



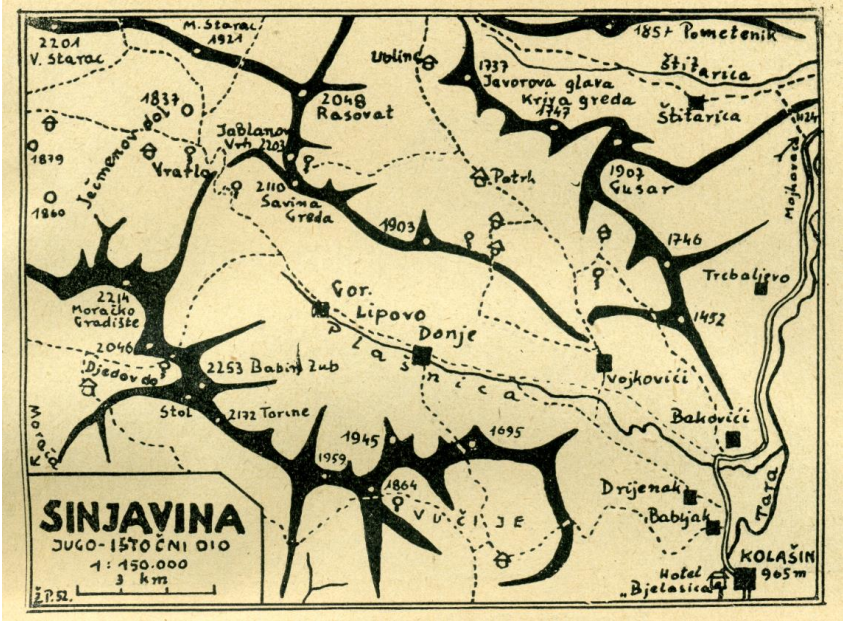
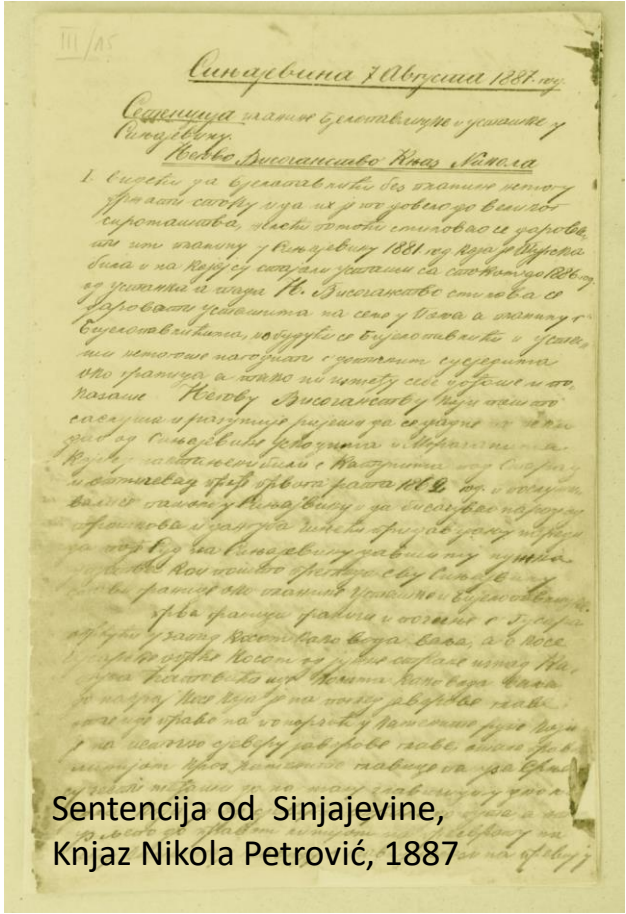
# Identification and mapping of the katuns and elements of cultural heritage of Sinjajevina

- Desk research  
(bibliography, archival documents, ..)
- Contacts with key actors
- Field work:  
identification and mapping
- Photo documentation
- Interviews with local population
- Architectural surveys
- Participative mapping
- Preparation of GIS map





Desk research  
(bibliography, archival  
documents, ..)





