

Responses to LEDD in grazing lands, policy recommendations

Concepción L. ALADOS

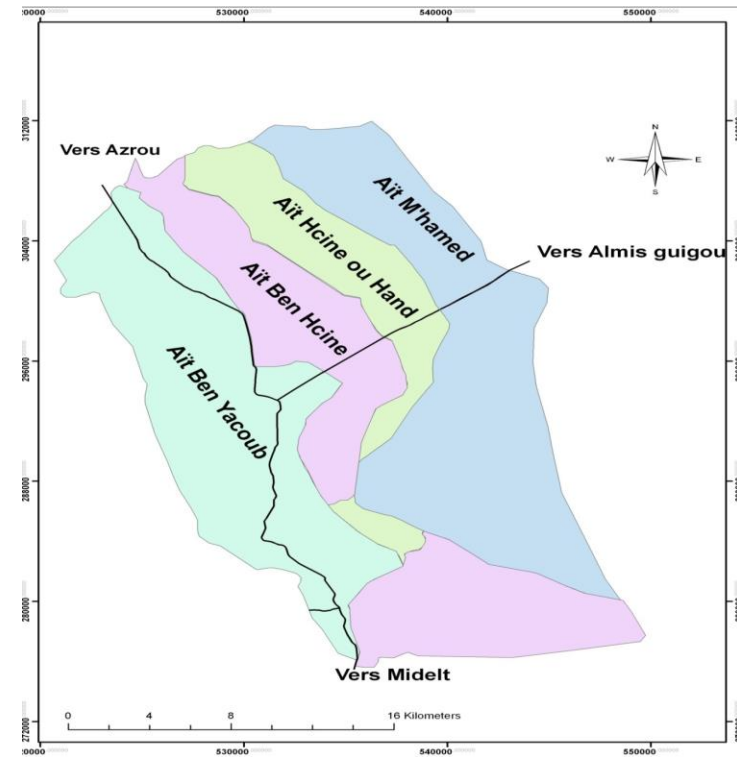
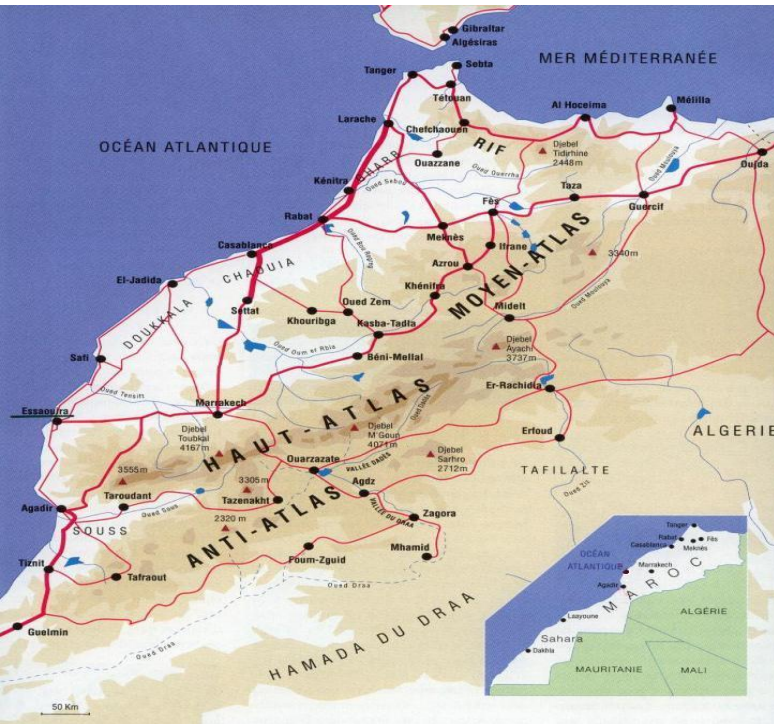


LEDDRA Policy Conference, Berlin, Germany 17-18 March 2014

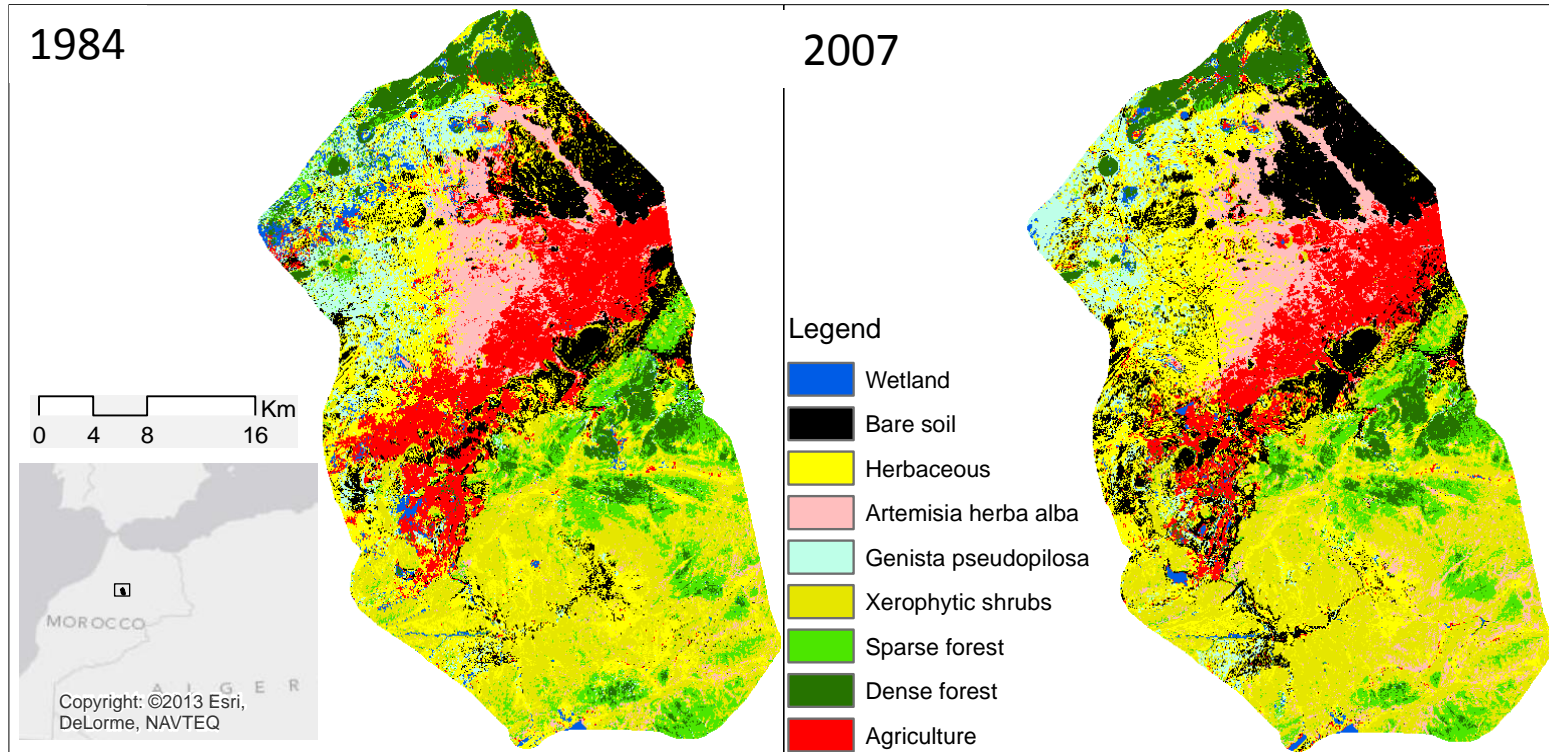
Main questions

- a. What are the main LEDD problems in grazing lands?
 - a. Over/undergrazing
 - b. Fragmentation
 - c. Market globalization
- b. What are the main drivers of LEDD problems in grazing lands?
 - a. Land abandonmen/intensification
 - b. Social deconstructurization and dependence on external inputs
- c. Policy instruments
- d. Policies and actions to combat LEDD problems

Ait Arfa du Guigou, Middle Atlas (Morocco)



