

## **Best practice Science\_Linknockberge? Benefits and challenges of five years of co-operation between biosphere reserve and university**

**Daniel Zollner, Julia Falkner, Heike Egner & Michael Jungmeier**

### **Abstract**

Biosphere reserves as recognised model regions for sustainable development are supposed to maintain permanent access to scientific findings, innovation, new technologies and scholarly discussions. Science\_Linknockberge is an institutionalised cooperation between the biosphere reserve Kärntner Nockberge and Alpen-Adria-Universität Klagenfurt. In their contribution, the authors provide an overview on the cooperation, reflect their experiences and argue that such a cooperation is mutually beneficial for all sides: the management of the biosphere reserve, the university as well as the region to which the biosphere reserve belongs.

---

### **Key words**

biosphere reserve, learning sites, social innovation, transdisciplinary, intervention, ESD (education for sustainable development)

### **Introduction**

The biosphere reserve 'Salzburger Lungau und Kärntner Nockberge' is situated in the Austrian federal states of Salzburg and Carinthia. On the Carinthian side a national park had been established in 1984, the establishment of a biosphere reserve was the final result of a debate about the future of the region which started in 2002. Interestingly, two parallel processes in both federal states resulted in the application for a joint biosphere reserve, which was recognised by UNESCO in 2012.

The shift in paradigms from research dominated biosphere reserves in the early 70s to holistic and participatory learning sites - as advocated by UNESCO's Seville strategy (UNESCO 1996)- nowadays, calls for a new understanding of scientific processes. These tasks meet with recent political and scholarly discussions, in which biosphere reserves are considered to be learning sites or – at least – essential parts of learning regions (e.g. KUSOVA ET AL. 2008). Following the definition by HASSINK (2005: 521), learning regions are to be understood as 'regional development concepts in which the main actors are strongly, but flexibly connected with each other and are open both to intra-regional and inter-regional learning processes'. Explicitly, higher education institutions are considered as main actors in such regions.

### **Targets and Methods**

The long-term cooperation Science\_Linknockberge between park and university is based on a contract, as agreed and signed in 2013. It aims at (1) building a bridge between excellent international research and everyday life in the region of Nockberge, (2) stimulating, triggering and scientifically supervising technical, economical, ecological and social innovations in the region, (3) giving access to international developments and trends and the scientific community as well and (4) to raise public awareness for the importance and potentials of the biosphere reserve. The biosphere reserve contributes with technical, logistical and financial support to the research activities, the university contributes with network and scientific expertise. Technically, the cooperation is based on a yearly work plan and a yearly report on activities and achievements (e.g. EGNER ET AL. 2015).

Science\_Linknockberge is characterised by a quite unique cooperation design: (1) It has a long-term institutionalised character (contract between equal partners, persons in charge of the coordination, annual work plan, activity reports). (2) A set of tools forms the technical backbone for the cooperation (a virtual library - the 'Nockothek', the research forum - a catalogue of research questions from different disciplines, standardised student's work agreement). (3) Joint outreach activities support the dissemination of results. (4) Science\_Linknockberge is closely connected to the management plan of the biosphere reserve (ZOLLNER ET AL. 2015).

## Results – activities, benefits, challenges

Manifold activities breathe life into the cooperation: Primarily, different educational offers at the university (such as seminars or lectures) and students' works (such as bachelor or diploma thesis) connect to the biosphere reserve. Seminars of the Institute of Geography focussing on regional issues allowed for presenting students' works in small regional events. Students are challenged by presenting for a 'real life audience' aside of university's seminar facilities and by answering unexpected 'real life questions'. Besides new information, guests and stakeholder from the region gain personal insights into university and the scholarly world.

Such events have turned out to be interesting, surprising and sometimes irritating for either side and, thus, can be considered as an intervention to both 'worlds' to gain personal competencies related to the UNESCO's Decade of Education for Sustainable Development (NAGEL & AFFOLTER 2004, RAUCH ET AL. 2016, VARE & SCOTT 2007). Additionally, some students have addressed their bachelor or master thesis (so far in the fields of human geography and landscape planning, but after some time also in social science and other fields) to the biosphere reserve. The journal of the biosphere reserve, *Meine Biosphäre*, has a column dedicated to the cooperation, communicating its activities and outcomes, such as the students works, to the region on a regular basis.

By conducting GEO-Days of Biodiversity, also elements of citizen science (FINKE 2014) are integrated into the cooperation. The first GEO-Day in the Nockberge region in June 2016 attracted notable zoologists and botanists who explored the flora and fauna of a territory around St. Oswald. Interested laypeople, stakeholder from the region and school children attended scientists at their expeditions and supported research work.

Technically, the cooperation is based on two features, (1), the 'Research forum', containing a catalogue of potential research topics and (2) the database 'Nockothek' ([www.biosphaerenparknockberge.at/bildung/science-link-nockberge](http://www.biosphaerenparknockberge.at/bildung/science-link-nockberge)), which is regularly updated, providing substantial information about the Nockberge (recently some 190 publications, documents, grey literature).