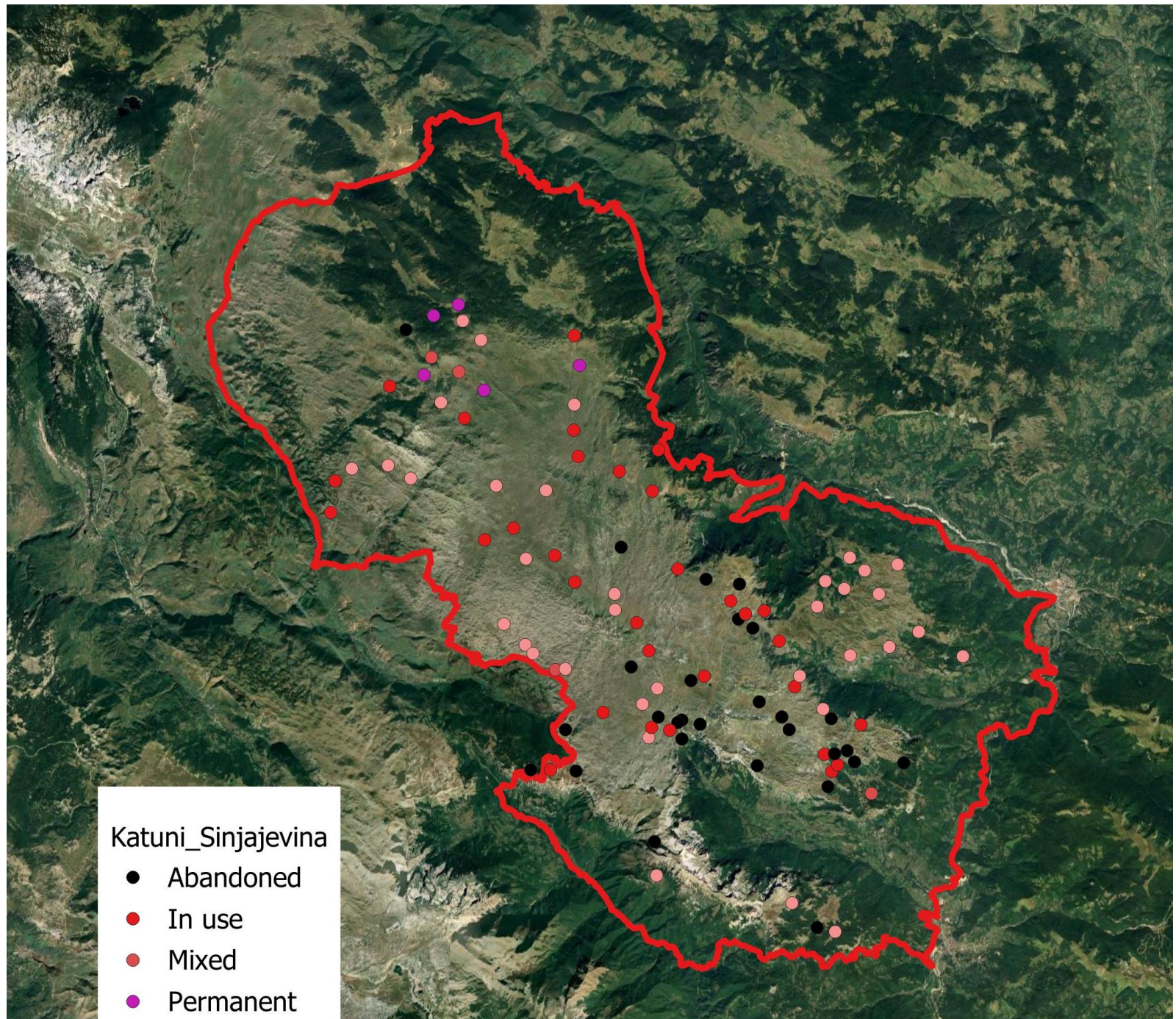
# Field work





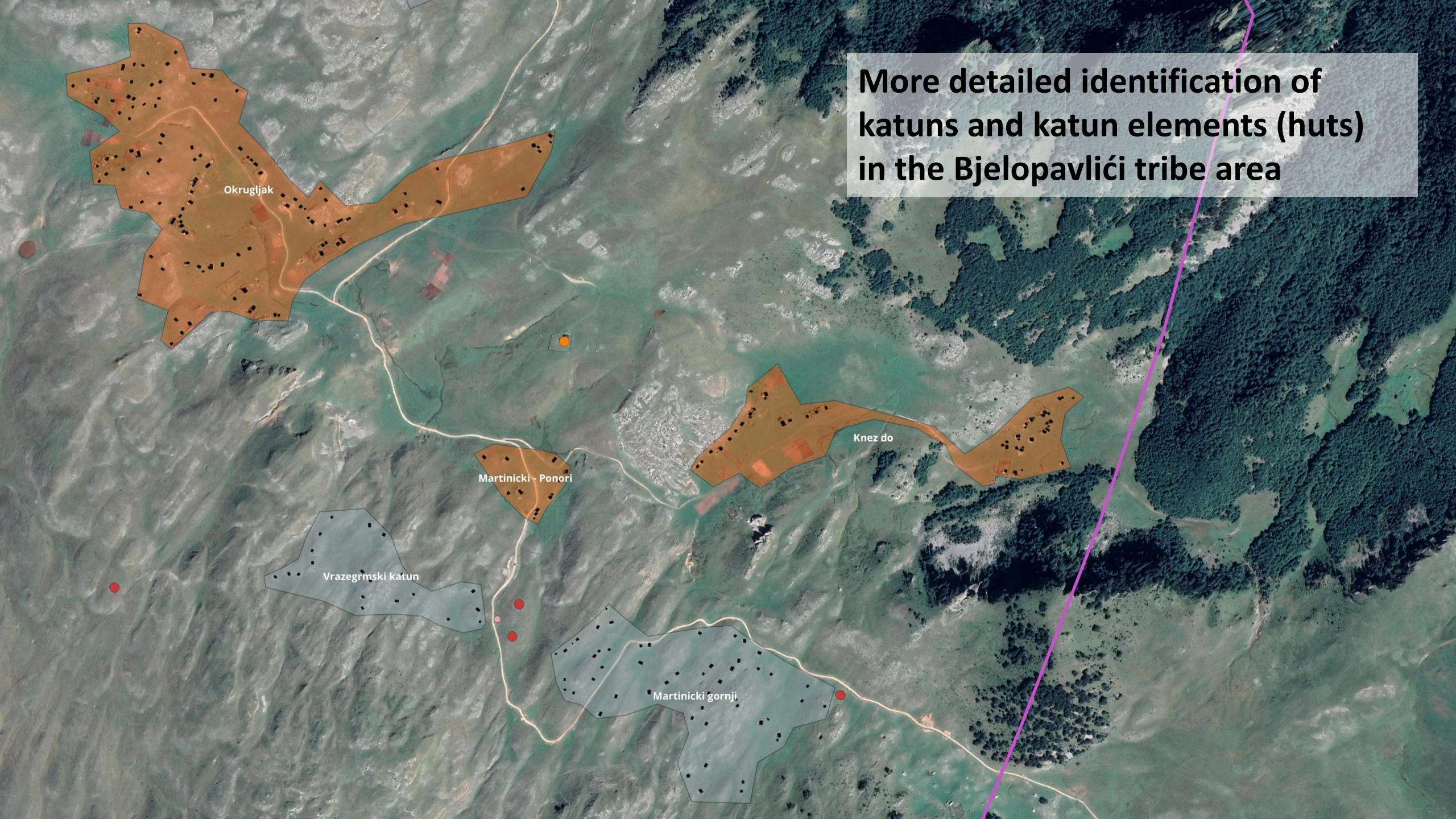
# Mapping of katuns

	Data that collected through the communication with local population representatives and other stakeholders
	Data collected partially with local population representatives and partly from other sources (bibliography, maps,..)
	Data collected from different sources (bibliography, existing maps,..)

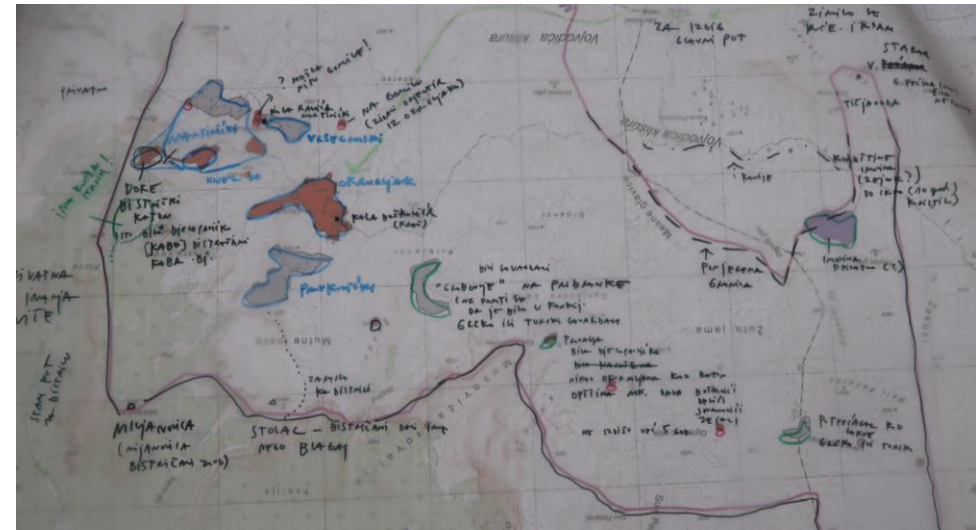




**More detailed identification of  
katuns and katun elements (huts)  
in the Bjelopavlići tribe area**





[illegible]



# Assessment of cultural landscape elements and living heritage of Sinjajevina

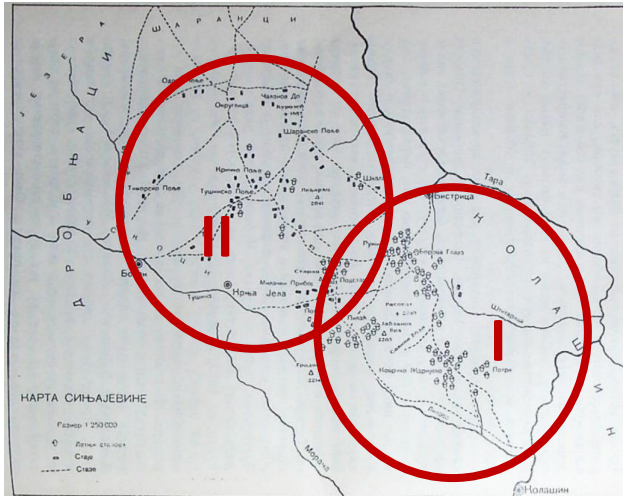




# Different types of katuns

## I – southeastern part:

Katuns on common property, cottages grouped



## II – northwestern part:

Private property (XIX c.),  
more hay meadows, used  
during the winter, houses  
and cottages dispersed