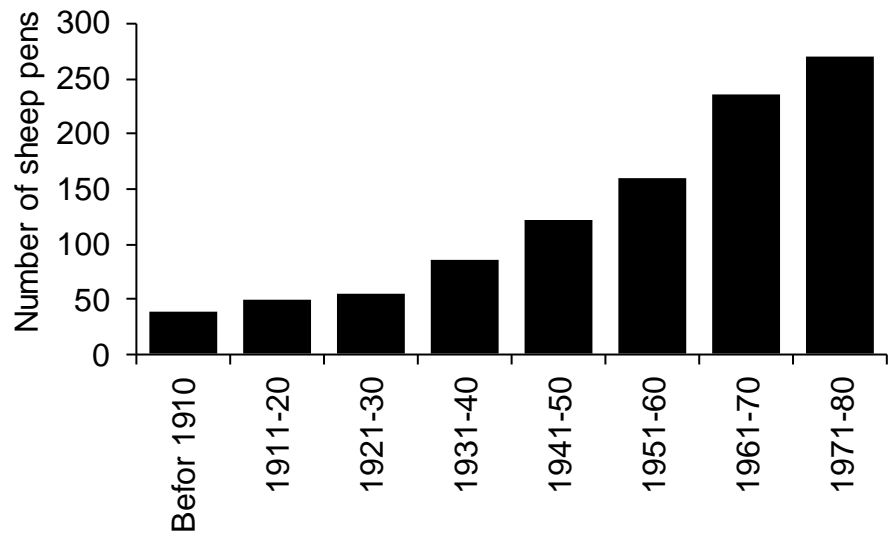
LEDD Problems in Ait Arfa du Guigou, Middle Atlas (Morocco)



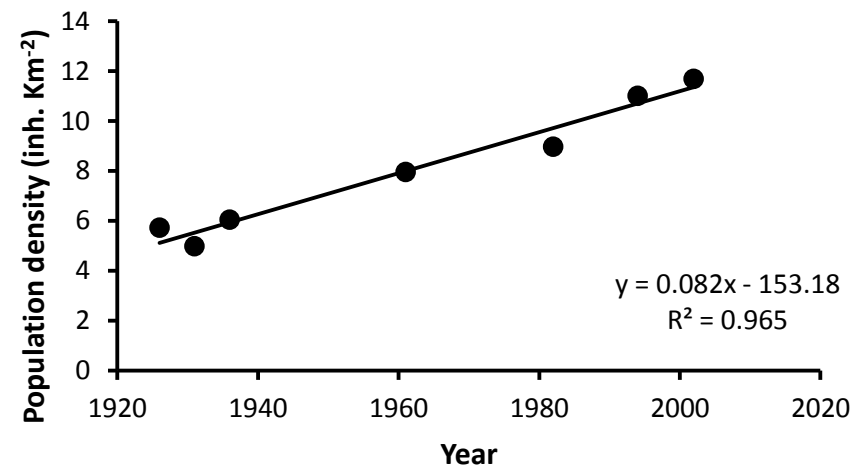


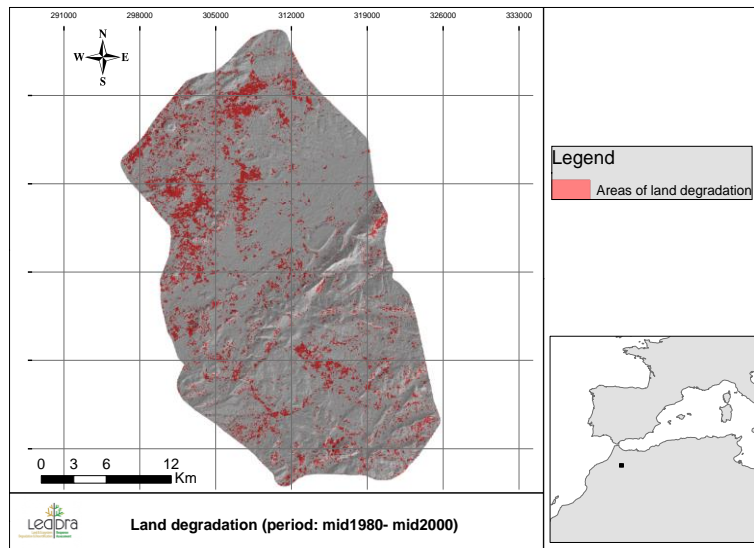
Changes in the number of settlements on summer rangelands

With the break down in the double transhumance, herdsmen of the Ait Arfa du Guigou were obliged to graze all year round in the high altitude pasture lands. The construction of these sheep pens had begun early in the century and peaked between 1960 and 1970. The total number of settlements for the whole tribe is 270; 28% for Ait Ben Yacoub fractions, 27% for Ait Ben Hcine ou Hand, 25 % and 20%, respectively for Ait M'Hamed and Ait Ben Hcine. Of the total settlements, 74% belong to the individual's descendant from the tribe while strangers build 26%. In principle, since 1981, local authorities have prohibited new construction on pasturelands.



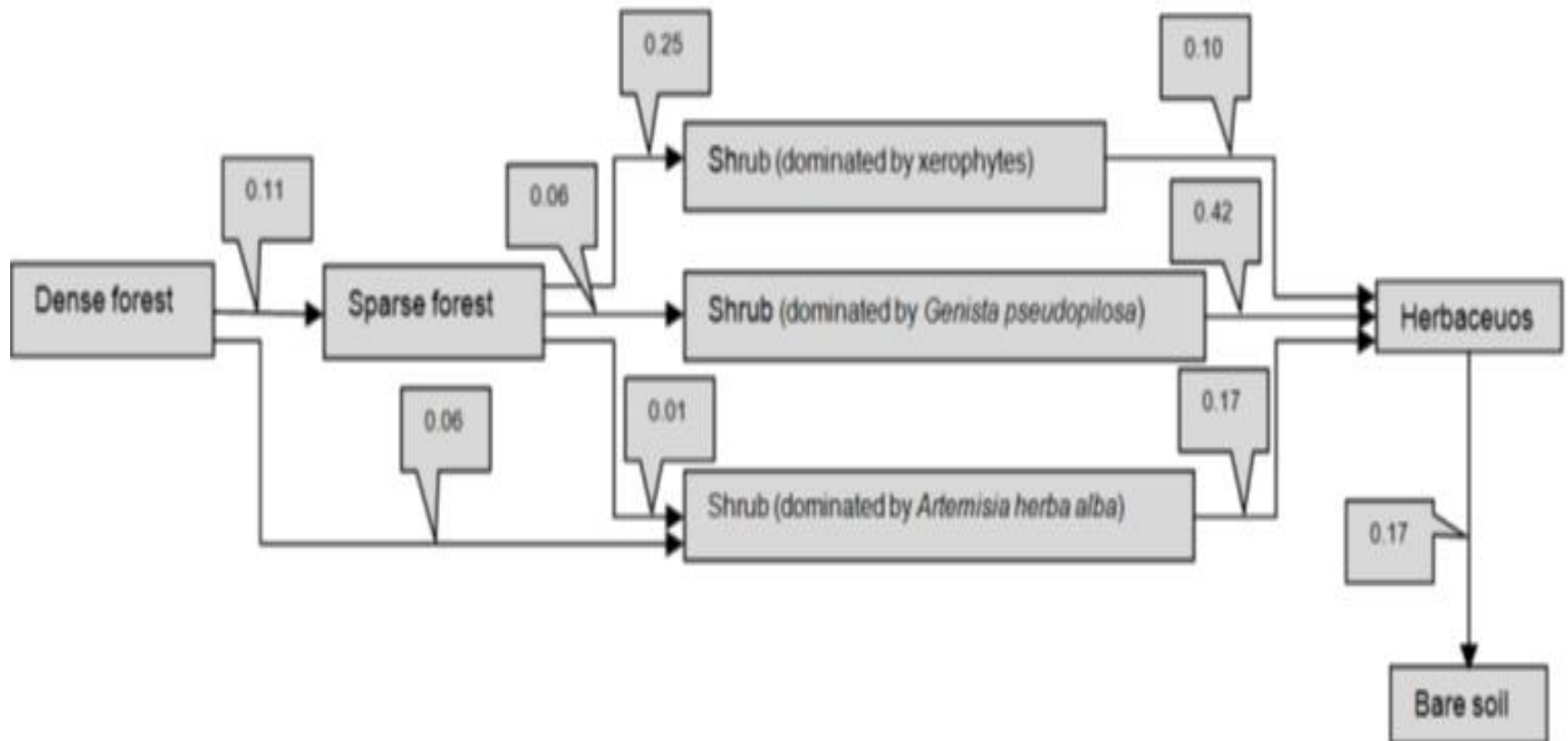
Evolution of the construction of sheep pens on summer rangelands (Census 1982, DAP M éknès)





