

## BOOK REVIEW

**Koulov, B. and Zhelezov, G. (eds): Sustainable Mountain Regions: Challenges and Perspectives in Southeastern Europe.** Switzerland, Springer, 2016. 268 p

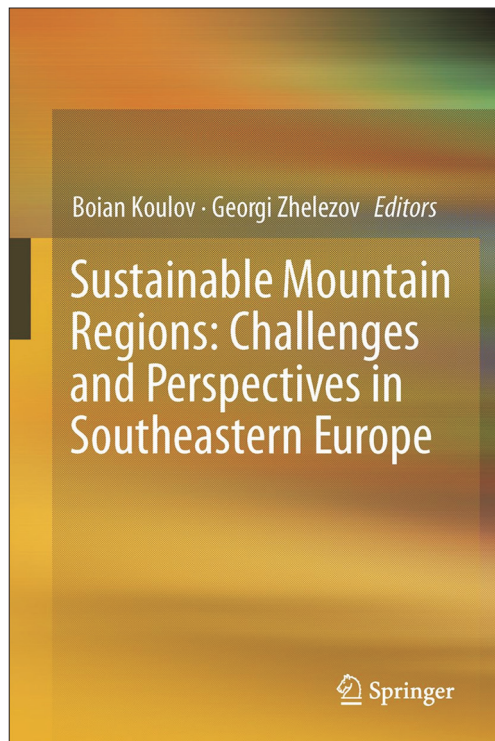
The outcome document of the Rio +20 Conference on Sustainable Development states that the benefits derived from mountain regions are essential for sustainable development and encourages states to incorporate mountain-specific policies into sustainable development strategies (The Future We Want 2012). The mountain areas of Europe have social, economic and environmental capital of significance for the entire continent (EEA 2010). However, until recently, EU policy paid little specific attention to mountains. They appeared in the cohesion policy as regions with "severe and permanent natural or demographic handicaps", while with regard to agriculture and rural development they were identified as "less favoured areas" (PRICE, M. 2016a, p. 376).

The accession of new member states with large mountainous areas after the millennium has increased the area and proportion of such areas in the EU. The mountainous regions of the new member states, especially in Southeastern Europe, are often inner periph-

eries, their prospects further worsened by their border status (KOULOV, B. 2016). Partly as a consequence, attention has started to turn to mountain regions in recent years. As GLØERSEN, E. *et al.* (2015) state, although mountain areas in the EU are too diverse to elaborate an integrated European strategy, a framework for development strategies in mountain areas can be developed. In 2016 the European Parliament asked for a regular assessment of the condition of the EU's mountain areas and of the implementation of cohesion policy programmes (PRICE, M. 2016a). Yet, necessary information is not equally available from the European mountain regions. In 2010 the project 'mountain.TRIP' found that EU funded research was unevenly distributed among different European mountain regions with the emphasis on the Alps and later the Carpathians. According to their findings, possible causes for this could be later EU accession, the lack of know-how and experience in carrying out EU research projects, or simply low visibility due to language barriers (mountain.TRIP). PRICE, M. (2016b) argues that the development and implementation of the Carpathian Convention, signed in 2003, were critical factors in the comprehensive and comparable mapping of the characteristics of the Carpathians, whereas a similar convention in Southeastern European mountains is still lacking.

SEEmore, an international network of scientists working in the mountains of the Southeastern European region, was launched in 2009, fostered by the Mountain Research Initiative (MRI). This book, 'Sustainable Mountain Regions: Challenges and Perspectives in Southeastern Europe' apparently comprises research presented at the 5<sup>th</sup> SEEmore meeting held in Borovets (Bulgaria) in 2015. A proclaimed aim of this meeting was to promote the establishment of a Balkan Convention on Sustainable Mountain Regions, similar to the already existing Alpine and Carpathian Conventions.

The volume contains 19 studies (chapters) from 11 Central and Southeastern European states, although the majority of them (9 chapters) are related to Bulgaria. The chapters are grouped into five major parts, entitled 'Sustainable Policies in Mountain Regions', 'Natural Resources and Ecosystem Services: Adaptation to Climate Change', 'Mountain Economies', 'Mountain Ecology, Risks and Protected Areas', and 'Population and Heritage Challenges'. Due to the very wide variety of topics, including both physical geographical and socio-economic aspects,



it must have been a very difficult task to create the structure of the volume which, as a result, seems somewhat haphazard. Therefore the chapters are reviewed with a slightly different logic.