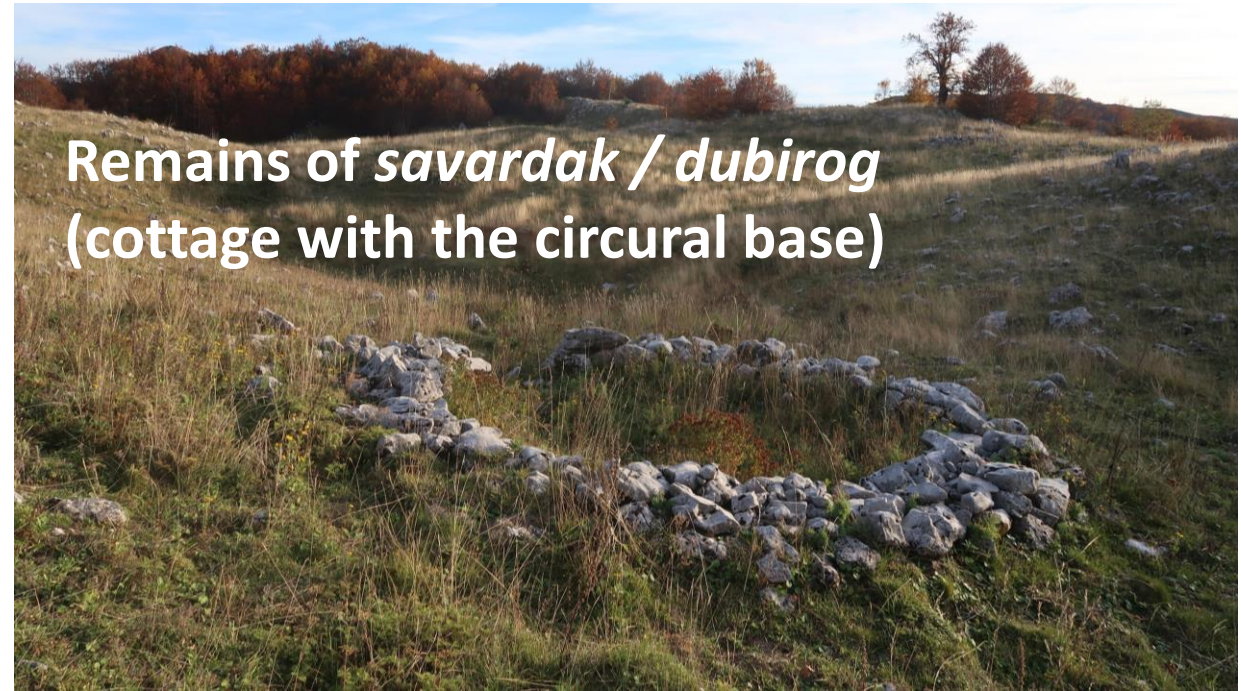


**Traditional cottages / huts**



**Wooden construction**

**Remains of *savardak* / *dubirog*  
(cottage with the circural base)**



**Drystone walls**



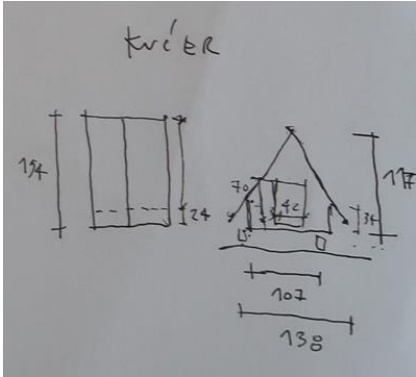
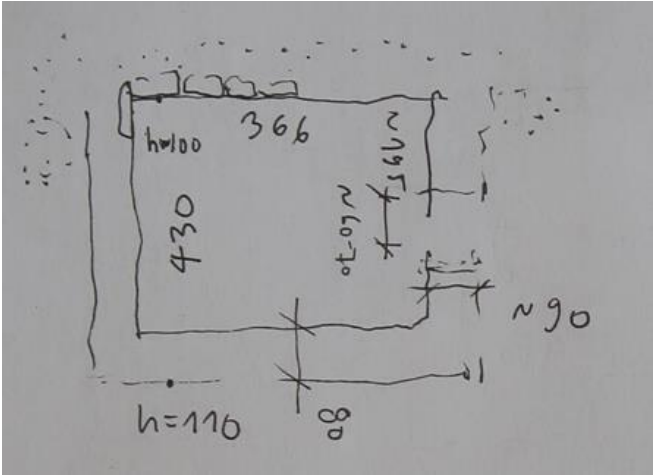
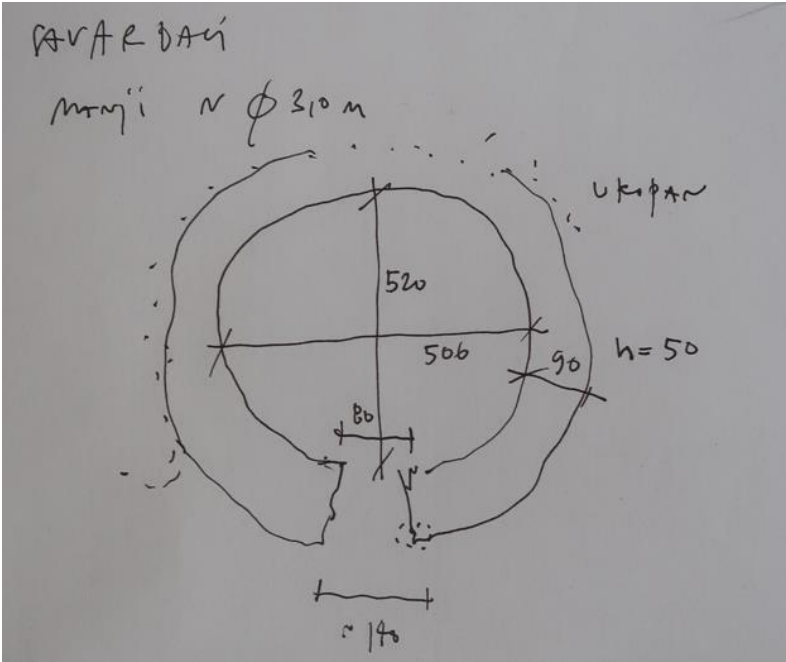
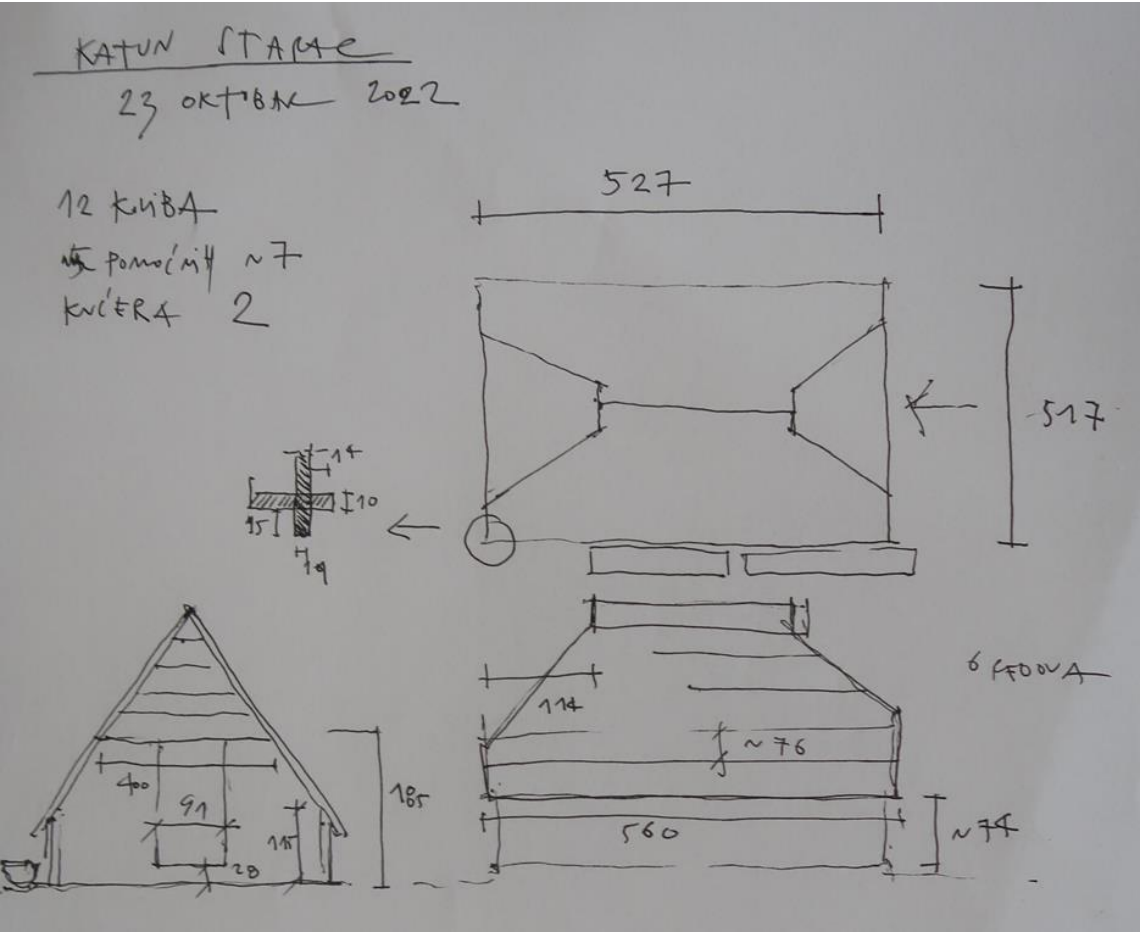
***Savardak* / *dubirog*  
(cottage with the circural base)**