Land degradation drivers in Middle Atlas

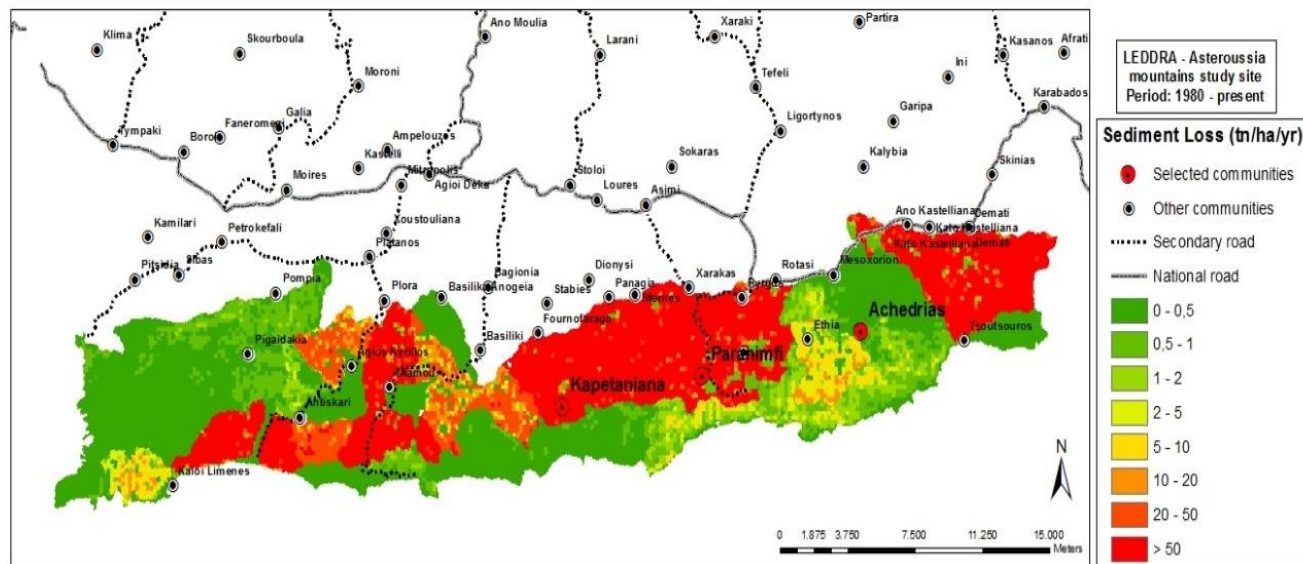
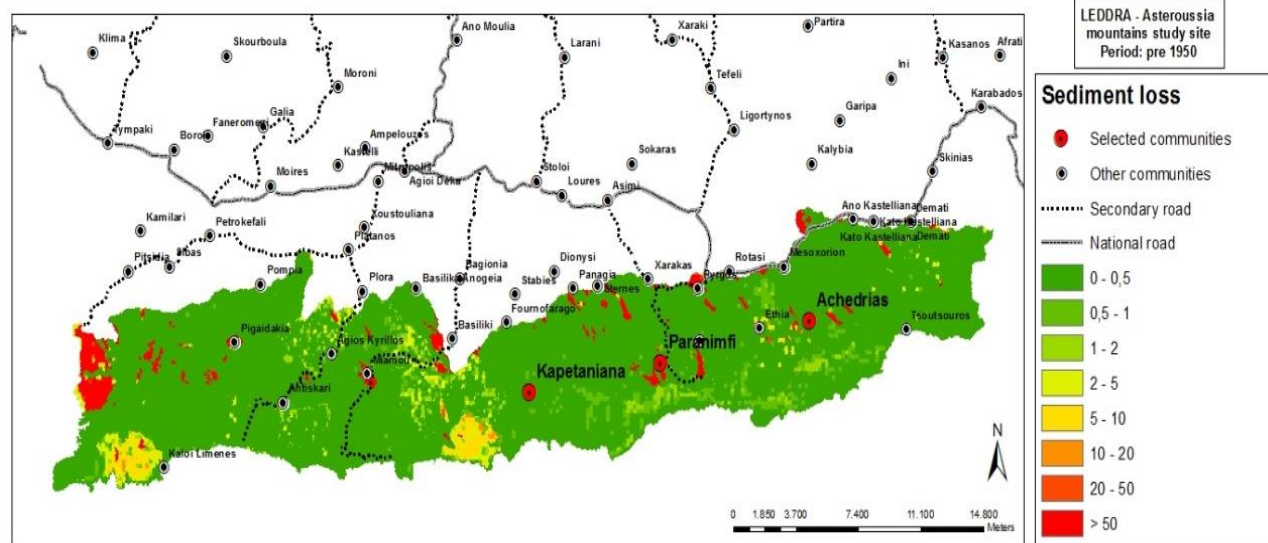
Variables	$\Pr(B_{VS} \neq 0)$	Mean B	SD
Distance from water points	89.5	-1.29E-04	6.18E-05
Distance from settlements	78.4	-9.43E-05	1.13E-04
Slope	64.7	-1.60E-02	2.06E-02



Asteroussia Mountains, Crete (Greece)



LEDD Problems in Asteroussia Mountains, Crete (Greece)



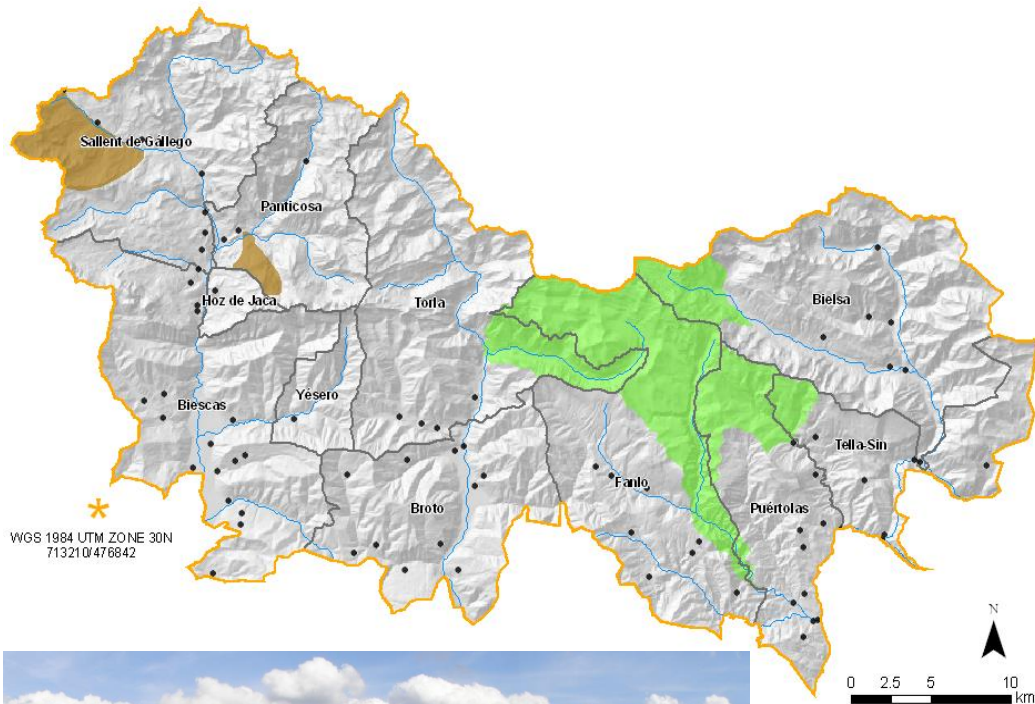
Rangeland Mismanagement



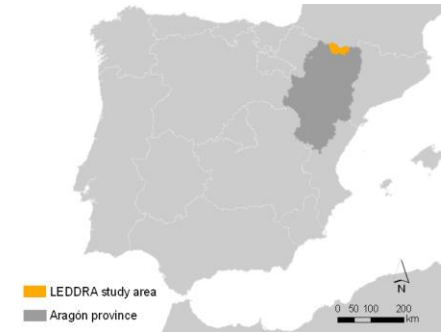
Sarcopoterium spinosum



Central Pyrenees (Spain)

