



**Public recreation and
landscape protection
– with the environment hand in hand!**

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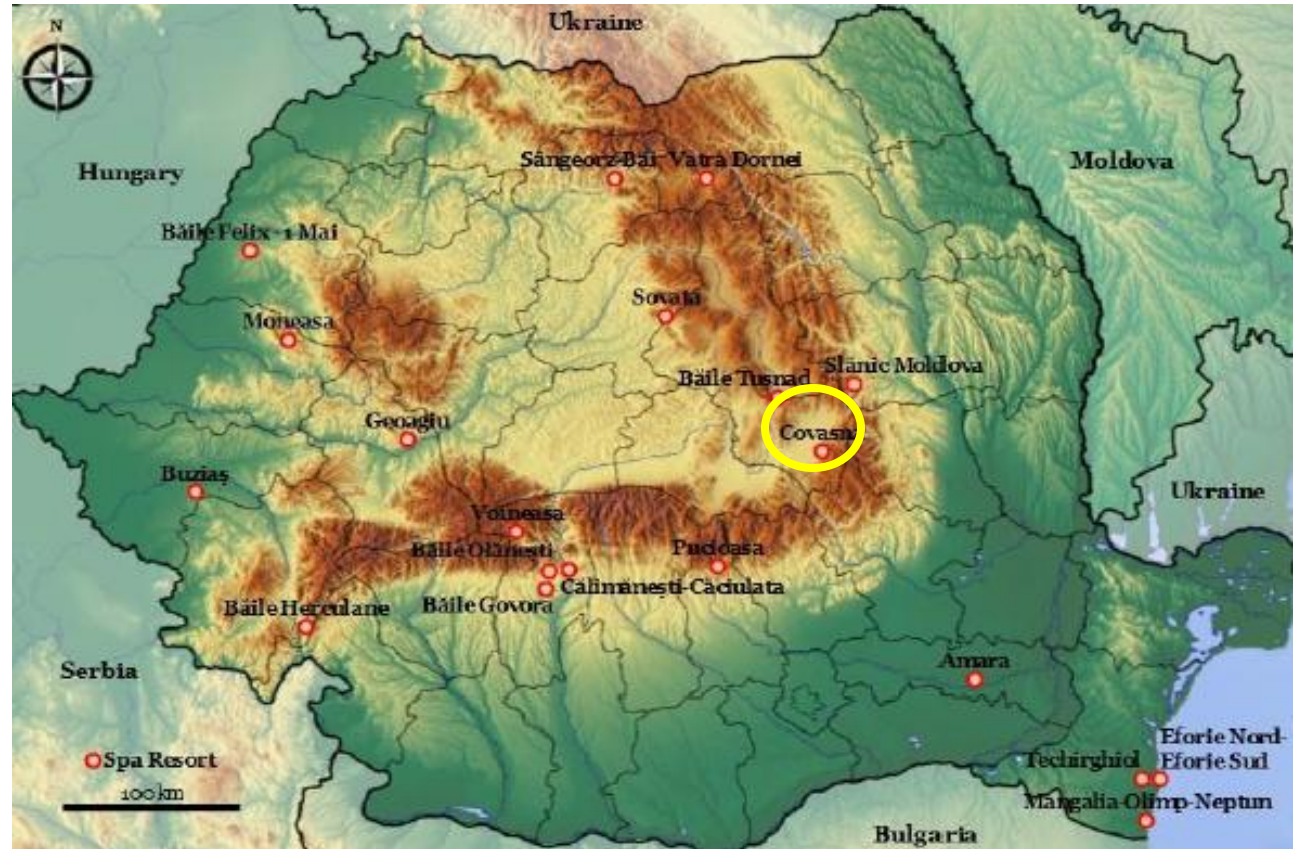
Křtiny

**Tourism use of post-volcanic resources
in Covasna, Romania, and the impact
on the natural environment**

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SUMMARY

- Introduction
- Methods
- Main Results
- Discussions
- Conclusions



Source: adapted after Stupariu and Morar, 2018

TOURISM + NATURAL ENVIRONMENT

- a direct and complex relationship emphasizing both short and long-term effects and determining particular territorial synergies in the light of present societal and land use change
- Natural resources – main tourist attractions
- In Covasna there are important mineral springs. The mineral waters are linked to the watershed, existing in the river deposits or the alluvial deposits of its tributaries. In the geographical area of Covasna, carbonated, bicarbonated, sodic, calcareous, magnesium and arsenical springs predominate. Their degree of mineralization depends on the proximity or distance from the aquifer, the transverse fracture, and the radiation systems that affect the underlying phyllium deposits (Pisota et al., 1975).
- Tourism – promotes natural elements, their practical use, and also their cultural connotations
 - Visual values – for hiking or recreational activities (in case of forests)
- Human activities can also create imbalances – deforestation
 - Accelerated in post-communist Romania after property restitution laws – jeopardizing even forested protected areas in the Romanian Carpathians