In Chapter 1, which is related to *regional development policy*, the authors analyse the relevant regulatory framework and related geographic problems of regional development policies from a Bulgarian perspective. After giving a thorough overview of changes in mountain-related policy in Bulgaria in the near past, they argue that policy instability and inadequate territorial policy integration are the main challenges at the state scale. A more precise definition of mountainous regions and their delineation are important tasks and prerequisite of the selection of regions that are eligible for assistance. As for the EU scale, they consider the lack of territorial policy integration and inept priority setting in regional development as the greatest challenge. By the latter, the authors understand that instead of targeting the Southeastern European mountain regions as a priority of EU regional development policy, the EU supports the Carpathian and Alpine conventions, in which three southern EU countries (Greece, Croatia and Bulgaria) with considerable mountain regions are not included.

The chapter leaves it at that, but possible solutions are mentioned in the preface of the book where either the extension of the Carpathian convention or the launch of a new Balkan convention are brought up. There is also promising recent progress in directing the attention of the EU to mountain regions (see PRICE, M. 2016a). In Chapter 15, a slightly different but still policy-related study, the author examines spatial discrepancies and potential linkages of ecological networks in the border region of Serbia and Bulgaria. He makes suggestions for the designation of some more future Natura 2000 areas in Serbia, so that there would be direct linkages to already existing protection areas in the neighbouring countries.

The most pronounced topic in the book is, not surprisingly, *sustainable tourism*. In most mountainous regions, traditional occupations are usually related to agriculture, mainly forestry and grazing, but in modern times tourism partly replaces, partly complements these. As GLØERSEN, E. *et al.* (2015) state, sustainable tourism is widely advocated as a means for economic restructuring and local development. There are six related chapters throughout the volume. The first of these (Chapter 2) is an insightful study from Italy (South Tyrol), which examines the cooperation models of small structured farms in the Alps. According to the study, the limited production capacity of local farms in the face of increasing demand and problems like seasonality inspire horizontal (between farmers) or vertical (e.g. farmers-accommodations) cooperation. Based on a case study analysis, the authors scrutinise some possible solutions (for instance

certification of food products, regional food quality standards and logistics cooperation) and the related experience of the local stakeholders and finally identify four models. They conclude that such cooperation needs a strong basis of trust and the creation and maintenance of such regional systems do not necessarily result in increased profit but rather in social, cultural and innovation benefits.

Chapter 8 presents patterns of local tourism development in Bulgaria, describing and comparing the recent development processes of three destinations. The study intends to fill in a gap because, as the authors state, such information at the local level is very hard to access in Bulgaria. They find that although the three areas are different in their patterns of tourism development, a few general conclusions can be drawn. In their view, available attractions are 'necessary' requirements for success, whereas the will to promote tourism through developing accommodation and infrastructure is a 'sufficient' condition. Finally, partnerships and networks seem to be essential in achieving sustainability.

Chapter 9 is a study from Greece, where the authors examine the possibilities and potential of an e-tourism application, developed specifically for an area where a city and its sights are close to a mountain region. Most of the information and techniques proposed are already existing and available as well, but not in an integrated form. The authors state that besides its potential role in marketing, the value of such an app would also be to enhance and promote the identity of a region. Furthermore, it could help address navigational and risk issues (e.g. bad weather and dangerous spots).

Chapter 10 compares the perceived and actual roles of destination management organisations (DMOs) in sustainable mountain tourism, based on data gathered from highly successful tourist destinations in the Alps (in Switzerland, Austria, Italy and Germany). According to the findings of this study, in these areas sustainability used to be added value, but it is increasingly becoming a requirement, insofar it helps clear brand positioning. A successful improvement of cooperation, however, would need a strategic approach and a specialised organisation which is in charge of putting this approach into practice. The results show that DMOs have basic tasks such as marketing, but sustainability is also widely seen as their role. Yet, they consider themselves as lacking the resources to become leaders in sustainability, which they think to be more the task of the government. Another important finding is that many of the destinations keep regarding the economic aspect of sustainability the most important, namely they work towards sustainability because it provides a competitive advantage. The authors suggest that modern DMOs should take up the leading role in sustainable tourism and suggest concrete steps to achieve this.

