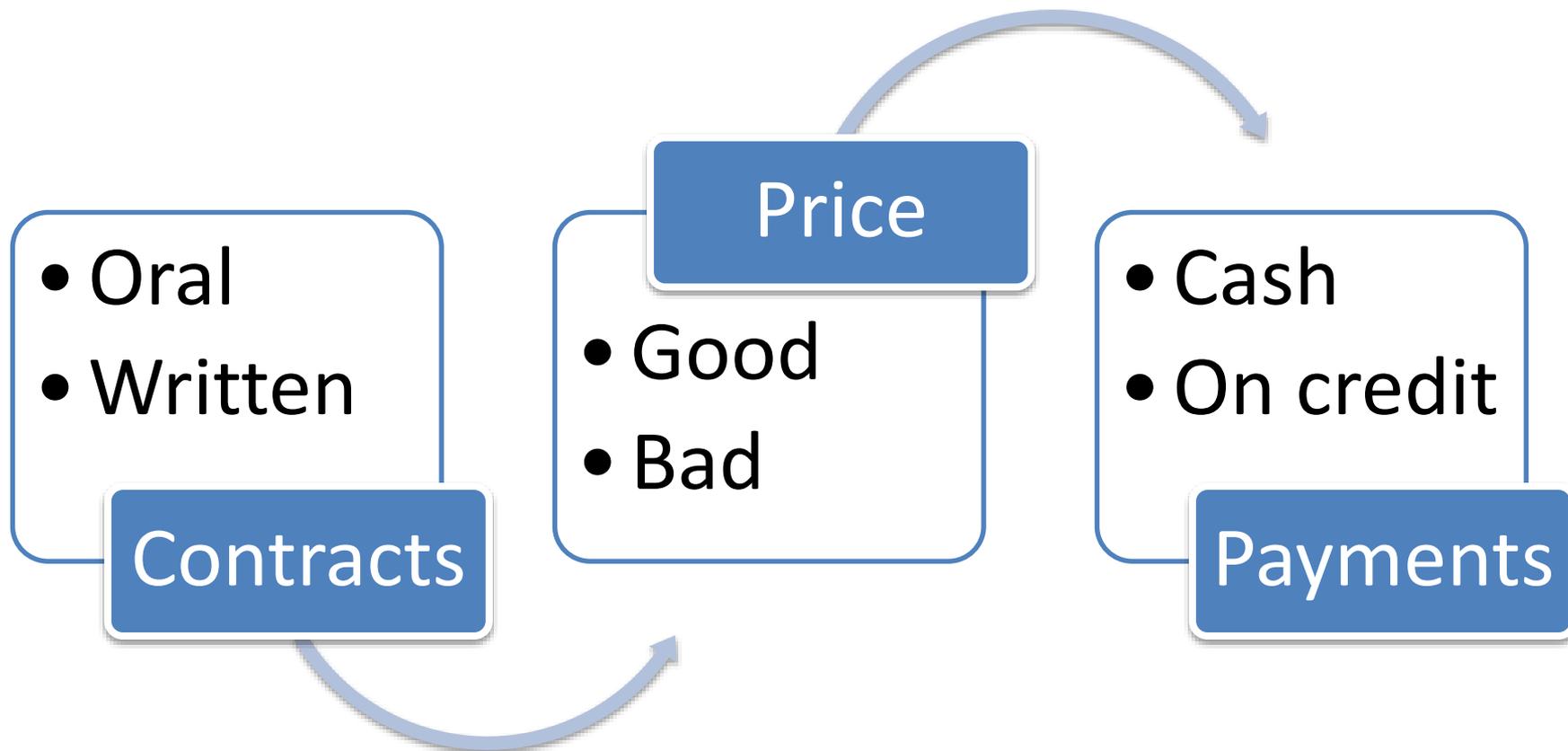


# Prices and Animal Productivity per Milk Channel

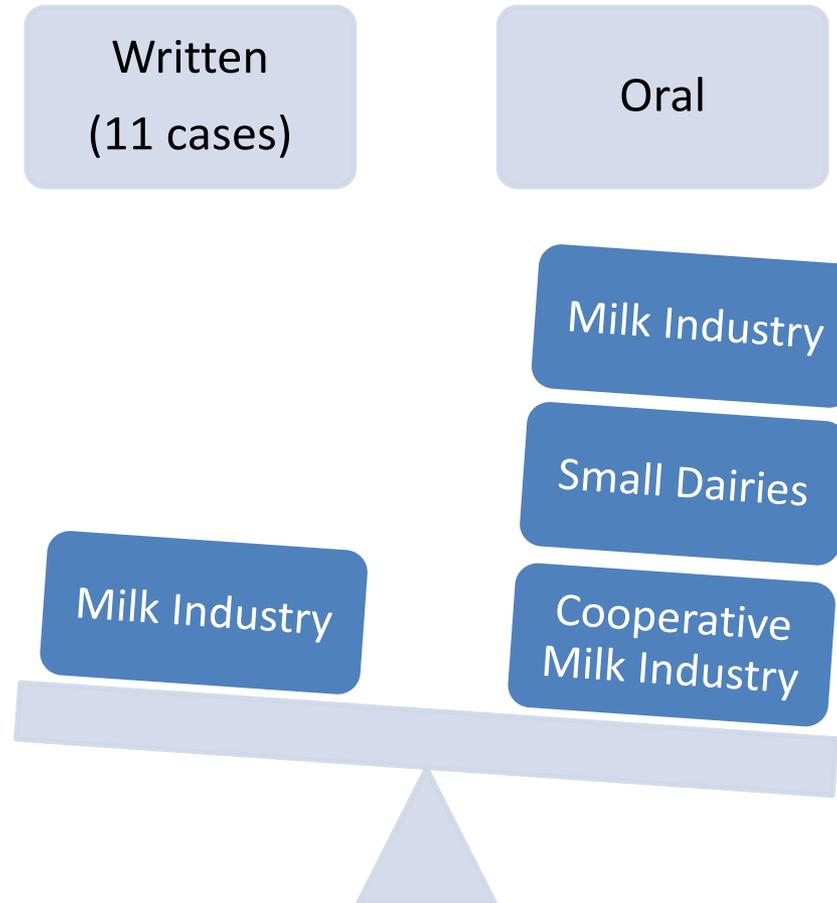
Milk Channels	Mean Sheep Milk Price (€/kgr)	Mean Yearly Milk per Ewe (kgr per animal)	Mean Goat Milk Price (€/kgr)	Mean Yearly Milk per Goat (kgr per animal)
Milk Industry	0.90 (±0.13)	178.87	0.5635 (±0.0661)	355.85
Small Dairies	0.91 (±0.06)	147.84	0.5736 (±0.0498)	169.76
Cooperative Milk Industry	0.87 (±0.05)	119.63	0.5378 (±0.0473)	241.22