Materials and methods

- land use changes over different years was conducted, from 1990 until 2023, with 2018 as an intermediate year – cartographic representations;
- the area analyzed in our study was expanded to comprise the area of hiking activities for tourists in this resort;
- interview survey with tourists in the resort about changes in the forest aspects
- a total of 62 tourists were interviewed, of which 11 mentioned that they have been visiting Covasna since 1990 every year
- tourists' perception is an important factor in evaluating the overall state displayed by a resort

MAIN RESULTS

Descriptive aspects

- Covasna – one of the most attractive resorts in Romania
- carbon dioxide emissions and mineral waters as its primary natural resource
- the resort of 1000 springs
- it displays essential post-volcanic manifestations (the present manifestations are noticeable by the rich carbon dioxide emissions and sulfurous gas and arsenic outgassing)
- the natural landscape was considered a third therapeutic factor – climatic resort - an important growth potential among the health resorts in Romania – with the obvious advantage of the forest vegetation occupying quite a large area
- By 1990, in the eastern part of the resort and relatively isolated from the rest of the settlement, there were only two buildings, namely the Cardiology Hospital and the hunting house of President Nicolae Ceausescu (today) in conservation.
- In the last three decades important expansions of tourism infrastructure took place

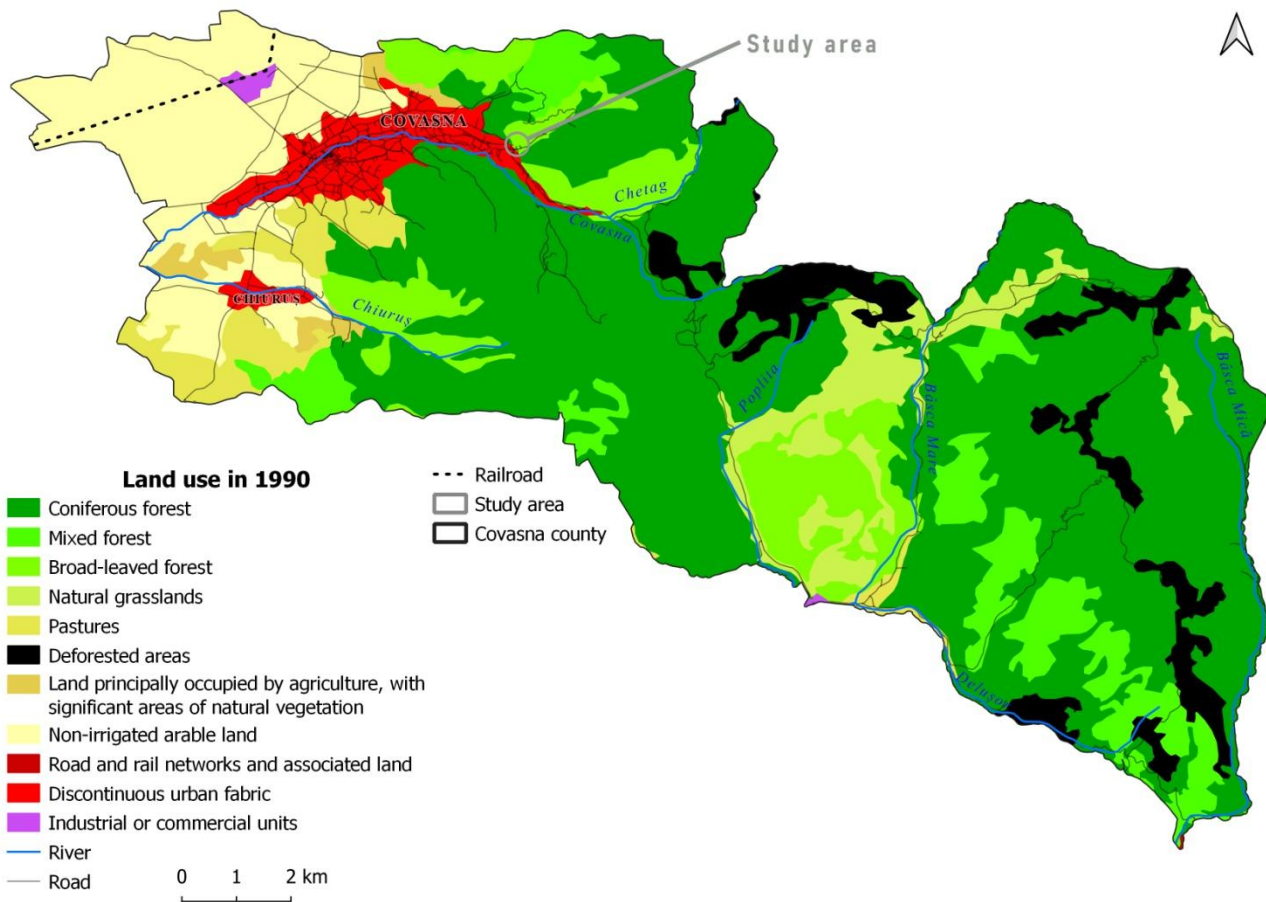
FACILITIES OF SPA RESORTS IN ROMANIA

Source: Erdeli, Dincă, Gheorghilaş & Surugiu , 2011

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	ş	t	ţ	u	v	w	x	y	z
	Treatments															Therapeutic recommendations												
National Resorts																												
Amara					x		x	x				x	x	x				x						x				x
Felix Spa			x														x											
Hercules Spa			x																									
Olăneşti Spa																	x											
Buziaş																	x											
Călimăneşti - Căciulata			x														x											
Covasna				x		x	x	x		x		x	x	x				x	x					x	x	x	x	x
Eforie Nord												x						x										
Geoagiu Băi			x															x						x				
Govora																		x						x				
Mangalia												x	x					x						x				
Moneasa																								x				
Pucioasa								x				x	x				x											
Sângeorz Băi									x								x	x										
Saturn									x			x	x					x						x				x
Sinaia									x			x	x					x										
Slănic									x								x	x										
Slănic Prahova									x									x						x				x
Sovata			x						x				x					x						x				x
Vatra Dornei				x				x	x			x						x						x				x