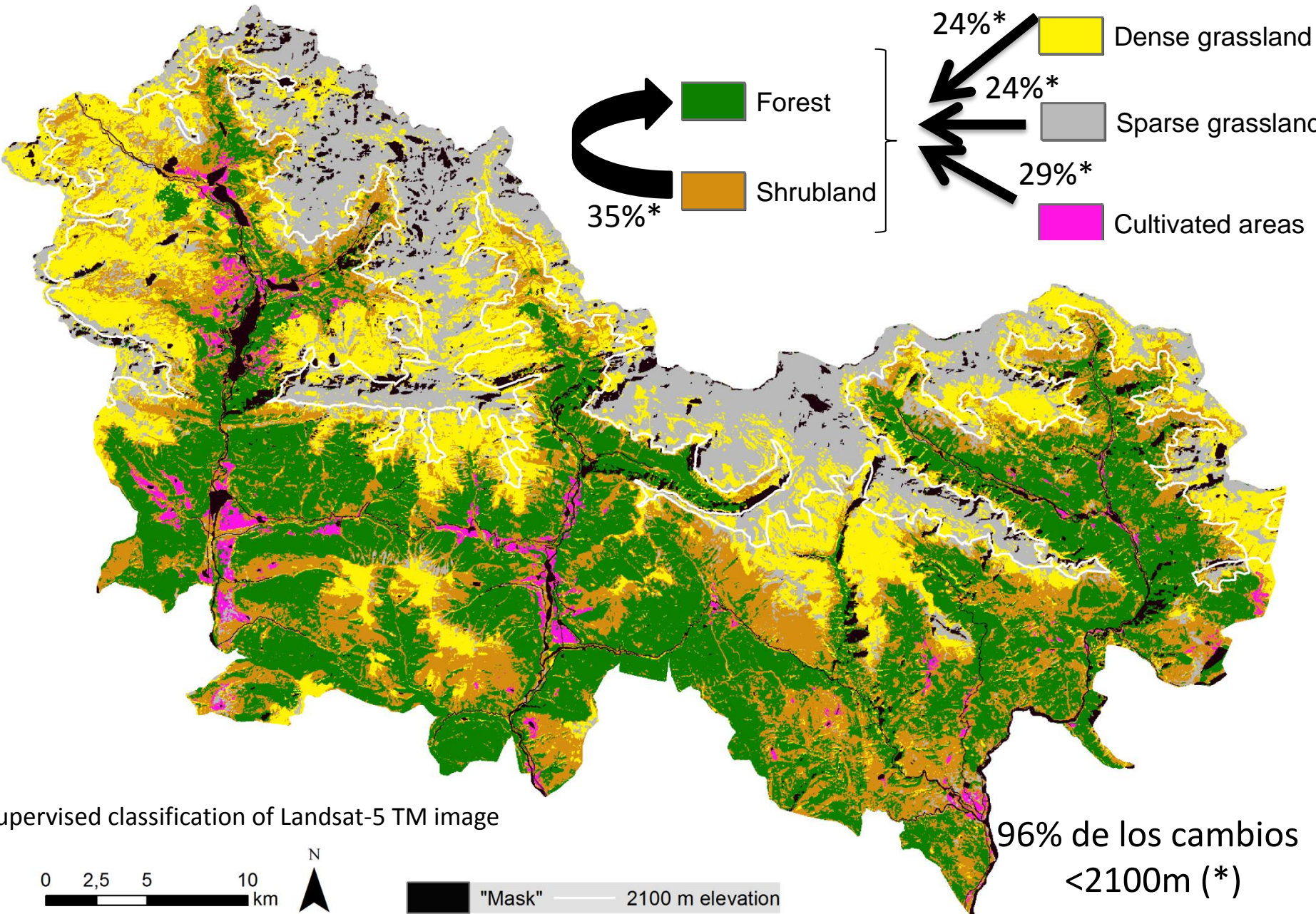


- Urban areas-Towns
- The 11 municipalities
- Main rivers
- OMP National Parck
- Ski resorts



LEDD problems in Central Pyrenees

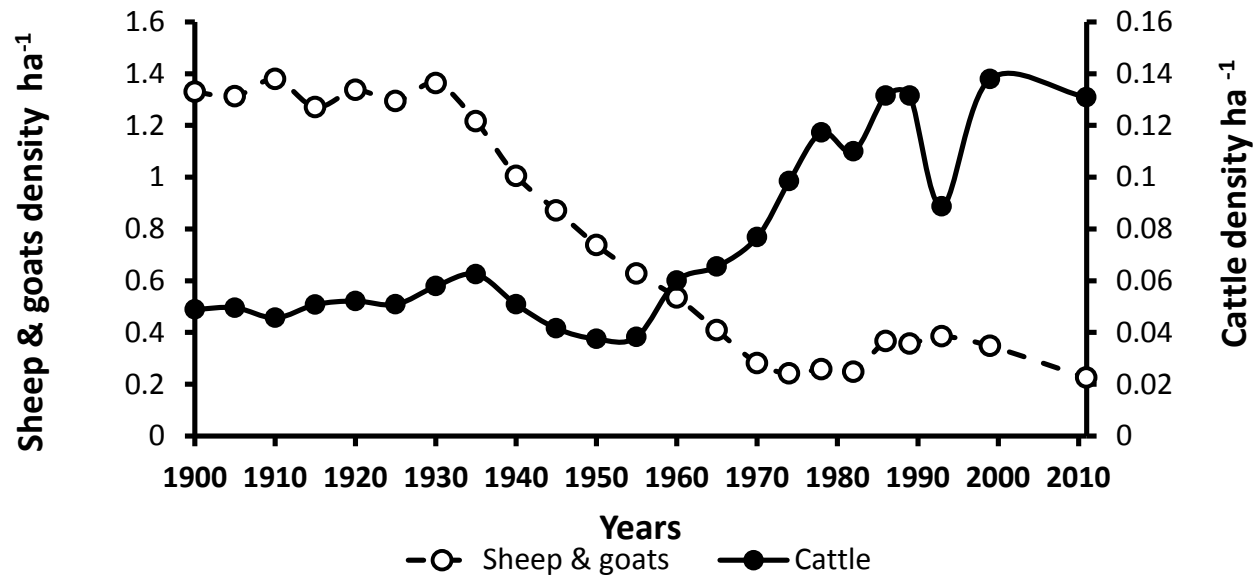
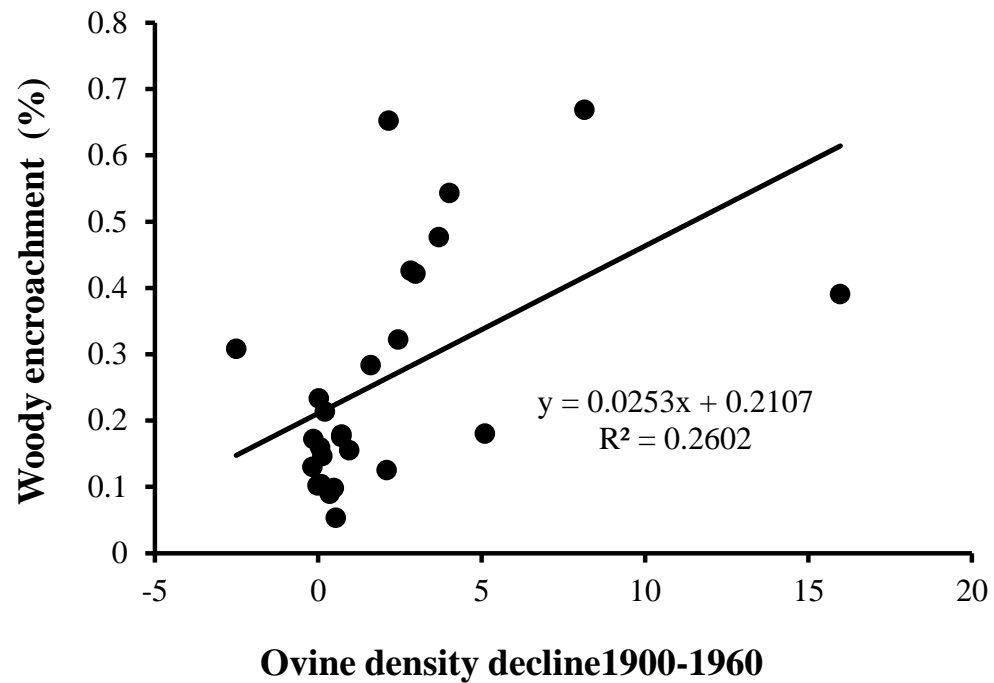
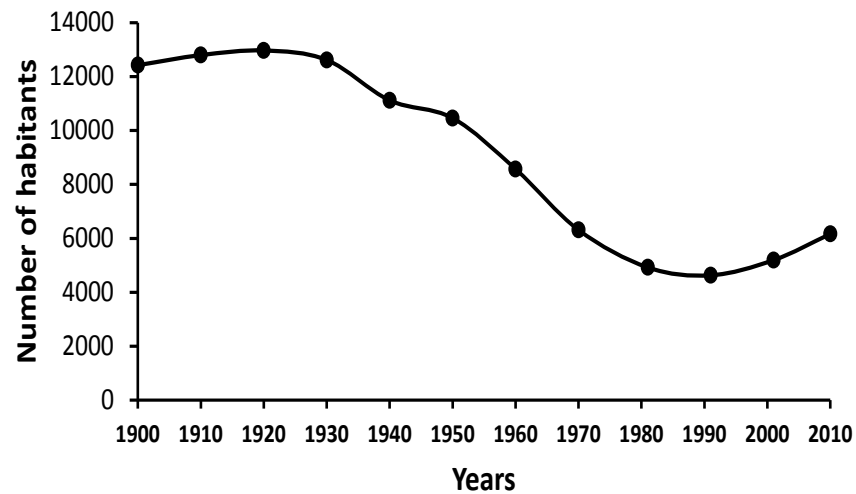
Woody encroachment of grasslands