Nikola Lipovac, Planina Sinjajevina, 1987



# Architectural sketches of some characteristic types





Stables, cottages for milk processing , ..



Sheepfold / corrals - wooden

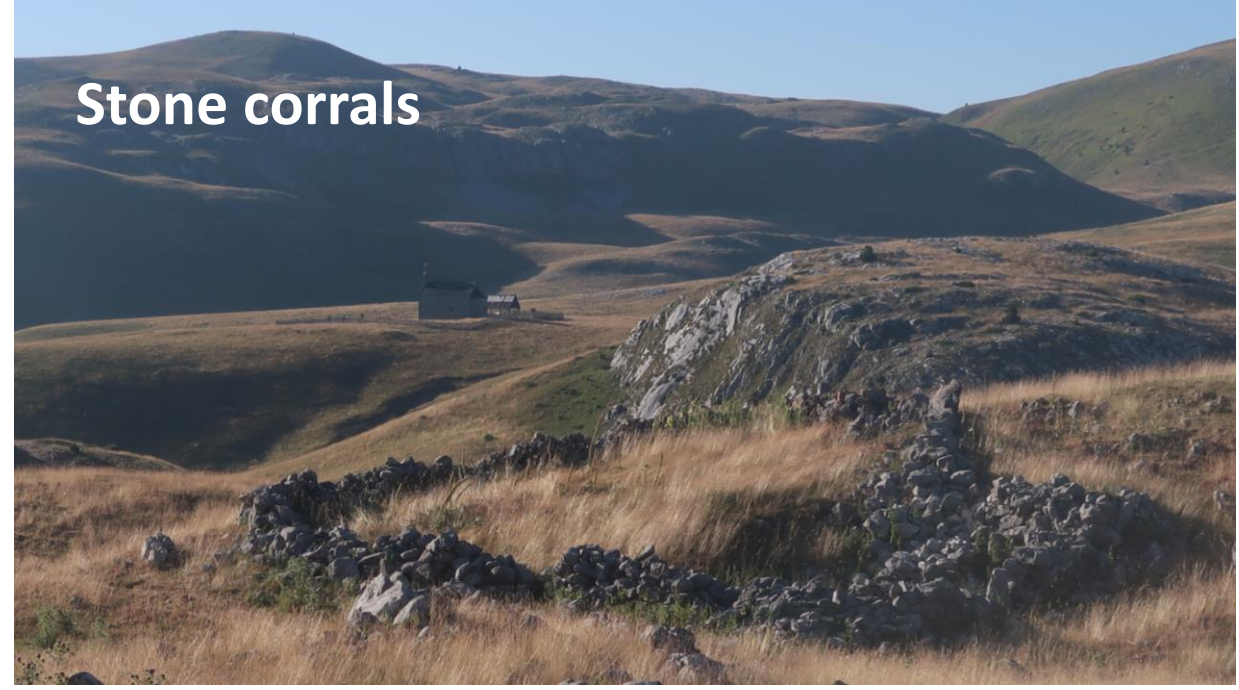


*Kučer*

movable, on a sleigh,  
for shepherds



Stone corrals





**Ponds**



***Kotar* for hay**



**Wells, springs and cisterns**



**Border marks**





**Tumuli**



**Religious buildings (XIX c.)**



**Cooperative buildings (after 1945)**



**School (XX c., not in use)**





## Living