a – baths with curative herbs; b – hydrotherapy; c – baths with thermal waters; d – baths with mineral waters; e – baths with salted waters; f - electrotherapy; g - kinetotherapy ; h - inhalations and aerosols; i - mud packing ; j - mofettes; k - internal cure with mineral waters; l - massage; m - fitness; n - anti-stress cure; o - Gerovital-cure; p - professional illnesses; q - hepatic - billiar diseases; r – dermatology, allergies; s - respiratory diseases, NTO; ş - endocrine illnesses; t - renal and associated diseases; ţ - nutritional and metabolism diseases; u - digestive tract and annex; v - gynecologic diseases; w - nervous system diseases; x - cardiovascular disease; y - rheumatism diseases; z - peripheral nervous system. Source: adapted after: www.spas.ro.

Land use in the neighborhood of Covasna resort in 1990



- tourism has not been the most important factor leading to logging in this geographical area, but could also be counted among these factors

- After 1990, the profound socio-economic changes in Romania - the transition from the centralized communist economy to the market economy determined significant changes both in terms of tourism and forest exploitation.
- The need for investments and the construction of 4-star hotels has become a necessity, given the growing attractiveness of the area.

Forest restitution

According to Dincă & Erdeli, 2011; Dincă, 2013, and Dincă et al. 2014:

- the profound politic and socio-economic transformations that occurred in Romania after 1989 determined important transformations at the level of local communities and settlements, and at the level of ownership control, management and administration of resources both through the restitution process and through territorial planning
- After 1989 three successive laws were given
 - The first normative act, Law 18/1991 was the one to make even more complicated the property restitution process as it was the one to restitute 1 hectare of forest for whoever demanded for it, exowners or other inhabitants of local communities living in settlements located in forested territories.
 - The next two normative acts tried to restitute properties only for ex-owners: Law no 1/2000 within the limit of 10 hectares and Law no 247/2005 for the entire property regardless of its size. The last normative act trying to simplify and totally restore property rights is maybe the most justified one but had the disadvantage to come into power after previous normative acts that already fragmented and deteriorated forest properties. The fact that the Law 26 for forest administration hardly came into power only in 1996 made forest administration after restitution even more problematic

State / Private property and socio-economic transformations

According to Dincă et al. 2014:

- The lack of urban infrastructure increased pressure on natural resources (few localities among had as late as in 2009 thermic energy central functional systems and many remoted villages and rural communities in the Carpathians lacked gas supply networks).
- Moreover forest restitution facilitated the access of locals to wood resources – of major ecological interest for protected areas.