# Specific Principles and Channel Choice



# Contracts



# Price Satisfaction

Good  
(25 cases)

- Milk Industry (13 cases for sheep milk / 8 cases for goat milk)
- Small Dairies (2 cases for sheep milk / 1 case for goat milk)

Average  
(49 cases)

- Milk Industry (21 cases for sheep milk/14 cases for goat milk)
- Small Dairies (7 cases for sheep milk/ 3 cases for goat milk)
- Cooperatives (3 cases for sheep milk/ 1 case for goat milk)

Bad  
(94 cases)

- Milk Industry (33 cases for sheep milk/29 cases for goat milk)
- Small Dairies (12 cases for sheep milk/ 8 cases for goat milk)
- Cooperatives (3 cases for sheep milk/ 7 cases for goat milk)



# Mode of Payment

## CASH

- Milk Industry (3 cases for sheep milk/ 1 for goat milk)
- Small Dairies (6 cases for sheep milk/ 2 cases for goat milk)
- Coop (1 case for goat milk)
- Other (2 cases for sheep milk)

## On Credit

- Milk Industry (**13 cases for sheep milk/ 12 cases for goat milk**)
- Small Dairies (1 case for sheep milk/ 11 cases for goat milk)
- Coop (2 cases for sheep milk/ 2 cases for goat milk)

## Cheque

- Milk Industry (**55 cases for sheep milk/40 cases for goat milk**)
- Small Dairies (17 cases for sheep milk / 11 for goat milk)
- Coop (5 cases for sheep milk/ 6 cases for goat milk)



# Farm Profile as Correlated to Chosen Sheep Milk Channel

## Milk Industry

403 animals

65 tons sheep milk

30 ha own Land

300 ha land rented

262 animal/herder

## Small Dairies

342 animals

45 tons sheep milk

16 ha own land

207 ha land rented

202 animal/herder

## Cooperative Milk Industry

576 animals

61 tons sheep milk

49 ha own land

412 ha land rented

249 animal/herder



# Farmer Profile as Correlated to Chosen Sheep Milk Channel

## Milk Industry

51.4 years

33.3 % Primary Education

20.4% - Successor

22.7% - Training

60.6% Full Time Work

## Small Dairies

45.6 years

7.8% Primary Education

8.7% - Successor

6.2% - Training

1.0% Full Time Work

## Cooperative Milk Industry

51.2 years

2.0% - Technical Education

1.9% - Successor

2.1% - Training

1.0% Full Time Work



# Farmer Profile as Correlated to Chosen Sheep Milk Channel

## Milk Industry

51.9% Technical Supervision

40.8% Record Keeping

29.9% Know product outlet(s)

39.4% Share Info with other farmers\*

## Small Dairies

10.6% Technical Supervision\*

12.6% Record Keeping

12.4% Know product outlet(s)

13.1% Share Info with other farmers\*

## Cooperative Milk Industry

3.8% Technical Supervision

2.9% Record Keeping

3.1% Know product outlet(s)

6.1% Share Info with other farmers\*



# Constraints Affecting Marketing Efficiency – Sheep Milk Channels

## Milk Industry

Changes in CAP\*

Poor market coordination\*

Poor market infrastructure\*

Low promotion\*

## Small Dairies

Age of farmers/  
Lack of successors\*

Low promotion\*

Poor market coordination\*



# Constraints Affecting Marketing Efficiency –Goat Milk Channels

## Milk Industry

Breeding and reproduction\*

Animal health and disease control

Poor market coordination\*

Poor market infrastructure\*

Low promotion\*

## Small Dairies

Age of farmers/  
Lack of successors\*



# Strategies for improvement- Farmer's point of view

## Milk Industry

**Improve farm infrastructure**

**Promote training of breeders**

**Increase consumer awareness**



# Strategies for improvement-

## General outcomes from DoMEsTic

**A sustainable sheep and goat sector can be achieved in the near future if:**

- **The halloumi cheese is successfully labelled as PDO**
  - Increased demand for sheep and goat milk
  - Increased milk prices
  
- **The sheep and goat farmers form well-functioning breeders associations**
  - Increased negotiation power
  - More competitive milk prices; written contracts; timely payments
  - Could establish own dairy to make and trade halloumi cheese
  
- **Continuous knowledge transfer and institutional support is provided to the sheep and goat breeders**



# Mediterranean biodiversity as a tool for the sustainable development of the small ruminant sector: from traditional knowledge to innovation



Thank you!