Woody encroachment drivers in Pyrenees

- Physical factors:
 - Slope 25-40°
 - Altitude: 75% occur between 1500-2100m
 - Aspect: south-west
- Biological factors
 - Distance to the forest: 90% of woody encroachment occur at less than 90m from forest or shrubland; 40% at less than 30m.
- Anthropogenic factors
 - Depopulation between 1930-1980: ~70% of woody encroachment occur in municipalities with more than 50% of depopulation

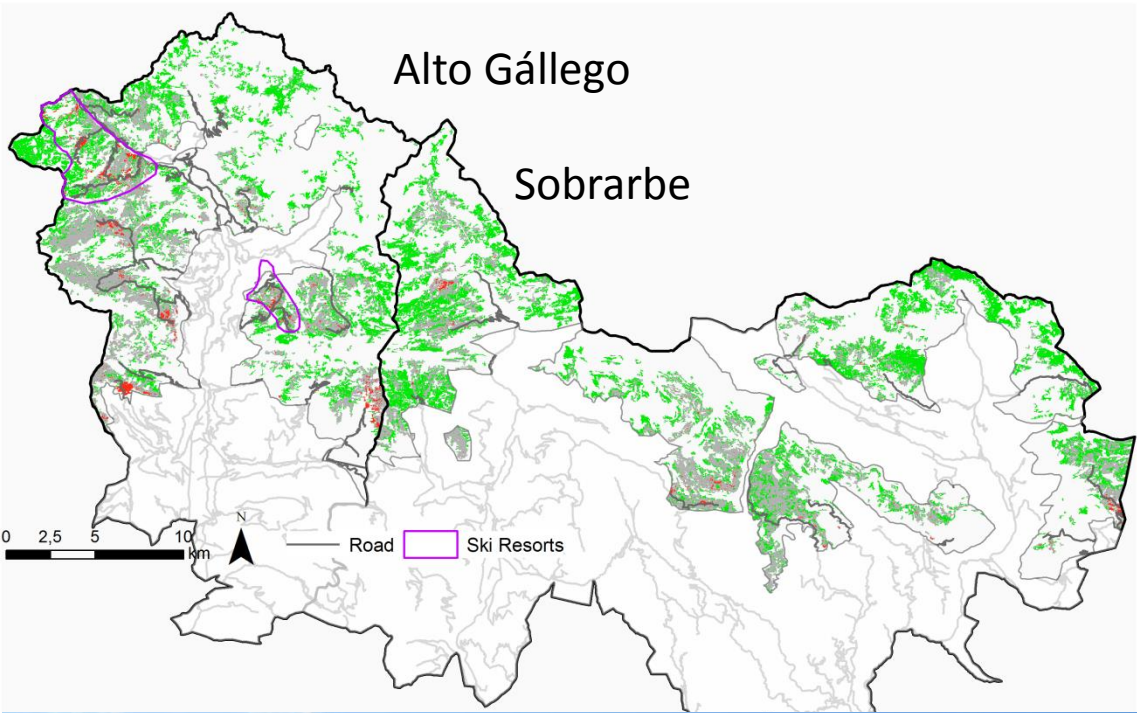
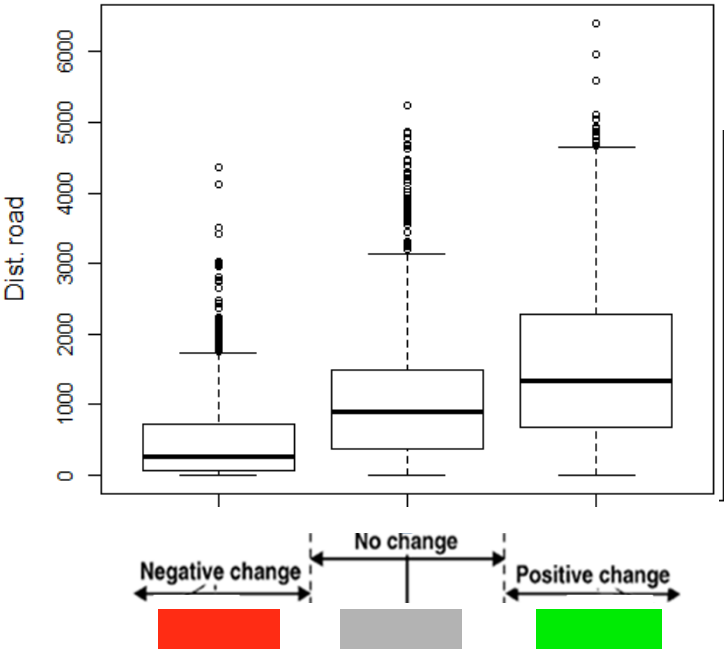




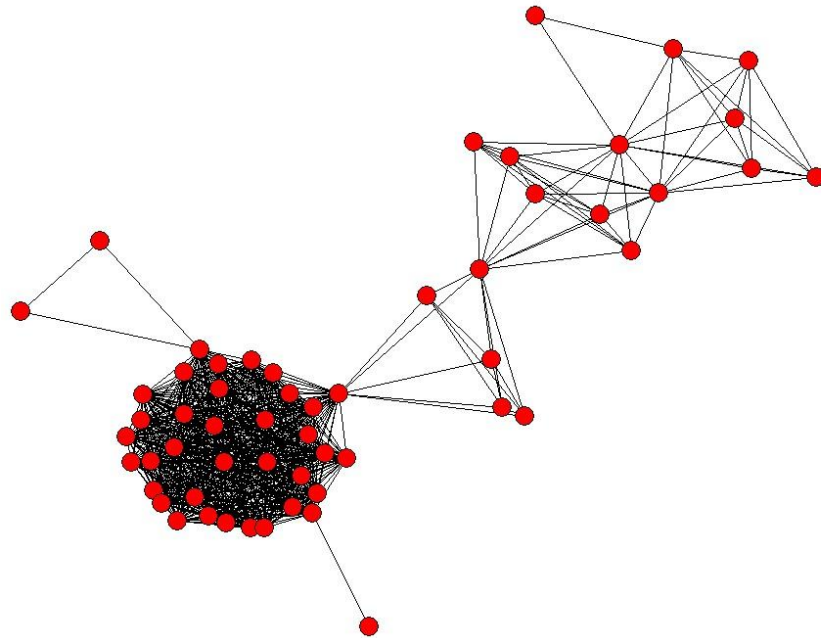
	NDVI -	NDVI +
Elevation	*** <2100m	*** >2100m
Dist. road	*** -	* +
Dist. building	*** -	
Ski Resorts area	*** + SR	
County	* +Alto Gállego	
Slope		*** +
Aspect		*** + West
Lithology		*** + Acid Mat
MLU*month/ha		*** -