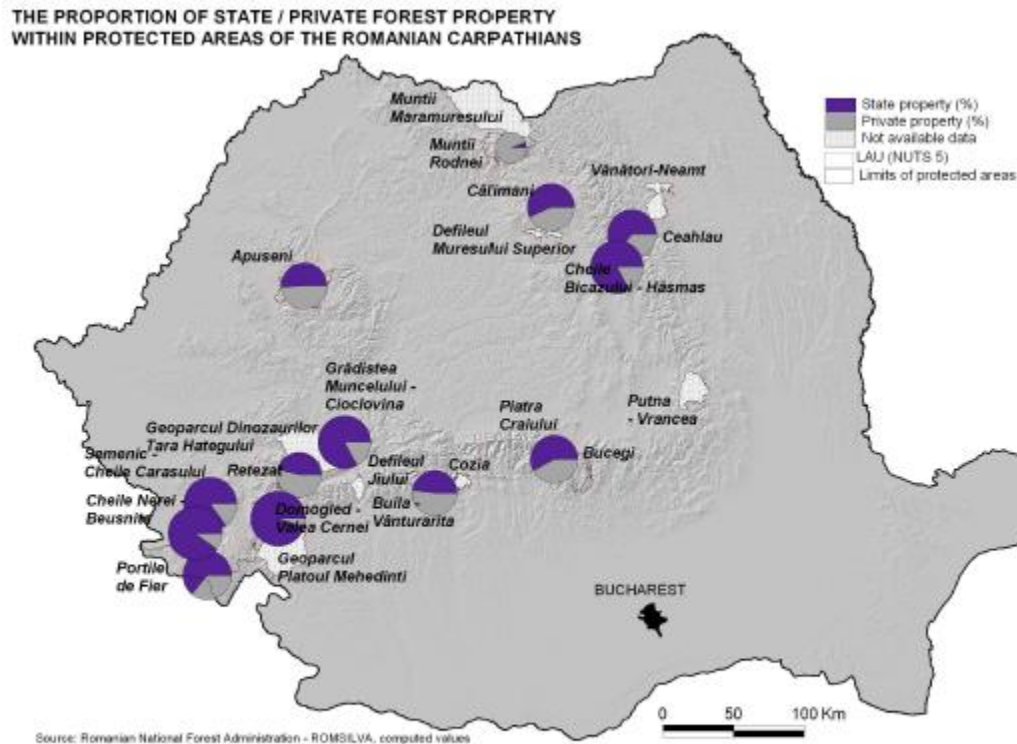


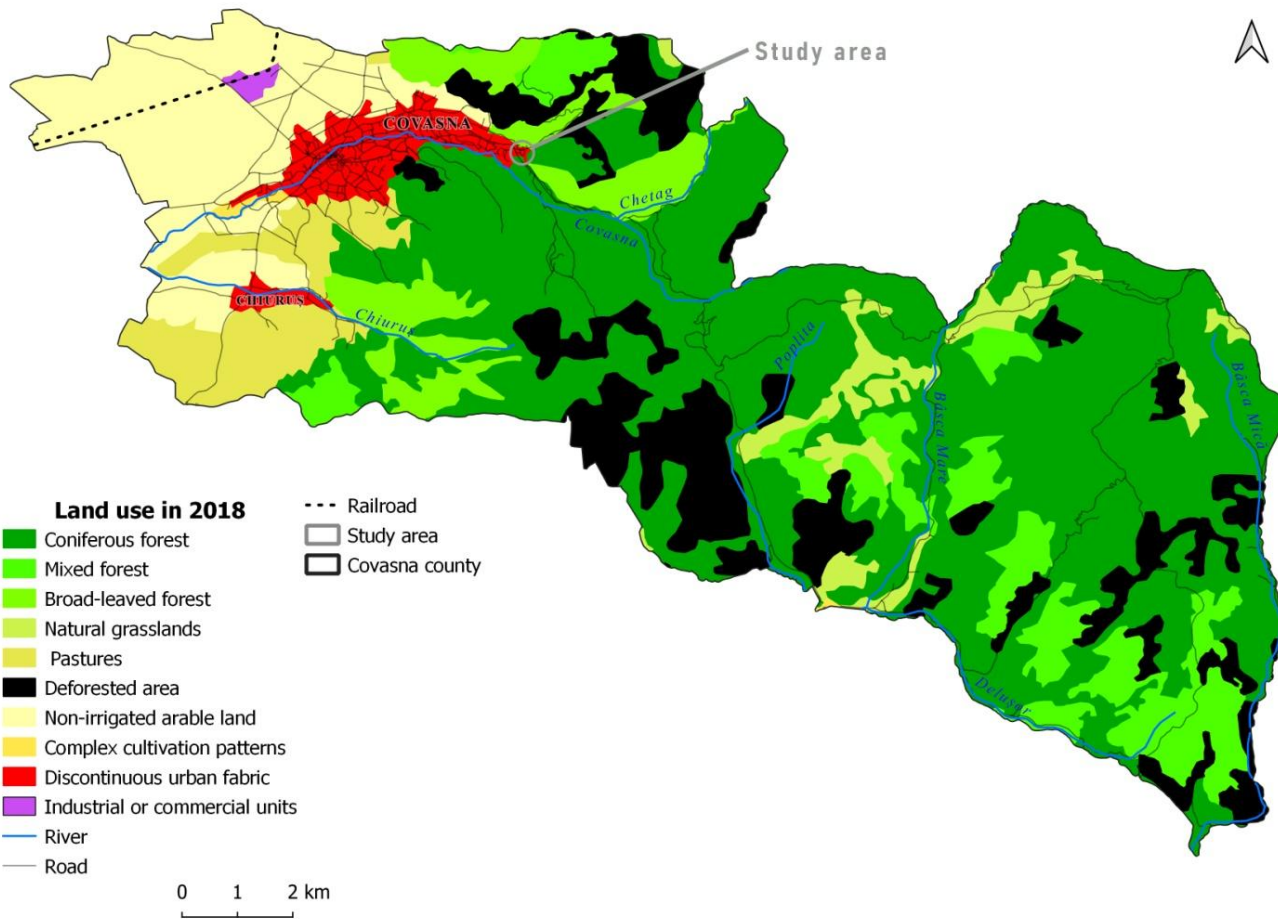
Fig. 2. The proportion of state/private forest property within protected areas in Romanian Carpathians