practices





# Research implemented by professors and researchers from the University of Montenegro

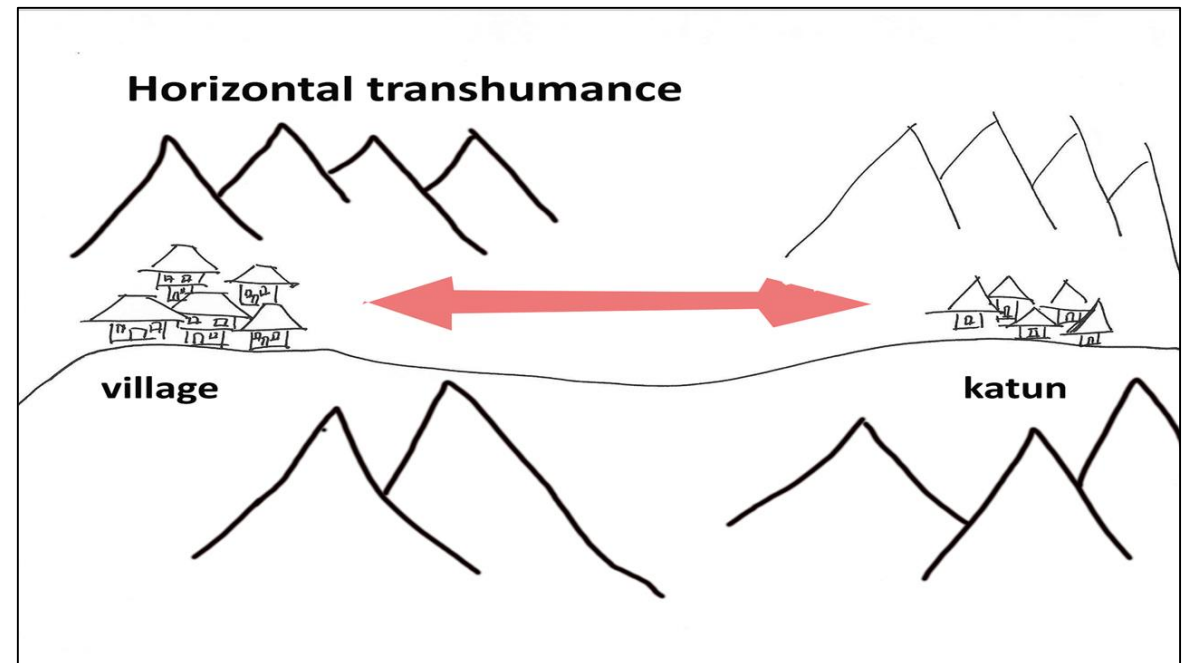
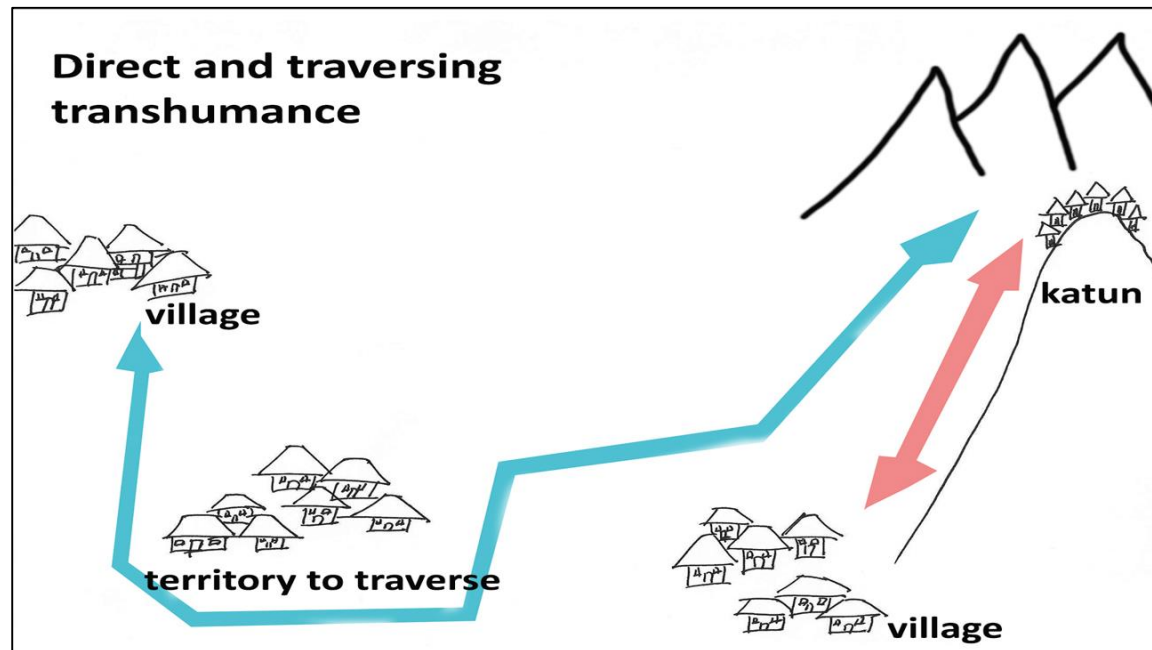
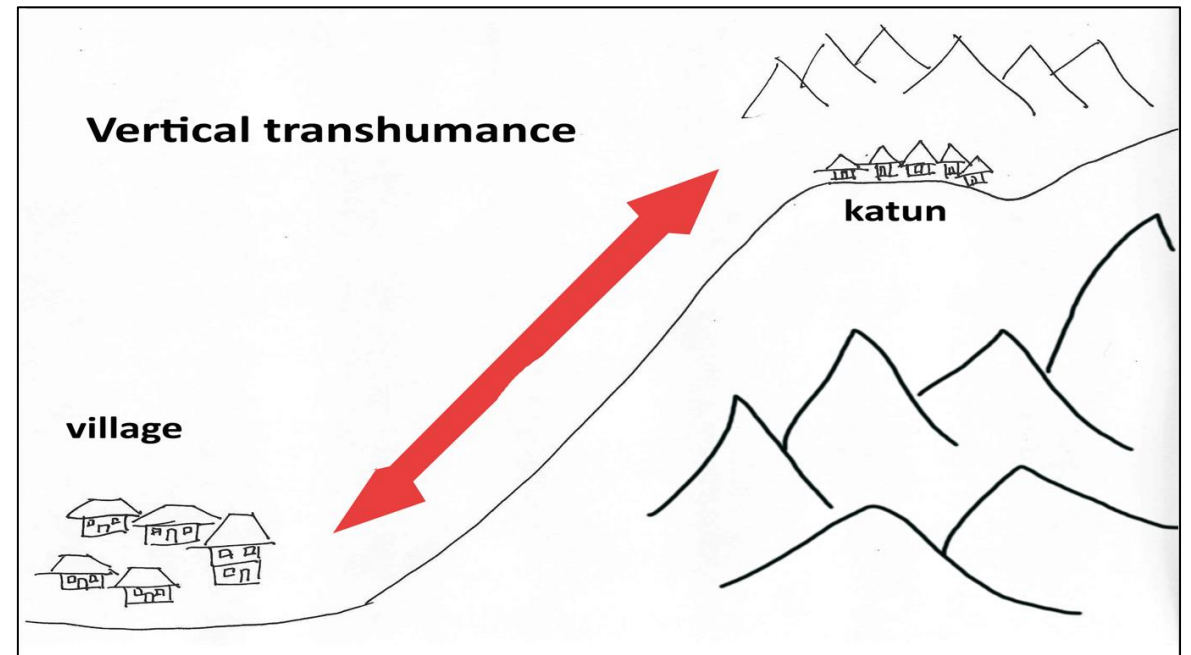
- **History of Sinjajevina**, Ivan Laković, Historic Institute of Montenegro
- **Legal systems**, Maja Kostić Mandić and Milana Tomić, Faculty of Law
- **Agro-economy of Sinjajevina**, Milan Marković, Biotechnical Faculty
- **Ecology of Sinjajevina**, Jelena Lazarević, Biotechnical Faculty