Some challenges have to be faced, however. The region of Nockberge is a peripheral region characterised by ageing of population, brain-drain and little contact with academic life. This has implications for the development of a research cooperation such as Science\_Link. In comparison to other parks in Austria, research work conducted in the previous national park Nockberge never had been very intensive. At the same time, the University of Klagenfurt does not have a faculty of natural sciences, and the region had limited access to other research institutions, which leads to feelings of 'strangeness' or unfamiliarity in contact. Additionally, the establishment of the biosphere reserve in 2013 has called for working on social, cultural and economic research questions.

To sum it up, the cooperation had to be developed against a long-term perspective and needs to overcome 'cultural' and institutional barriers.

## Discussion/Conclusion

The cooperation Science\_Link<sup>nockberge</sup> has not yet been subject to a systematic review nor evaluation. However, after some five years Science\_Link<sup>nockberge</sup> appears to be a relevant institutional arrangement that is mutually beneficial to both partners. Bringing together two distinct institutions with different focuses on research and education, definitely provides new opportunities and generates new networks for knowledge-based activities (JUNGMEIER ET AL., in print). However, the concepts and practices of a park management are very distinct to the concepts and practices at a university and vice versa. Both follow a distinct 'logic' in terms of priorities, time scales, decision making procedures and planning processes. Both, furthermore, address different issues and stakeholders. Thus, besides opportunities and new networks, the cooperation between park management and university created inter-institutional challenges, which were not expected. The practical and theoretical implications of the cooperation need to be understood and will be investigated more in depth including new and a holistic set of criteria (e.g. HELMING ET AL. 2016).

## References

- EGNER, H., JUNGMEIER, M., FALKNER, J. & ZOLLNER, D. 2015: Science\_linknockberge – Tätigkeitsbericht 2015. Im Auftrag von: Alpen-Adria-Universität Klagenfurt, Leitung: E.C.O. Institut für Ökologie, Klagenfurt.
- FINKE, P. 2014: Citizen Science: Das unterschätzte Wissen der Laien. München.
- HASSINK, R. 2005. How to unlock regional economies from path dependencies? From learning Region to learning cluster. *European Planning Studies* 13(4): 521-535. DOI: 10.1080/09654310500107134.
- HELMING, K., FERRETTI, J., DAEDLOW, K., PODHORA, A., KOPFMÜLLER, J., WINKELMANN, M., BERTLING, J. & WALZ, R. 2016: Forschen für nachhaltige Entwicklung. Kriterien für gesellschaftlich verantwortliche Forschungsprozesse. *GAIA* 25(3): 161-165.
- JUNGMEIER M., HUBER M., ZOLLNER D., EGNER, H., in print: Zur Vermessung von Wissenslandschaften: Regionen als Träger, Produzenten und Nutzer von Nachhaltigkeitswissen – das Beispiel Biosphärenpark Salzburger Lungau und Kärntner Nockberge. *Mitteilungen der Österr. Geograph. Gesellschaft*.
- KUSOVA D., TESITEL J., BARTOS M. 2008: Biosphere reserves – learning sites of sustainable development? *Silva Gabreta* 14(3): 221-234.
- NAGEL U. & AFFOLTER C. 2004: Umweltbildung und Bildung für eine Nachhaltige Entwicklung – Von der Wissensvermittlung zur Kompetenzförderung. *Beiträge zur Lehrerbildung* 22(1): 95-105.
- RAUCH F., JUNGMEIER, M., HÜBNER, R. & ELMENREICH W. 2016: Sustainable Development and the Dialectic of Change. Research-driven teaching to identify and handle aporetic conflicts by example of dilemmas on regional scale. Poster at: COPERNICUS Alliance Conference, Sept., 14th-15th, 2016, Vienna.
- UNESCO 1996: Biosphere Reserves – The Seville Strategy and the Statutory Framework of the World Network; [www.unesco.org](http://www.unesco.org).
- VARE P. & SCOTT W. 2007: Learning for a Change - Exploring the Relationship Between Education and Sustainable Development. *Journal of Education for Sustainable Development* 1(2): 191-198.
- ZOLLNER D., HUBER M., JUNGMEIER M., ROSSMANN D. & MAYER H. 2015: Managementplan 2015-2025 Biosphärenpark Salzburger Lungau & Kärntner Nockberge – Teil Kärntner Nockberge. Bearbeitung: E.C.O. Institut für Ökologie, Klagenfurt, 65 S. + Anhang.

## Contact

Daniel Zollner  
zollner@e-c-o.at  
E.C.O. Institut für Ökologie  
Lakeside B07 b  
9020 Klagenfurt  
Austria

Julia Falkner  
jfalkner@edu.aau.at  
Alpen-Adria-Universität Klagenfurt (AAU)  
Institut für Unterrichts- und Schulentwicklung  
Sterneckstraße 15  
9020 Klagenfurt  
Austria

Heike Egner  
Heike.Egner@aau.at  
Alpen-Adria-Universität Klagenfurt (AAU)  
Institut für Geographie und Regionalforschung  
Universitätsstraße 65-67  
9020 Klagenfurt

Michael Jungmeier  
Michael.Jungmeier@aau.at  
Alpen-Adria-Universität Klagenfurt (AAU)  
Institut für Unterrichts- und Schulentwicklung  
Sterneckstraße 15, 9020 Klagenfurt  
or  
jungmeier@e-c-o.at  
E.C.O. Institut für Ökologie