Because of political, socio-economic but also legislative factors, as explained above, deforestation was an expanding phenomenon all over Romanian Carpathians after 1990



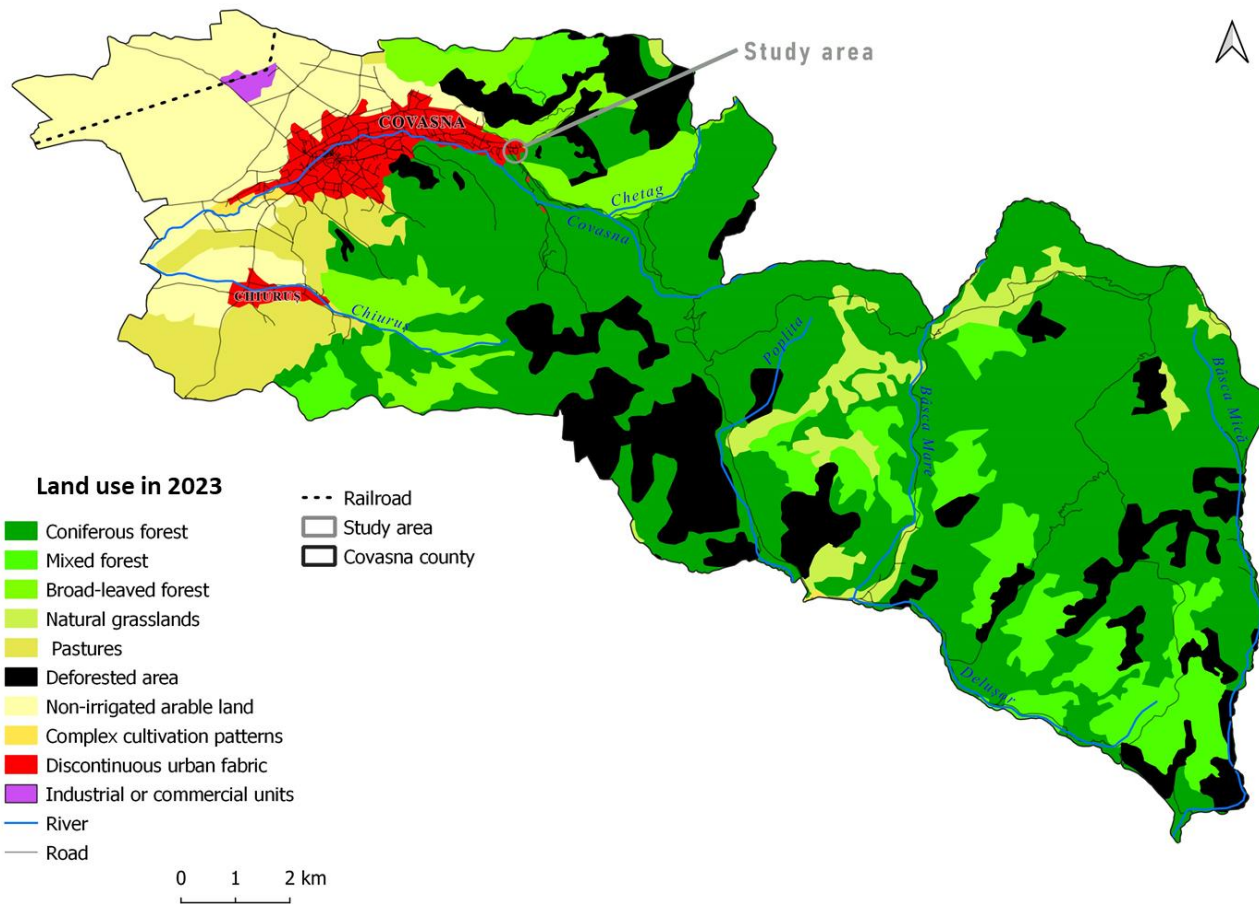
Deforestation around
Covasna resort

Land use in the neighborhood of Covasna resort in 2018



- In 2018, more logging areas can be distinguished, especially towards the southwest, but also in the northeast of the settlement where, in addition, the resort hotels were built

Land use in the neighborhood of Covasna resort in 2023



- between 2018 and 2023, logging continues, but there are also small areas of re-logging. In the southern part of the settlement small logging areas could be noticed
- Apart from the preexisting health and private hospitality infrastructure important 4star hotels with exterior facilities and smaller tourist accommodation buildings appeared.