Chapter 18 is a case study from Turkey, which examines how the increasing number of domestic tourists affects the summer pastures of the mountains of the Eastern Black Sea Region. According to the author's results transhumance activities have declined from the 1950s due to many young inhabitants moving into cities, but recreation, partly promoted by the authorities, started to get into the foreground. Still, these changes affect the region in socio-economic, cultural and ecological sense as well, especially since there is a lot of unplanned development. Finally, the last of the tourism-related chapters, Chapter 19, examines the role of cultural heritage in the development of mountain tourism on the example of Rudnik Mountain, Serbia.

The above studies on tourism may seem to be very different in geographical scope as well as methodology, but they point to some general conclusions. While real sustainability can only be achieved with strategic thinking, which requires some leading institution and/or consistent policy, the everyday paradoxes and practical issues are most effectively solved at the small scale, through mutual trust and cooperation of the local stakeholders.

Another major group of studies (five chapters) deals with *ecosystem services and risk mapping*, most of them in relation to water regulation and flood. The studies in this group apply similar methodologies, mainly GIS-based analysis. Chapter 3 presents the application of GIS-based hydrological models, developed in the US, for the assessment of three water-related ecosystem services in the Ogosta watershed, Bulgaria. These ecosystem services include two regulation services (water flow regulation and water purification), and one provision service (freshwater). The authors apply the models successfully, despite some inadequacies of the available data.

The authors of Chapter 4 aim to map carbon storage in the Central Balkans based on land use and land cover data. They create detailed maps based on the CORINE database and World View2 imagery and apply the InVEST model to calculate carbon stock. They compare the modelled results with reference data from field sampling. According to the results, total carbon stocks modelled with InVEST are higher than the reference values, thus the authors conclude the model would need further validation.

In Chapter 7 the author focuses on mapping the water retention ability of the landscape and estimating the effect of current landscape structure on this capacity in the Poprad River Basin, Slovakia. The sub-basins were classified into four hydric significance classes, from limited to excellent. According to the results all four categories are present in the basin, but most of the area falls into the good or average classes. Landscape structure is found to have a significant effect on water retention ability.

Chapter 13 examines the flood regulation capacity of a small catchment in Bulgaria. The study focuses on

landscape units, and is based on the water retention ability of different individual landscape structure elements, which are represented with different weights. According to the results the area is threatened by a loss of water retention capacity. In Chapter 14 the authors also apply GIS methods and remote sensing (RS) data for modelling potential natural hazard areas in the mountainous border area between Bulgaria and Macedonia. Besides defining the 'potentially floodable area', soil erosion as well as sediment yield is modelled, and landslide susceptibility and forest fire risk are also mapped. According to the authors' findings, excessive erosion is the worst hazard in the area and landslides are connected to that.

Geographical Information Systems (GIS) are powerful tools which enable researchers and planners to integrate information and carry out detailed analyses of even large areas, which are crucial for regional planning. The (un)availability of data, either input or reference, can be a serious limitation though, as all studies mention it.

Although it is a crucial issue in most mountain regions, only two chapters deal with the *impact of climate change*. In Chapter 6 the authors present a study where the potential effects of future climate change (based on the predictions of the regional climate model RegCM 4.4) are examined on the technical and natural snow reliability of four major ski resorts in Bulgaria for the period 2016–2030. According to the results, total snowmaking capacities would only decrease slightly. Chapter 17 is related to climate change in a different way, since it deals with already existing impacts, namely the changes of three small glaciers in the Julian Alps. The authors apply an interactive orientation method on archive photos, the earliest from the late 19<sup>th</sup> century, where they use detailed DTMs to define the area of glaciers. They find an almost continuous decrease, except for a few years around 2010. They also consider the use of this methodology for other glaciers in Southeastern Europe, also for other sorts of research like studying floods or landscape changes.