# Traditional transhumance in Sinjajevina mountain

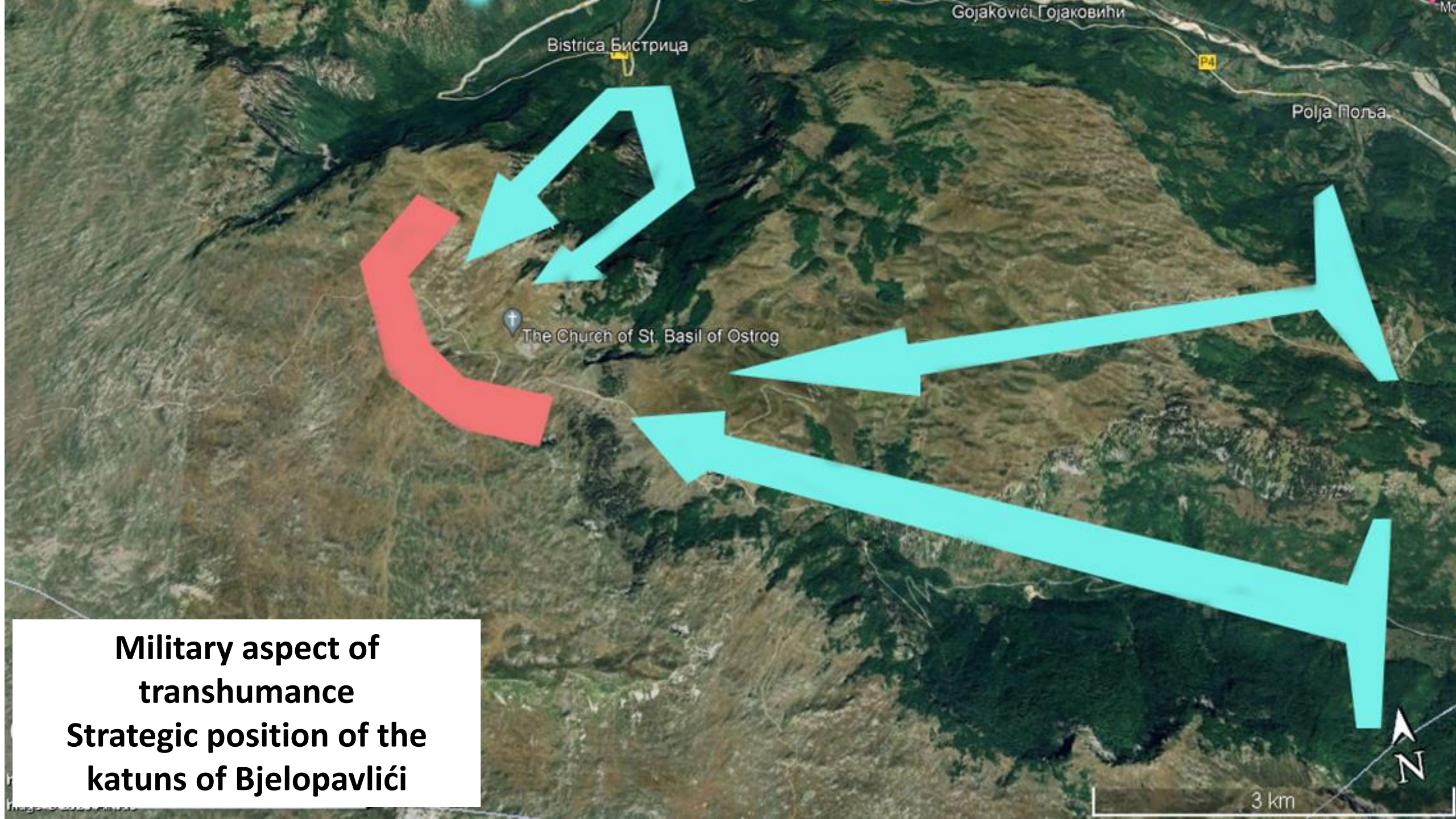
Ivan Laković, Phd  
Univerisity of Montenegro  
Historical institute











**Military aspect of  
transhumance  
Strategic position of the  
katuns of Bjelopavlići**





**Okrugljak today**  
**- 1 joint katun ....**



# Legal aspects for protection of Sinjajevina

**Prof. dr Maja Kostic-Mandic**  
**mr Milana Rankovic**



- Constitution of Montenegro ("Official gazette" no. 1/2007 and 38/2013 - Amendments I-XVI).
- Law on ownership rights ("Official gazette" no. 19/2009).
- Law on State Property ("Official gazette" no. 21/2009 and 40/2011.).
- Law on Environment ("Official Gazette of Montenegro" No. 52/16);
- Law on Nature Protection („Official gazette" no. 54/16).
- Law on Forests („Official gazette" no. 74/2010).
- Law on waters ( „Official gazette" no. 27/2007 and „Official gazette" no. 32/2011, 47/2011 – corr, 48/2015, 52/2016, 2/2017 – other law, 80/2017 other law, 55/2016 - other law and 84/2018).
- Law on the Protection of Cultural Property ( „Official gazette" no. 49/10)



# Ownership rights on Sinjajevina

- It is a very difficult task to provide scientific explanation about ownership rights that exist in Katuns in Sinjajevina.
- Sinjajevina is, in terms of the surface area, **the largest highland in Montenegro**, which is administratively divided between municipalities Zabljak, Savnik, Kolasin and Mojkovic, as well as de facto used by people of the municipality of Danilovgrad.
- **Katuns on Sinjajevina are in private property, property from municipality or property from the State.**
- The legal regime for the environment protection depends on the fact whether a parcel in question is private property or State property and on the type of cadastral parcel (whether it is a forest, pasture, meadow, rugged terrain etc).
- Administration for Cadastre and State Property is Body in charge to keep evidence about ownership rights in Montenegro. There is no single Registry of State ownership.
- **Nowadays in cadastral evidence Sinjajevina mountain is separated on total 121 cadastral parcels:**
- **45 parcels which are private property;**
- **76 cadastral parcels which are ownership of the state;**





# Pastoral ecology of selected katuns on the Sinjajevina

type of community governance - management level

Jelena Lazarević,  
Dušica Radonjić,  
Ana Topalović  
Biotechnical Faculty

**III - Okrugljak** still alive and active use of mountain pastures with many families,  
and herds present

**II- Bunarine** still alive, low number of families and animals is present

**I-Katunina** abandoned, for at least 10 years



- on karst
- on kalko-melanosols
- Sumediterranean-Mountain climate (Cfws“bx”)
- graslands *Festuco –Brometea* Br.-Bl. Sr Tx.,1943



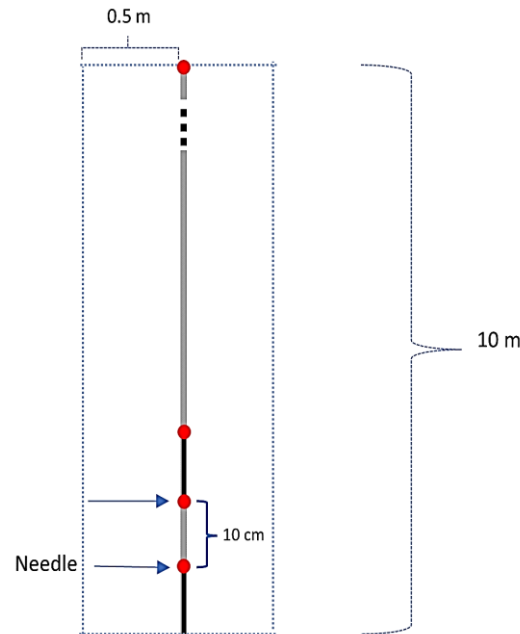
## Floristic composition, functional traits and structure of the vegetation

The modified Point Quadrat –pin point methodology of Daget et  
Poisonet (1971)

(Alados et al., 2004; Arroyo et al. 2015)

**Transect length '= 10 m,**

**Census of species every 10 cm**



### 5 transects per site

In **2022**: june: establishing 4 transects per site  
september: control on existing transects

In **2023**: june: control on existing 4 transects+  
establishing of 1 new transect per site  
september: control on existing transects

Line transect and the transect-related area of 10 m<sup>2</sup>.

- Functional clusters and value for herds
- Shanon diversity index; Jaccard index



## Pastoral phytomass production

Sampling: **june 2023**, 10 locations per site, 0,5 x 0,5 m.

according to protocol: AS-1064, 2012





according to protocol AOAC, 2000  
Radonjić et al. 2018



We were determined:

- moisture content (gravimetric method);
- crude protein content ( total N, Kjeldahl)
- total cellulose content (Henneberg-Stohmann method)
- total fat content (Soxhlet method);
- total ash content ( burning at 540-600 °C).