Deforested forest area



The hotel structure that appeared after deforestation

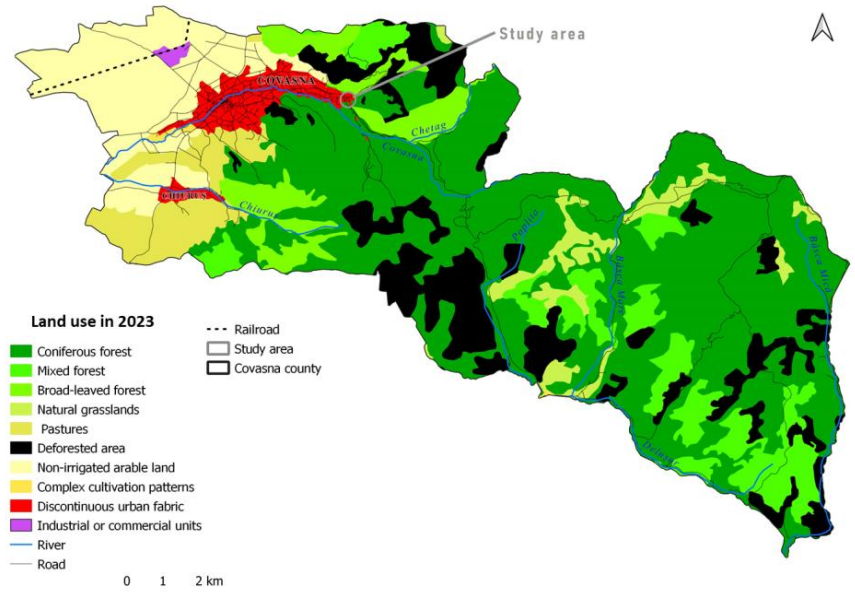
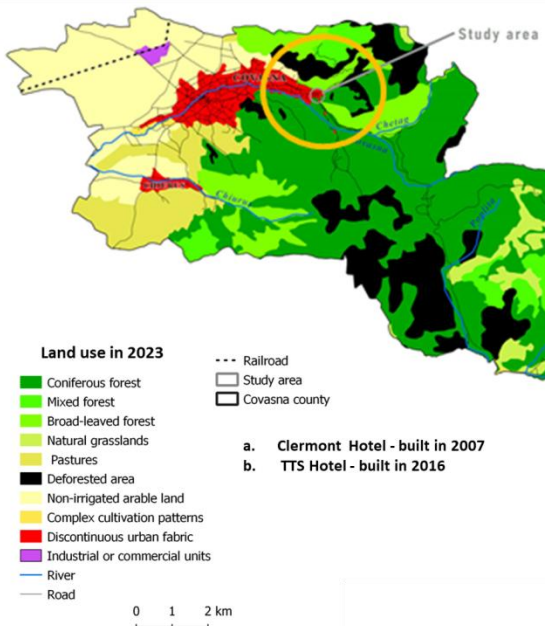
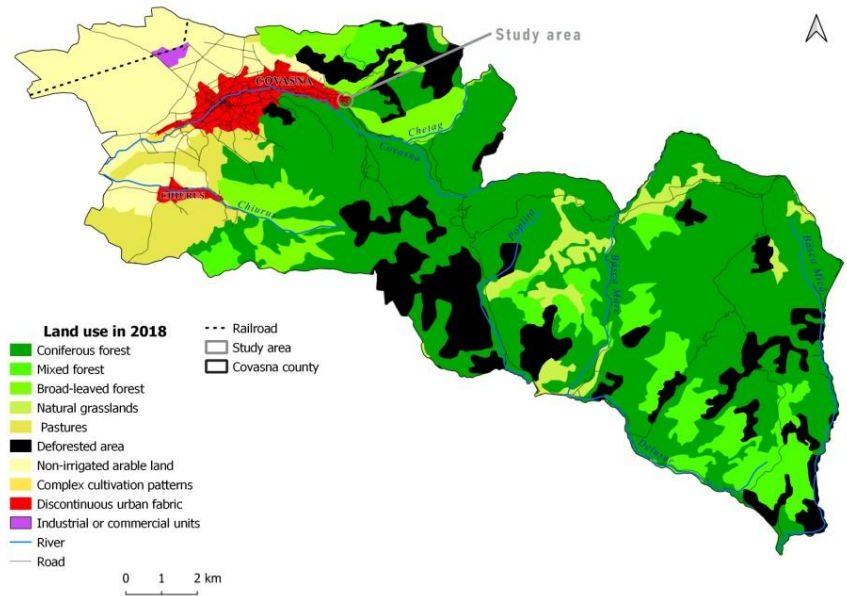
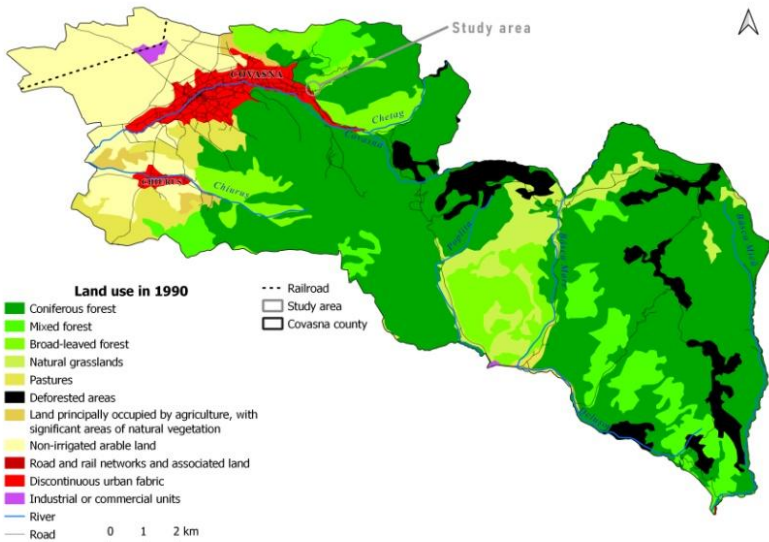
Other tourism facilities