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05

Distance to roads
Elevation

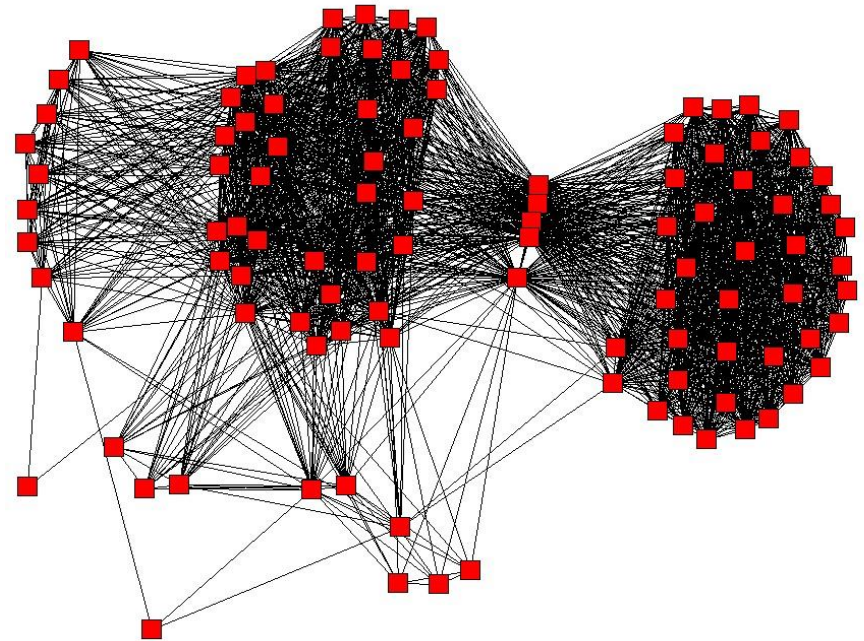
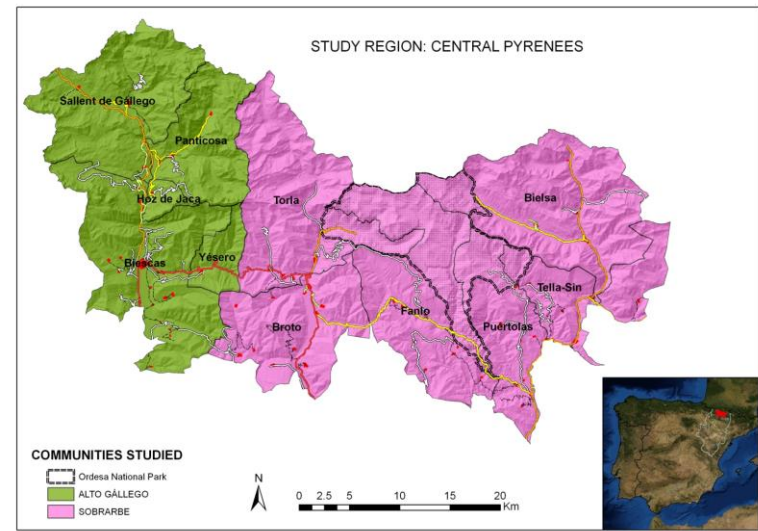


Shepherd cooperation networks in Pyrenees



Alto Gállego
Ski resorts

ski resorts in the area has severely modified the cooperative structure among shepherds



LEDD PROBLEMS AND RESPONSES TO LEDD IN GRAZING LAND STUDY SITES

LEDD issue		Study site		
		<i>SPAIN (Central Pyrenees)</i>	<i>MOROCCO (Ait Arfa du Guigou)</i>	<i>GREECE (Asteroussia Mountains)</i>
Socio-economic impacts	Loss in pastures productivity	+	+	+
	Loss in farmer's income	+	+	+
	People inmigration		+	
	Land abandonment	+		+
	Transhumance breakage	+	+	+
	Loss traditional knowledge	+		+
	Loss of social bonds	+		+

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Environmental impacts	Increase of bare soil		+	+
	Woody encroachment	+		
	Deforestation			+
	Biodiversity loss	+	+	+
	Urbanization of rural areas	+		
	Land desertification		+	+
	Fire risk	+		
	Ecosystem fragmentation (large scale)	+	+	+
	Ecosystem homogenization (small scale)	+	+	+

Policy regulations

Middle Atlas

A very old regulation usually inappropriate

Policy	Subject of the policy	Relevance to rangelands
Dahir of 1919 on delineation of collective lands	This law stipulates that land is entitled to their communities under the supervision of the Ministry of the Interior	Negative impact : overgrazing & decrease in grazing area
Policy of “Operation Labour”; 1957	This policy is structured around three components: mechanization, consolidation, and management	Negative impact : decrease in grazing area
The Agricultural Investment Code; July 25, 1969	Aims to develop the natural potential of the country; to meet its needs in vegetable and animal products; to increase the income of the farmers and to contribute to the general development of the economy	No impact since emphasis was on irrigated areas to achieve one million hectares
The Law Number 33 –94	The law 33/94 defines the framework for implementing projects in rainfed areas known as “PMVB” was initiated in 1994	Small positive impact : rangeland rehabilitation with Atriplexe plantations
The “Plan Maroc Vert” ; April 2008	The PMV aims to rehabilitate agriculture in Morocco by providing the country with the means that were missing and make it a tool of growth and fight against poverty at the 2020 horizon	No impact / negative impact The PMV is better suited to plains. It should adjust the approach to mountainous regions because of their uniqueness (like study area).

A Multitude of policies usually Conflicting

The laws and rules governing the functioning of resources use in Morocco actually emerged from the historical superimposition of three bodies of laws and rules.

- 1) The Orf: or customary sets of rules and admitted practices;
- 2) The Chraa, or the religious interpretation of the Islamic law and rules; and
- 3) The modern legislation that was introduced by the French protectorate and later reinforced by Morocco state since its independence in 1956.

Inappropriate policies

- The policies governing rangelands are no longer compatible with the current situation given the profound economic, social and demographic changes undergone by rural areas.
- This legislation must be therefore thoroughly reviewed and revised. The exploitation of the collective land is "embryonic" for various reasons, including:
 - 1) difficulty in sharing due to the increased number of beneficiaries;
 - 2) lacking recognition of women's right to use;
 - 3) maintenance of the status quo on the disputed land and cramped plots;
 - 4) In addition, there is an absence of policy development in favor of collectivism and a lack of involvement of the beneficiaries in the decision-making processes concerning their lands.

Pyrenees Policy Instruments

- Law 42/2007 Natural Heritage and Biodiversity Act

The main tools for knowledge planning and natural heritage and biodiversity are:

- Spanish Natural Heritage Inventory and Biodiversity which includes information on:

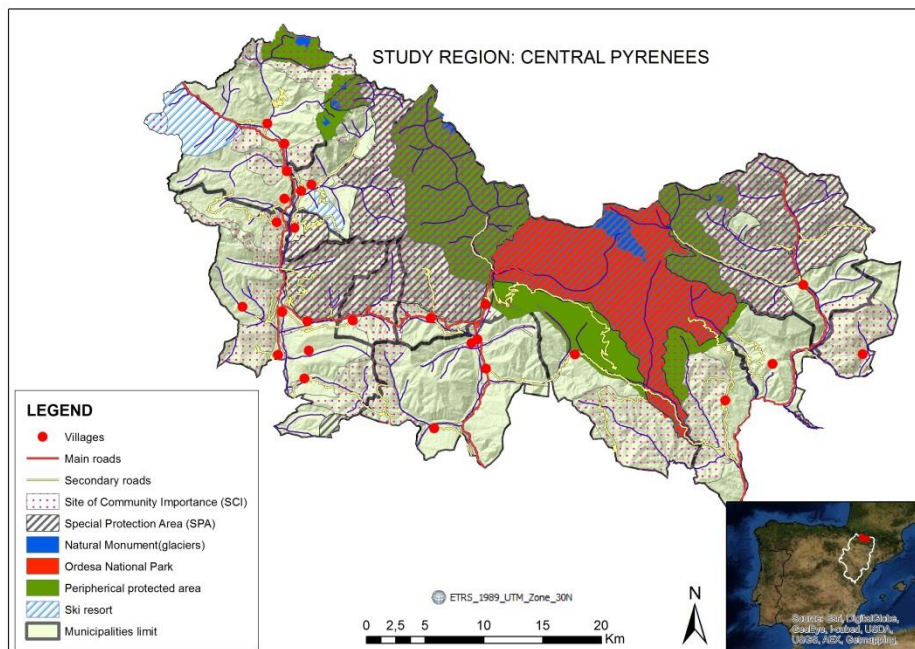
The Spanish Catalogue of Endangered Habitats Disappearance.