Laboratory for Animal Nutrition of the Biotechnical  
Faculty, UoM.

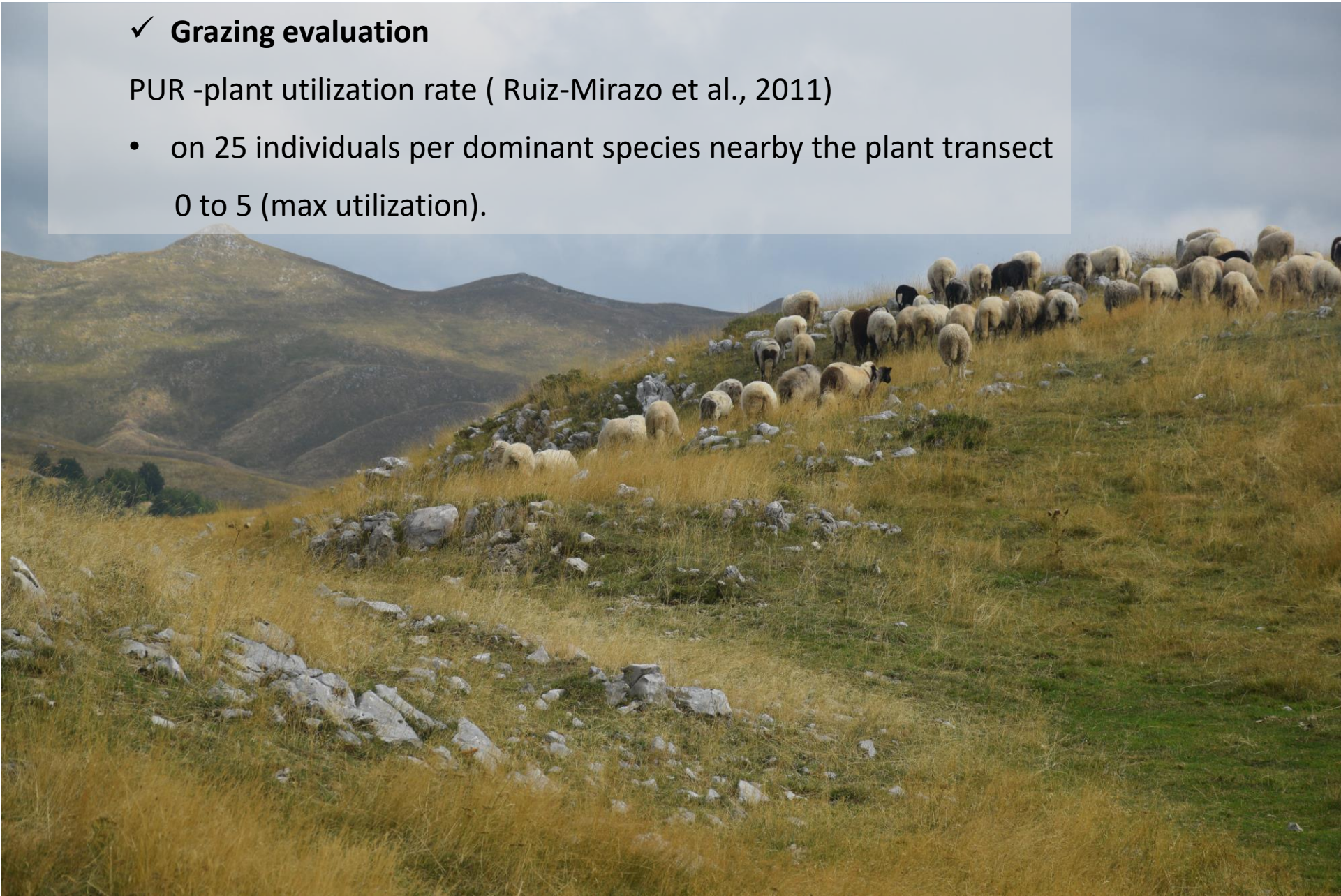
Responsible person: **dr Dušica Radonjić**



### ✓ Grazing evaluation

PUR -plant utilization rate ( Ruiz-Mirazo et al., 2011)

- on 25 individuals per dominant species nearby the plant transect  
0 to 5 (max utilization).





- ✓ **Dung amount** in quadrats 0,5 x 0,5 m, with network on 10 cm.
- measured at the beginning and at the end of the grazing period.

research methodology

✓ In **2022 & 2023** in June and in September





## Soil assessment

- Soil depth
- Soil bulk density



### **Samples were taken in sept 2023.**

- 36 profiles/ soil samples.
- Two depth (36 +20) = 56 soil samples
- 24 samples in Kopecky cylinders





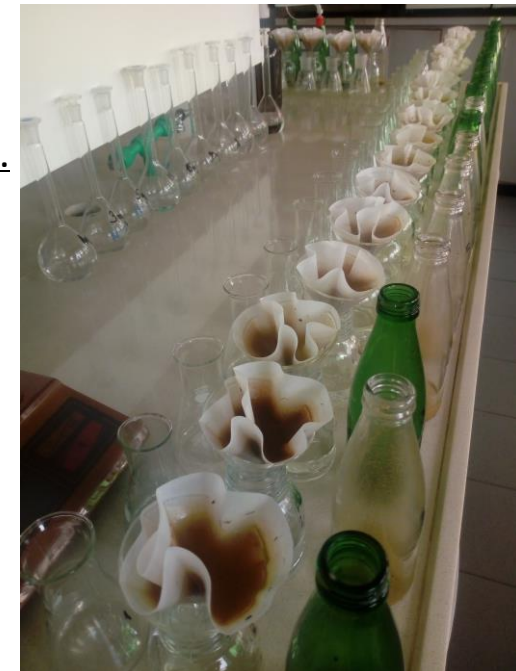
## Soil analysis

Laboratory for Agrochemistry and Soil at Biotechnical Faculty, UoM

Responsible person: **Doc. dr Ana Topalović**

research methodology

- Soil chemical analyses (Topalović 2022).
  - ✓ soil pH -on combined glass-electrode
  - ✓ humus content – by wet oxidation with 0.02 M  $\text{KMnO}_4$ .
  - ✓ total nitrogen -by Kjeldahl method
  - ✓ available phosphorus -by spectrophotometry
  - ✓ available potassium- by flame photometry
  - ✓ total carbonates -by the volumetric method
- Soil texture - the sieve and the pipette method (Topalović et al. 2018).