Mocănița – gauge train
Romanian forestry
narrow gauge steam train

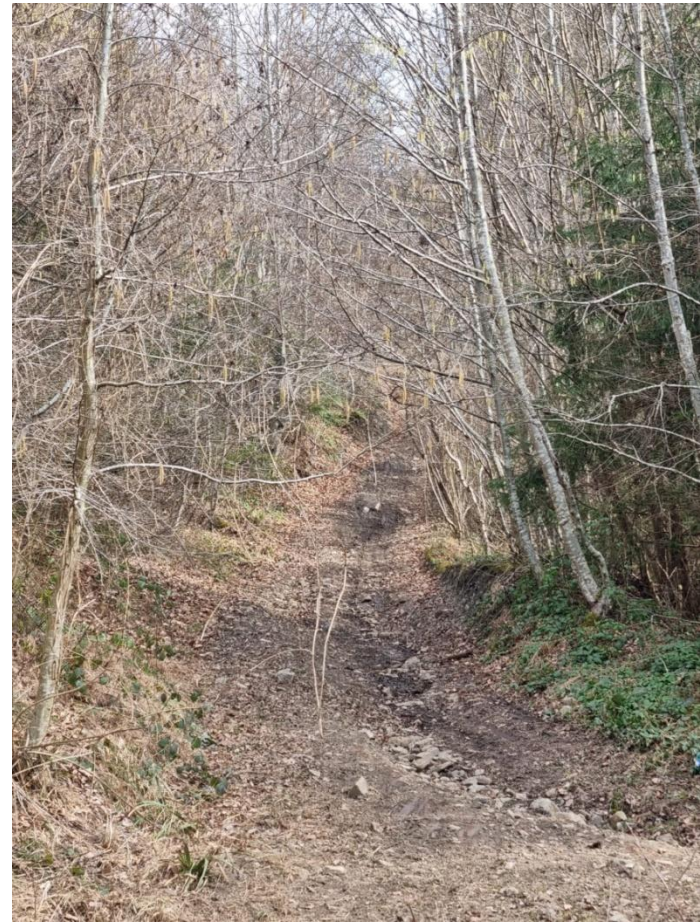


Land use evolution around Covasna resort



TOURISTS' PERCEPTION OF THE RESORT'S APPEARANCE AND ITS LANDSCAPE

- the 11 interviewees who had visited the resort before 1990 remarked on changes in the appearance of the forest, access roads, and the modernization of accommodation facilities
- many of these responses are somewhat nostalgic coming from silver tourists mainly associated to health tourism in Romania and clearly emphasize important deforestation and its essential impact on the landscape