List of Wild Species Regime Special protection including Spanish catalog Endangered Wildlife.

The Spanish Protected Natural Areas Inventory, Natura 2000 protected areas among others

- State Strategic Plan of the Natural Heritage and Biodiversity

- Plans for Natural Resources Management. Identify the capacity and intensity of use and determine management alternatives and constraints. Define criteria in economic activities and social, public and private, that is compatible with the requirements contained in this Act.

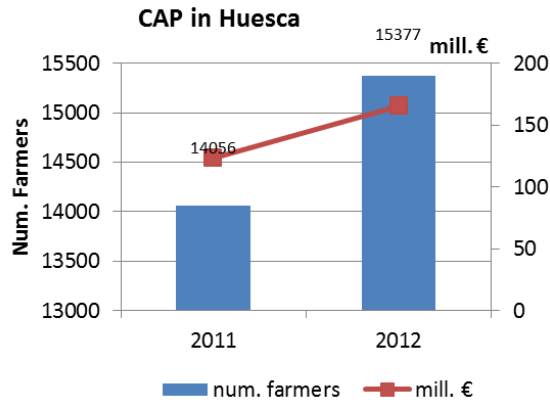


75% of the territory comprise of the Network Natura2000

The main figure of protection is the Nacional Park

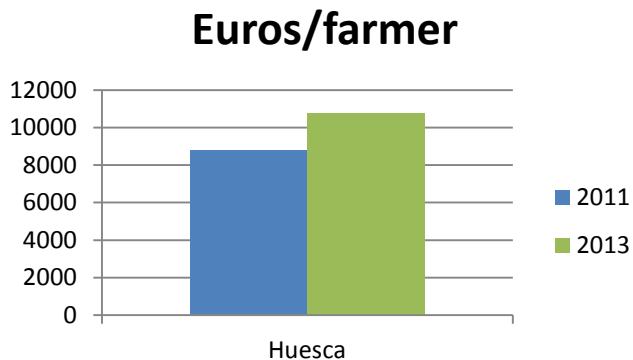
The management of the network Natura2000 is realised in a great part by public Administration to be constituted in 50% by public ownership land. This administration supposes that any activity developed in these territories, must be authorized of the services of the Department of Environment.

- Common Agricultural Policy (CAP)

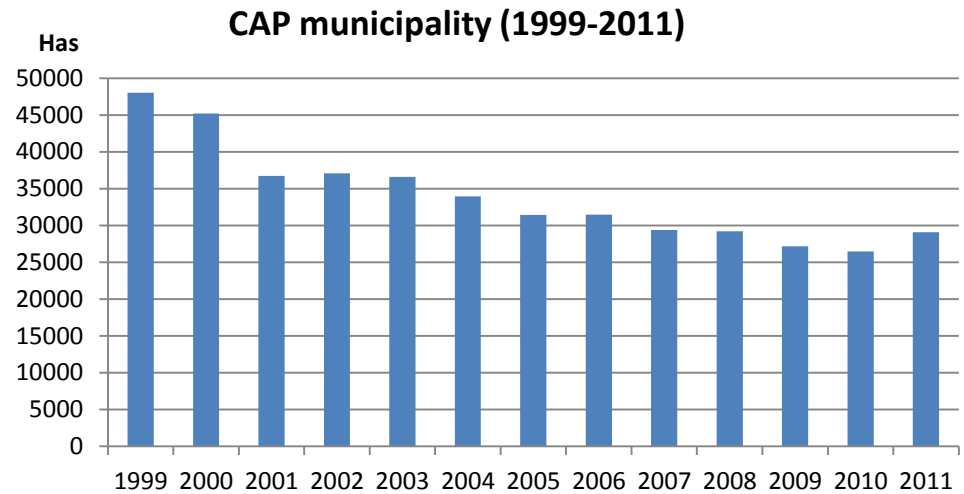


Evolution of number of farmers and million of euros demanded in Huesca province (Aragon) in 2011 and 2012

Source: www.aragon.es



Source: www.aragon.es



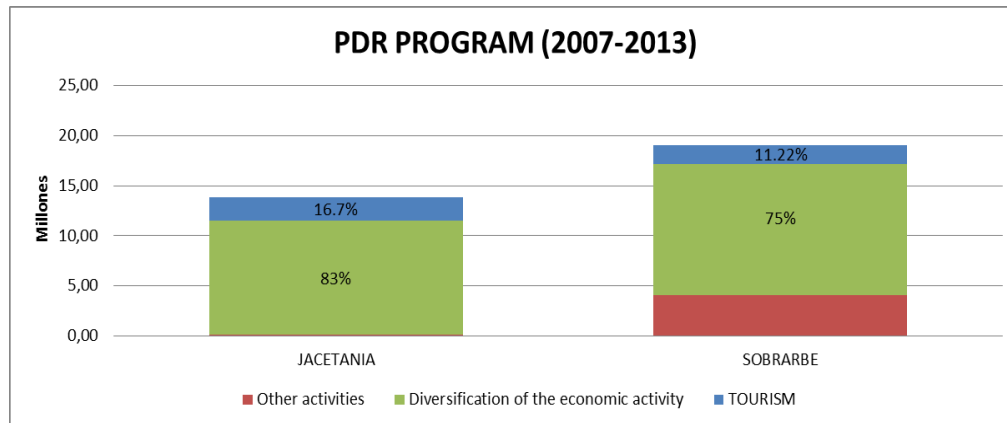
Number of has. that demand CAP subsidies in the study area (11 municipalities)

Source: www.aragon.es

The aid requests have been falling from 1999, although since 2010 they return to be increased as a result of the economic crisis
It is estimated that 42% of the agrarian rent correspond to subsidy (source: Aragon Government)

In spite of CAP subsidies, the number of people dedicated to agriculture and livestock keep declining, with the exception of the last two years , probably due to the crisis

- Rural Development policy



Asix 4 in the study area

Source: www.aragonrural.org

The Sobrarbe region, with 20000 inhabitants receives a 20% more LEADER subsidies that Jacetania region (29000 inhabitants). This one invests more in tourism and diversification of the economy (creation of micro-enterprises, improvement of rural patrimony, basic services for the rural population, etc...)

Community strategies for the period 2007-2013 are:

Axis 1: Improving competitiveness, through training, installation of young farmers, modernization of farms, improving infrastructure and encouraging producers grouping

Axis 2: Improving the Environment and Rural Environment, by compensation in mountain areas and agri-environment aids

Axis 3: Improving the quality of life in rural areas and diversification of the rural economy. Increase socioeconomic attractiveness of rural areas and developing their potential through the promotion of tourist activities, the restoration of populations and conservation of the rural heritage

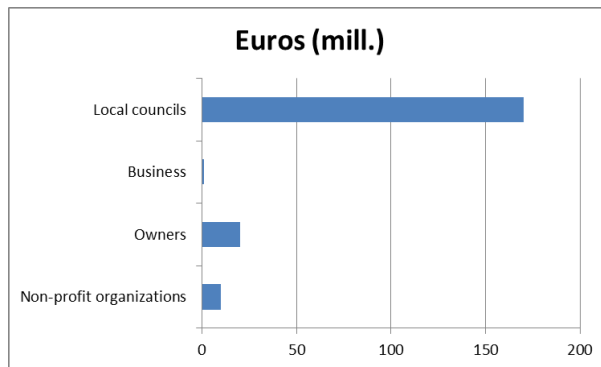
Axis 4: Develop local capacity for employment and diversification and increasing competitiveness and promoting cooperation

- **Law 5/2007 Natural Park Network**

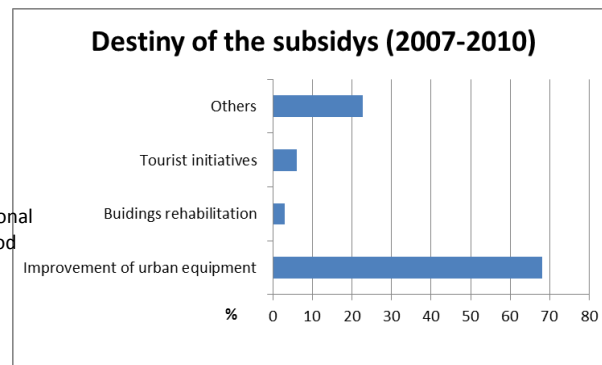
11% of the area of municipalities in the study area (Sobrance region) are included in the PNOMP, being Fanlo the municipality with greater surface within the park.