The remaining four chapters deal with *geo-ecological aspects of the mountain regions*, both in terms of natural vegetation (in this case, forests) and in terms of invasive species. The spread of invasive species is a significant threat to native wildlife worldwide, while forest management is one of the main income-generating activities for the population of mountainous areas. Therefore, such research is of high importance from the sustainability point of view. Climate change-induced disturbances are becoming more frequent, so even economic interest dictates that resilience must be increased.

In Chapter 5 the authors examine how the non-intervention management of protected subalpine spruce forests in Bulgaria is compatible with the climate change-induced increase of disturbances. According to their findings, disturbances are part of

the natural cycle, and resilience depends on the presence of natural structure elements most often missing in managed forests. Therefore, they suggest the adoption of long-term regeneration silvicultural systems, which allow continuous forest cover and a higher diversity of structural elements. In Chapter 11 the authors present a new concept of forest protection in Slovakia, based on real and potential geo-ecosystems. They first describe the system and draw some general conclusions on the occurrence and protection status of the different types. Then they make suggestions on how this system could be used as a basis for planning in the future both for designating protected areas and designing ecological corridors.

In Chapter 12 the authors present a GIS-based potential distribution model for the invasive species *Ailanthus altissima* in Romania. The model successfully identifies areas with different distribution potentials. The modelled and the actual occurrence show an overlap of 70 per cent for the high and very high potential areas. And finally, Chapter 16 is a case study from Mala Planina, Bulgaria, in which the authors identify the invasive species which have already spread in the area and others, which have the ability to become invasive.

As described above in detail, the book mainly contains case studies, which are all the more interesting because information from many of the described regions is often hard to access or completely lacking. It provides valuable insight into recent research conducted in the Southeastern European mountain regions. And thus it can be of interest to a diverse audience, including students, researchers and practitioners of different fields, e.g. in the fields of geography, ecology, environmental studies and tourism. However as a book it fails to provide a synthesis, which could have been a step towards realising the wish formulated in the preface that the mountainous border regions of Southeastern Europe become a special target of an EU-scale regional development policy. Still, it reaches its goal of providing multiple pieces of evidence that sustainability principles should be used at every scale of geo-ecologic planning in mountain regions.

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## REFERENCES

- EEA – European Environment Agency 2010. *Europe's Ecological Backbone: Recognising the True Value of Our Mountains*. Copenhagen, European Environment Agency. Available at: <http://www.eea.europa.eu/publications/europes-ecologicalbackbone> (accessed 24.02.2017).
- GLØERSEN, E., PRICE, M., BOREC, A., DAX, T. and GIORDANO, B. 2016. *Research for REGI Committee – Cohesion in Mountainous Regions of the EU*. Brussels, European Parliament. Available at: [http://www.europarl.eu/regData/etudes/STUD/2016/573420/IPOL\\_STU%28016%29573420\\_EN.pdf](http://www.europarl.eu/regData/etudes/STUD/2016/573420/IPOL_STU%28016%29573420_EN.pdf) (accessed 24.02.2017).
- KOULOV, B. 2016. EU 'deep' periphery: A case study of mountain borderlands in Bulgaria. *Revue Roumaine de Géographie/Romanian Journal of Geography* 60. (1): 61–72. mountain.TRIP. *Project results and recommendations*. Available at: <http://www.mountaintrip.eu/about-mountaintrip/results/25-main.menu/articles/111-more-results-from-wp2.html> (accessed 24.02.2017).
- PRICE, M.F. 2016a. Mountains move up the European agenda. *Mountain Research and Development* 36. (3): 376–379.
- PRICE, M.F. 2016b. Sustainable development in mountain regions: Southeastern Europe and Sustainable Mountain Regions: Challenges and perspectives in Southeastern Europe. *Mountain Research and Development* 36. (3): 394–395.
- The Future We Want. *Outcome document of the United Nations Conference on Sustainable Development, Rio de Janeiro, Brazil, 20–22 June 2012*. Available at: <https://sustainabledevelopment.un.org/content/documents/733FutureWeWant.pdf> (accessed 24.02.2017).
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