# Mapping present management & conservation practices in the Case Study Areas

## Inventory of Best Practices

- Katun Roads: developing heritage tourism in Montenegro
- Kolašinski lisnati cheese – protecting a distinctive traditional Montenegrin product
- Save Sinjajevina – protecting common lands in Montenegro





## Cultural routes

## LOCATIONS



## Bianca Resort & Spa



### Panels about Sinjajevina-Štitarica



## Katun Okrugljak



### Abandoned Martinički katun



Katun Muleče



## Road to Bunarine



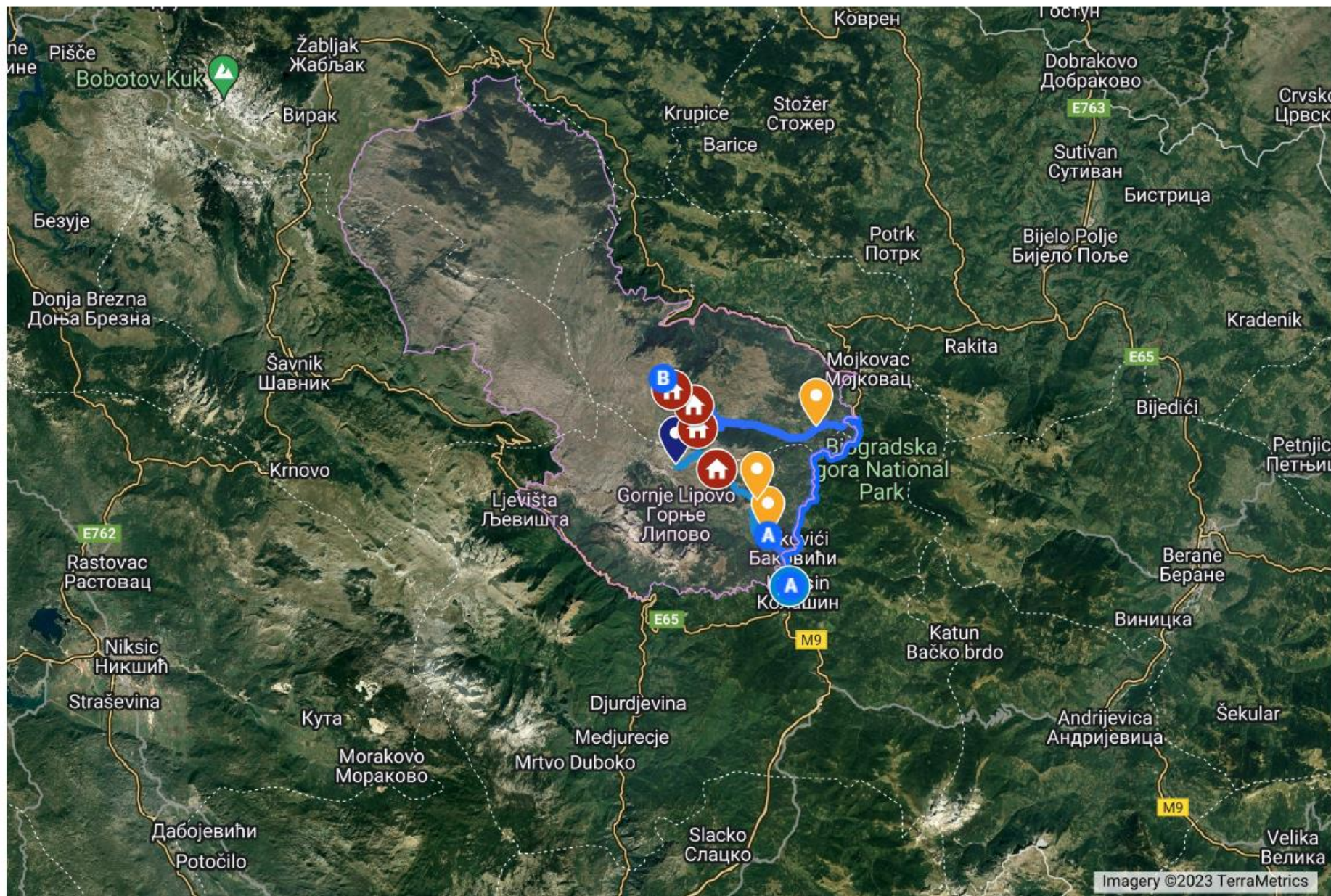
## Katun Bunarine



## Bunarine-Savina voda



Savina voda





# The Closing Conference of the project IRIS 19-21. October 2023, Kolašin, Montenegro





## Work in groups:

- Agriculture and rural development.
- Management issues, land property and use rights.
- Protection of nature and biodiversity.
- Protection of living heritage.

## Conclusions and Recommendations from Sinjajevina workshop





# The exhibition "Future through tradition: Inspiring living heritage for the protection and promotion of European mountain landscapes"

Museum of Kolašin,  
Opening on 20 October 2023 at 19:00



Изложба

**Будућност кроз традицију:**  
Инспиративно живо наслеђе за заштиту и промоцију  
европских планинских пејзажа

20. октобар 2023, 19:00h  
Завичајни музеј Колашин, Колашин, Црна Гора







Virtual  
exhibition

<https://iris-jpi.eu/>



## Promotional activities





# Organisation of the Day of Sinjajevina

18 June  
2022,  
Podgorica



[https://www.eeas.europa.eu/delegations/montenegro/sinjajevina-day-podgorica\\_en?s=225](https://www.eeas.europa.eu/delegations/montenegro/sinjajevina-day-podgorica_en?s=225)



## Participation at the Thematic Day of Sinjajevina in Mojkovac, 4 July 2022

Event was organized by **Municipality of Mojkovac** and **Tourism organization od Mojkovac**.  
**The exhibition “Territories of Life on the Margins. Mediterranean Pasture Commons in the 21st Century”** was presented at the event.





# Presentation of the IRIS project in Podgorica, 9 December 2022





**Installation of panels form the exhibition “Territories of Life on the Margins. Mediterranean Pasture Commons in the 21st Century” related to Sinjajevina.**

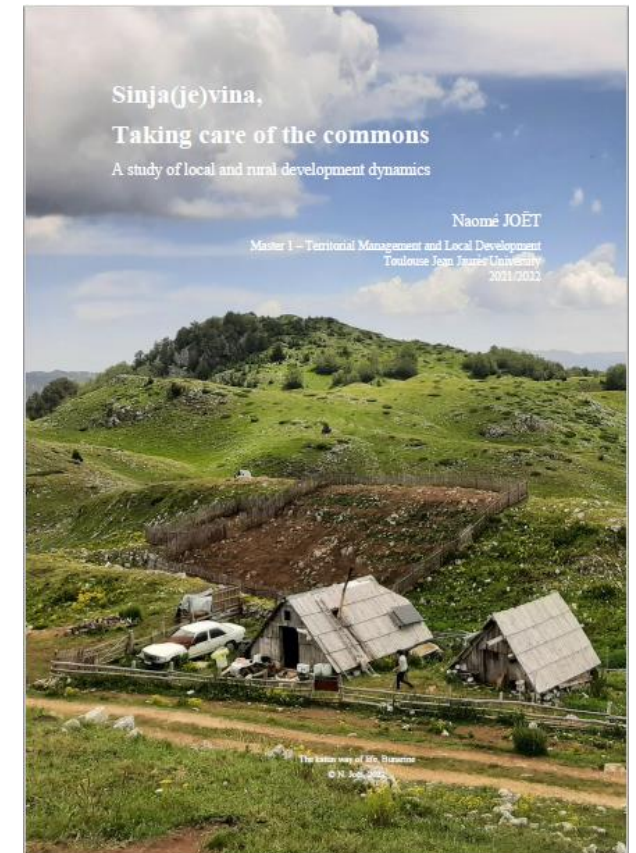




# APE 2022 : Study on the valorization of the common resources of Sinjajevina (Montenegro) by local actors

Sinja(je)vina, Taking care of the commons: A study of local and rural development dynamics

Naomé JOËT, Master 1 – Territorial Management and Local Development, Toulouse Jean Jaurès University





# Field visit to Sinjajevina, 25-29 June 2023

Florence Mazier and Marie-Claude Bal

- Soil and anthracological sampling (charcoal in the soil) and pollen-based research important for understanding evolution of Sinjajevina upland landscapes
- Reconstruct the vegetation cover, define the age and spatial dynamics of the agro-pastoral landscape ....



Project proposal :

Sinjajevina between landscape heritage and support for the development of virtuous rural tourism in Montenegro





**Merci**

Sastavci, Sinjajevina