During period 2007-2010 the area of socioeconomic influence received **200 mill** of Euros. 85% of subsidies were granted to local city councils and organizations, followed of individuals. The main destinies of the subsidies were improvement of urban equipment, rehabilitation of buildings and tourist initiatives

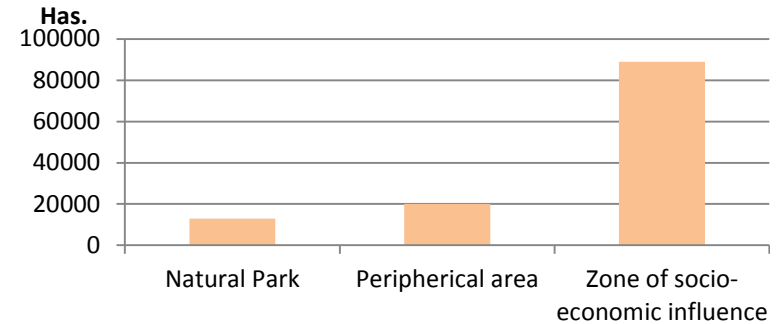
94% of the land are public and there are not population inside PNOMP



Subsidy according to addressee granted in period 2007-2010



Source:
Report of the situation of the network of National Parks (2007-2010). Ministry of Agriculture, Food and Environment (MAGRAMA)



PNOMP area, peripheral area and zone of socioeconomic influence

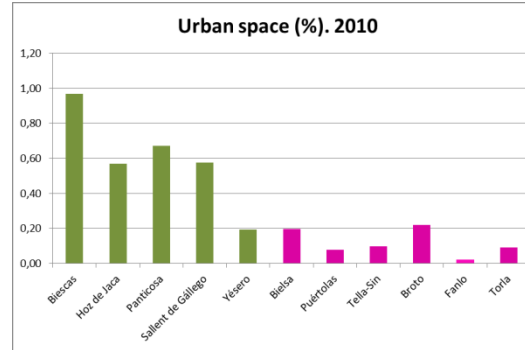
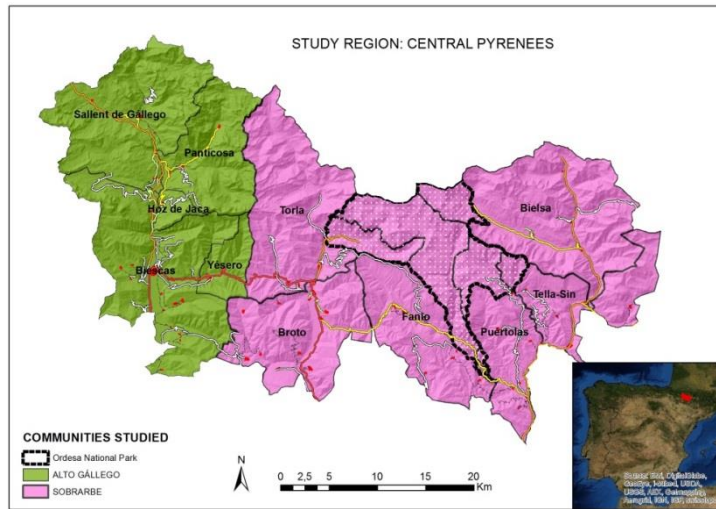
Most of the park, 94.94%, correspond to zones of restricted use. At present there are no extractive activities in the park, except for the considered ones like traditional activities. There is no land to be urban use or susceptible to be.

The number from visits to the Park has stayed constant during the four years (2007-2010), around 600,000 visits per year.

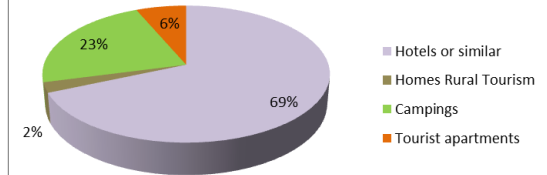
The perception of the paper of the National Park in the state of conservation and socioeconomic development of the surroundings is valued positively by the local population, as well as the incentive of the granted subsidys. In this sense, the tourism and the promotion of the zone are some of the more valued aspects, followed by the state of infrastructures

Source: Report of the situation of the network of National Parks (2007-2010). Ministry of Agriculture, Food and Environment (MAGRAMA)

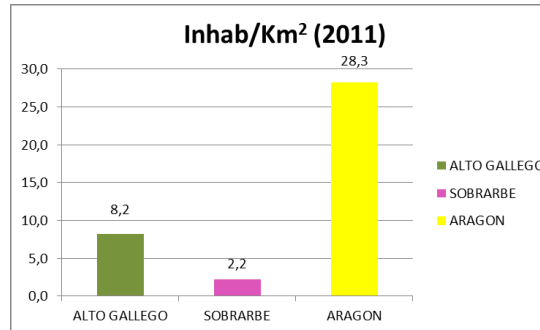
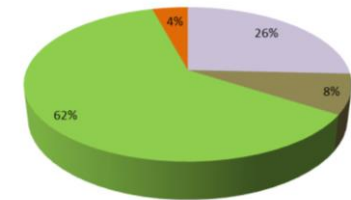
- Royal Decree 561/2009: Statute of the Tourism Institute of Spain



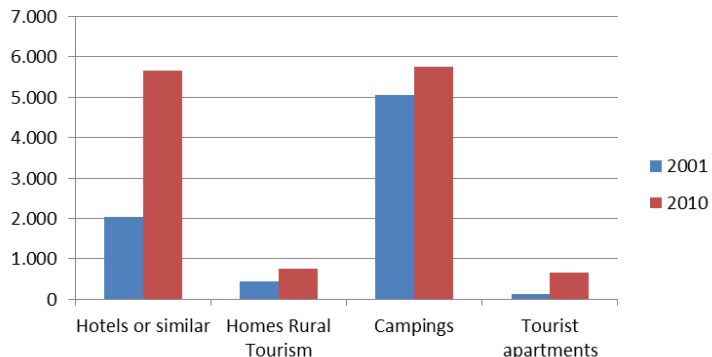
Alto Gállego (2010)



PNOMP (2010)



Number of tourist places in study area



The tourist affluence is 800.000 skiers per year in season 2008-2009 in Alto Gállego Valley and 600.000 visitors in PNOMP in 2012. The tourist infrastructure has been growth in the last 10 years (300%), mainly in hotels places and tourist apartments. The tourist supply is very different in both zones: in Alto Gállego valley, the major number of tourist places are hotels (70%), followed by tourist apartments (23%). In the zone of the PNOMP, the main tourist supply is camping places (62%), followed by hotels (26%). The different seasonality of the tourism in both zones explains great part of this difference.

Policy Recommendations for post-industrial agro-ecological sector

- To promote the diversification of the economic activity, actually addressed mainly to the touristic sector,
- To favor the agro-ecological processes that support the rural culture
- To enhance the networks of communication and commercialization
- To recover original well adapted breeds, multi-species (sheep, goat, mare, caws) which were lost due to bad policies
- To avoid policy that broke the complex structure of that interaction networks, traditionally very complex with important mechanisms of positive and negative feedback.
- To adapt the agro-industry and food manipulation regulations to the peculiarities of the rural mountain areas (allowing direct sale and manufacturing of products as cheese...etc)
- To respect the traditional self-organization and self-regulation of the rural communal lands
- To avoid simple rules conducting one way decision that broke the traditional structures.
- To reduce the dependency on external subsidies
- To develop technologies able to make the rural life easier
- To conduct trans-disciplinary studies that integrate the social-economic and natural aspects for a better understanding on the processes that involve the actual situation and the solutions in the actual changing world.

Thanks!!!!

