

# Ecological re-interpretation of Medieval resource management regulations from Central Europe

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## INTRODUCTION

Traditional ecological knowledge connected to resource management is more and more often used in nature conservation – also in Europe. Medieval oral (and later written) laws and regulations of traditional resource management techniques of Hungarians living in Transylvania (Romania; *Figure 1.*) have been collected by historians. We have re-evaluated these old laws and regulations from an ecologist’s perspective.



FIGURE 1: TRANSYLVANIA, ROMANIA

## Aim

Our main goal was to get to know the medieval resource management and its regulation in Transylvania, and to make an informative database on that. We wanted to create a database that can be used with ease in the future for further research.



PICTURE 4: SHEEP ARE GRAZING IN THE PASTURE

## METHOD

Data on early resource use and its regulations were published in three books written by István Imreh: “The self-regulating Transylvanian village”, “Chronicle of Kászonszék”, “Order in the Transylvanian village”, sum. 1255 pages. After collecting of data from these three books we sorted them using DPSIR framework. We have defined Driving force, Pressure, State, Impact and Response in the table (sum. 6 columns, 67 rows and 402 records). *Figure 2* illustrates a little part of our DPSIR table.

Ecosystem services	Driving force	Pressure	State	Impact	Response
forests page 209. (1.)	"forests provide building material, hot in the house, material for the tools, food for the hogs"	"grazing animals in forbidden forests"	"animals tread down the soil and devastate shoots"	insufficient amount of trees	"shepherds of the community must protect the young trees... There are parts of the forests where grazing is forbidden and shepherds have to count with punishment if they use these parts"
meadows page 171. (3)	conversion of biomass into meat	grazing in forbidden meadows	grazed winter fodder	insufficient amount fodder hence less animal	"special grass herdsmen guard the forbidden meadows...if they do their work carelessly, they have to count with punishment"
water bodies page 207. (2)	long-term food source	overexploitation	"stock of fish is a common food source"	insufficient amount of fishes	"villagers protect the stock of fish found in water bodies near their village"

Original words from the books are shown in quoted texts; nr. 1 denotes the book “The self-regulating Transylvanian village”, nr. 2 denotes the book “Chronicle of Kászonszék” and nr. 3 denotes the book “Order in the Transylvanian village”.

## RESULTS

We have differentiated six categories according to land-use types: forests, arable lands, meadows, pastures, water bodies, and other. *Pictures 1-5* taken in Gyimes, Transylvania in 2012 illustrate the six different categories. The distribution of data collected from the books by categories is shown in *Figure 3*.

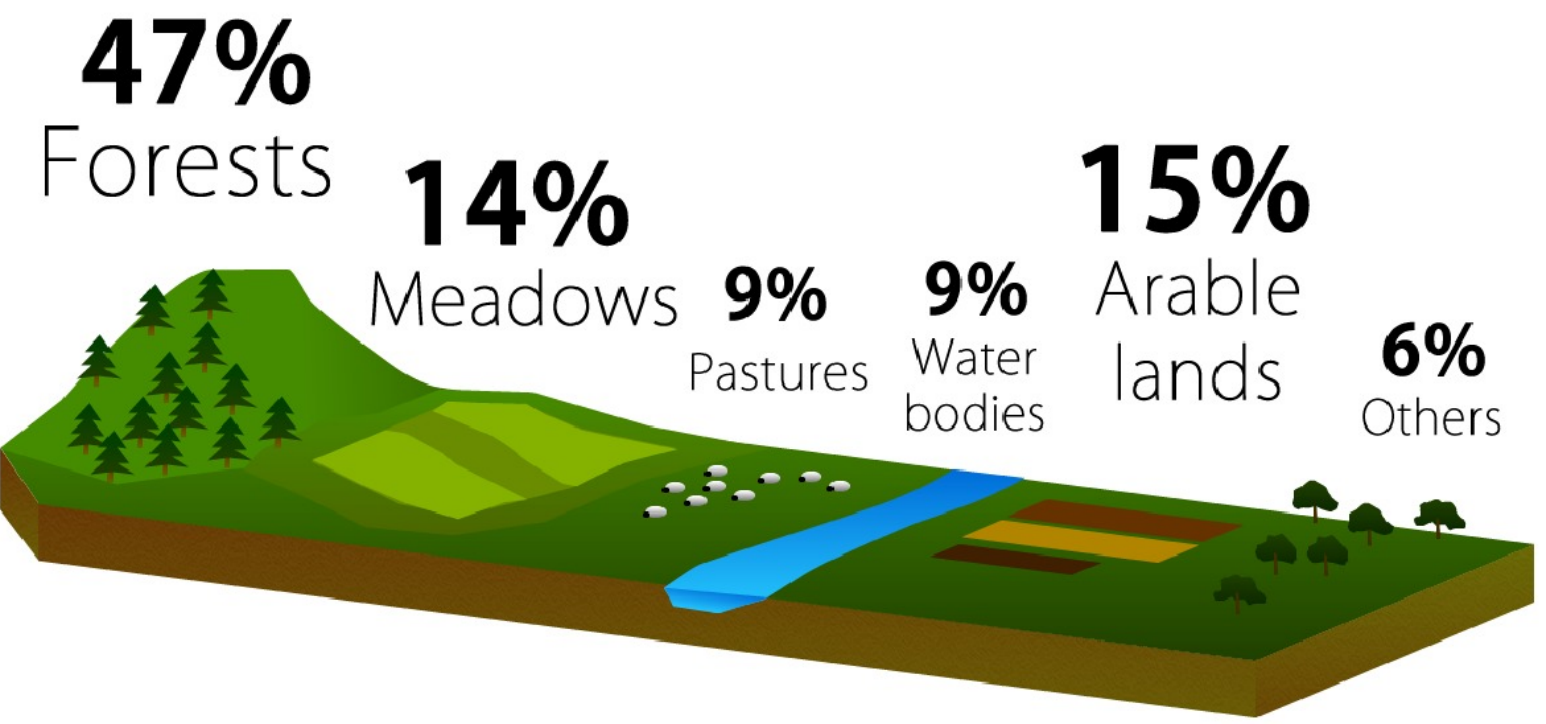


FIGURE 3: DISTRIBUTION OF REGULATIONS BY LAND-USE TYPES



PICTURE 1: SPRUCE FOREST



PICTURE 2: ARABLE LANDS IN LITTLE GARDENS AROUND THE HOUSES

## CONCLUSION

Results show that 16th-century people aimed for the long-term sustainable use of resources, especially protecting timber, fodder, soil, and water. Some of these regulations have survived till present and are used by villagers in landscape management (e.g. in pasture and forest commons). It is a big challenge for modern Europeans to learn and integrate these historical regulations in present resource management. As a result of our collection and sorting of data on medieval resource use an informative database has been made providing a good basis for further research. We are planning to compare the collected data to the regulations survived till present and used nowadays by villagers.



PICTURE 3: VILLAGERS ARE COLLECTING HAY TOGETHER IN THE MEADOWS



PICTURE 5: STREAMS AND LAKES ARE CONSIDERED AS COMMON WEALTH BY VILLAGERS AND ARE PROTECTED BY REGULATIONS