The access road for transporting wood

Social and health/medicl state maintained tourism in Romanian spa resorts

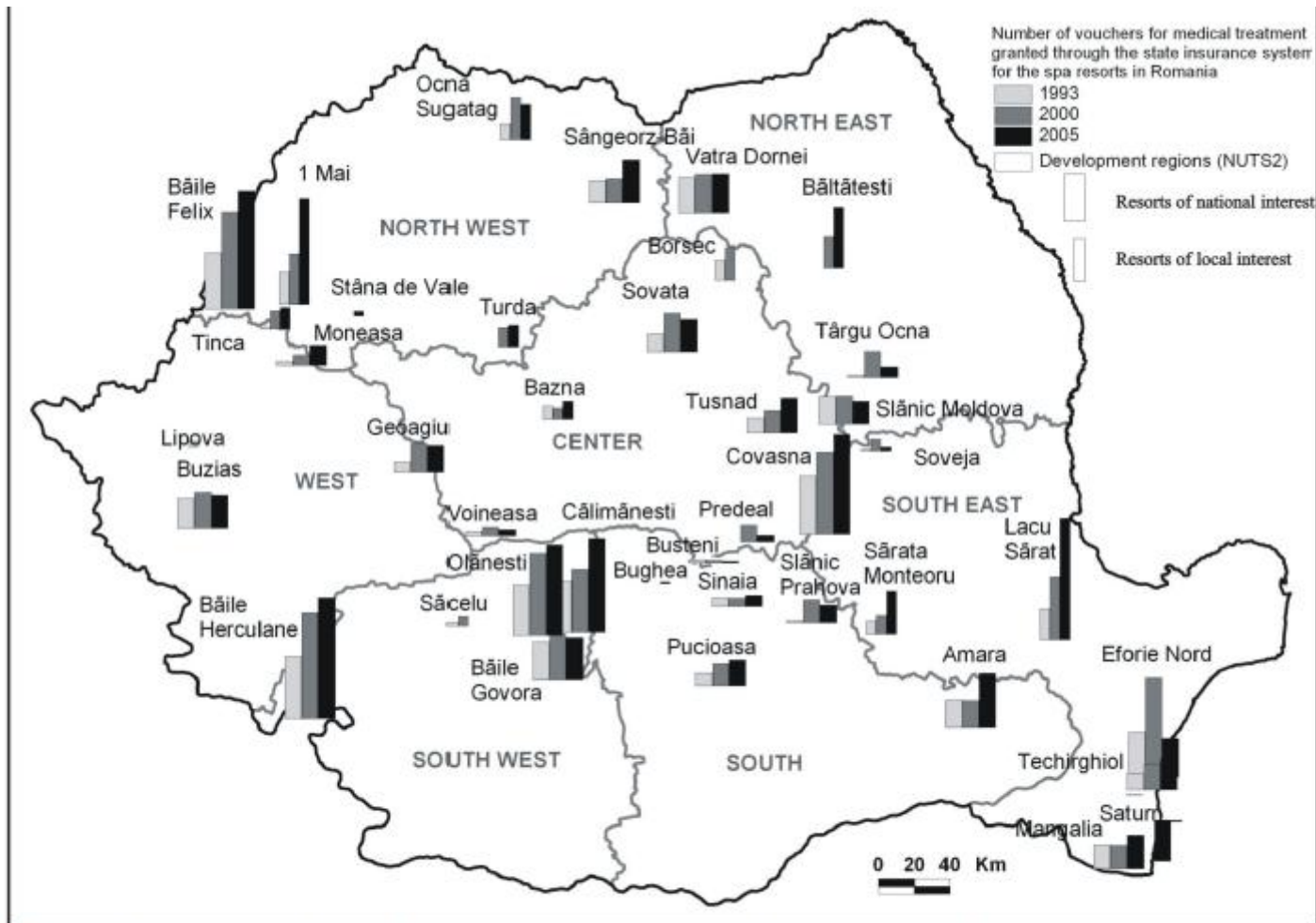


Figure 5. The evolution of the yearly number of spa treatment vouchers granted by the state insurance system on the main spa resorts in Romania between 1993 and 2005.
 Source: The Ministry of Labour, Family and Social Protection

TOURISTS' PERCEPTION

- *„It is beautiful, but the naturalness is slowly disappearing. It used to be a resort with a particular, intimate atmosphere. Now, it looks like a resort without personality. Only the "Devil's Pool" with its mud reminds of the old times. The forest is there, but it's young, replacing the cut trees. It's still good!"* (Ion Ispas, 76 years, Bucharest)
- *"We come with pleasure every year in Covasna resort. But we see the changes, and we are disappointed to see how much the forest is cut down..."* (Vasile Popa, 71 years, Cluj Napoca);
- *"I have been coming here since 1984. The forest is gone! Today they are just shoots!"* (Ana Mihaiu, 89 years, Satu Mare)

Discussion and Conclusion

- In Romania important post-volcanic springs and resources are grouped around Covasna resort.
- Covasna gathers important spring water resources but also mofettees, used for therapeutic purposes for cardiovascular diseases.
- For this purpose, several accommodation structures including a hospital for cardiovascular diseases have been built
- Each hotel structure has a treatment center based on local resources.
- During the communist period until 1990, tourist activities were concentrated in Covasna resort in the existing structures located in the central area and forests occupied a relatively large and uniform
- Until 1990, there were no 4-star hotels. Hiking was the only recreational activity that could take place outside the hotels.
- Despite the maintenance of social tourism Covasna developed new modern accommodation structures and facilities adapted to new trends in tourism
- Many of the sites where deforestation has taken place are now occupied by shoots and young forests. There are measures in place to prevent "clear-cut" logging and to control logging, but there is also an obvious tendency for hotel and guesthouse construction to expand into the area once occupied by forest.
- The forest area might not be heavily affected if the logging rules established by the local administration are respected. Along the *mocanita* routes or tourist roads, rest areas (shelters with a minimum of infrastructure needed by tourists) made of natural materials could represent the mix between tourism and the natural environment without destroying the latter.

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Thank you for your attention

