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Education for Sustainable Development in German Biosphere Reserves

Education for sustainable development is a central task for the German biosphere reserves. Their function is not only to explain the goals of sustainable development to the people living in biosphere reserves but to guide them towards changing their way of life, for example their consumer habits. Illustrated by exemplary projects, the following article portrays how the holistic approach 'learning sustainability' can be implemented through new learning forms, playing role games at school, in the 'inter-generation café' or while 'sustainably shopping' at such unusual learning sites as a market place.



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Equal opportunity and/or equitable distribution

UNESCO's decision to establish the programme 'Man and the Biosphere' (1970) and to develop biosphere reserves (1976) was, at the time, both ground-breaking and clear-sighted; the reciprocal interaction of man and nature, or rather man and the environment were the central focus. The necessity of carefully balancing the protection of nature and the use of natural resources by people was an issue, long before it became known worldwide as the vision of sustainable development after the Rio conference in 1992.

A central objective of the MAB programme from its outset and thus a task for all the biosphere reserves was to promote 'environmental education'. Each German biosphere reserve was and is obliged to work out criteria and content for educational projects and to implement them; this obligation derives from the 'framework concepts' and takes into account the particular structures of the respective region (German National Committee 1996). Thus nature studies, excursions and seminars, nature experience programmes, project days, nature trails and information centres with exhibitions offering comprehensive information are available for the population as well as for visitors. All sorts of interested parties can obtain comprehensive information on the natural resources of the area and on the objectives and tasks of biosphere reserves.

Education for sustainable development: An ambitious programme

The Seville Strategy (1995) led to extending the MAB programme's objectives: UNESCO biosphere reserves were to become model regions for sustainable development. Nature and resource conservation as well as the preservation of ecosystems should now be seen in context and weighed up against human economic interests, against establishing equal opportunity and/or equitable distribution and against preserving cultural identity for present and future generations. Education for sustainability thus becomes an ambitious programme, where ecological, economic and socio-cultural aspects should be discussed, negotiated and, finally, implemented.

This means that many educational and learning processes must be initiated in every biosphere reserve for the people who live and work there, for children and young people who grow up in the biosphere reserve – and who want to earn their living there in the long run – for visitors and tourists who have maybe only seen the 'beautiful nature' in the past but have not really thought about how it came about and what role it may play above and beyond the local level for the global situation of the earth system.

The successful advancement of a biosphere reserve depends on the extent to which the population identifies with the guiding principles of sustainable development and can be motivated to participate in shaping the biosphere

reserve. Each individual has to become aware that he or she takes responsibility for the present and future generations and for the environment with every action but also every non-action.

Not only in biosphere reserves - but perhaps more frequently there because of the enhanced awareness - people decide over and over again for or against regional and sustainably produced products at the market, at the grocery store or in restaurants. But the decision to buy and consume something specific, the choice of a mode of transport (be it bus or rail, own car or bike) or the decision to build a low-energy house hardly depend on information alone (e.g. from brochures, presentations, press articles). Decisions of this kind are usually influenced by many other factors, like motives, attitudes, knowledge levels and financial and social frameworks. We know that the results of such decision-making processes are seldom environmentally friendly, rather aimed at maximising profits in the short term, at the same time not socially viable or in other words not sustainable. Sustainable development calls for the change of a cluster of cultural and life style-specific action patterns and decision-making processes.



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The UN-Decade of Education for Sustainable Development (2005-2014) leads to grasping and appreciating the subject of education as an important (political) instrument. Thus education is propelled to a similar significance as the development of energy-efficient technologies or CO₂ reduction certificates, needed in order to achieve and to shape the global goal of sustainable development. As model regions for sustainable development, biosphere reserves are almost

obliged to point out specific possibilities and trajectories, which lead to a sustainability-oriented awareness and are suitable for motivating people towards a sustainable way of life, using the example of concrete projects. To broaden the traditional environmental education towards an 'education for sustainability', new concepts and projects are needed whereby beyond the ecological dimension, economic and socio-cultural requirements are also taken into account.

Furthermore, education for sustainability must be given a completely new significance within the functions of biosphere reserves; education and life-long learning are not only a means to an end for shaping sustainable development ('logistical' function). They are fundamental components of sustainable development, a process in which the global guiding principle of 'sustainability' is constantly newly defined and implemented by new local and regional (derived) objectives. An educational and learning process of this kind must be supported continuously and in a participatory manner by the stakeholders in a biosphere reserve in their different roles and functions, but also across generations.

Discover the future! UNESCO biosphere reserves in Germany



The Federal Ministry for the Environment has published an educational project on sustainable development, dedicated to the biosphere reserves. Entitled "Entdeckt die Zukunft!" (Discover the future! UNESCO biosphere reserves in Germany), it presents diverse topics specifically addressed to youth such as renewable energies, student companies, or sustainable forestry. The project's result is a folder with more than 20 master copy documents for the class-room, a multi-use poster and instructions for teachers. The folder has been distributed free of charge to several thousand German schools and may be downloaded (in German) from: www.bmu.de/publikationen/bildungsservice/unesco_biosphaerenreservate/doc/39838.php

Learning for sustainability: Basic principles

With the target of developing an 'alliance for learning sustainability', the UN-Decade of Education for Sustainable Development will form the basis for getting away from the frequently narrow-

Education becomes a political instrument

mindful limitation of 'education' to the context of formal educational institutions, particularly of 'school'. The focus will shift towards long-term changes in patterns of everyday behaviour (e.g. in consumption, production, mobility, building and living) and towards the underlying values, motives, future orientation, competences but also the social and physical-material contexts in which changes take place. Sustainable, but also non-sustainable behaviour patterns are not innate; they are learned and acquired from a very young age and are constantly reinforced culturally and socially. Up-bringing, education and learning are very important here, with as much attention having to be paid to relearning as to new learning.

The term 'learning for sustainability' also makes it clear that new forms of learning,

new learning sites and fields of action are required: Not only schools, nursery schools or other dedicated educational establishments are suitable as learning sites, but also many other spheres of life such as the home, the workplace, and the sports club. In biosphere reserves, information centres are not the only learning sites, but also the market place or the local crafts enterprise.

A visit to a local council meeting, to the inter-generation café or simply preparing meals can all, directly or indirectly, contribute to learning processes and to gaining skills useful for shaping sustainable development. For these more general types of learning situations, new forms of learning, new learning media and also new partners must be sought for 'teaching' purposes.

UNESCO Biosphere Reserve Upper Lausitz Heath and Pond Landscape

This biosphere reserve, northeast of Dresden, represents the largest connected pond region in Germany. The rather small area is characterised by a vast diversity of ecosystems such as ponds, moors, heathland, pinewoods and flood plains. Animals and plants to be found here are otters, wolves, the white headed eagle, cranes, wild gladioli and water lilies. This region, spanning 301 km², was designated by UNESCO in 1996.

This region has been inhabited by the Sorbs since the 6th century, today a

nationally recognised minority. These settlers have kept up their traditions and their Slavic language to this day. Carp have been kept in the ponds since the 13th century and, inter alia, bred for the Saxon court. One of the aims of the biosphere reserve is to conserve this cultural landscape and the biodiversity created over the centuries by sustainable use, so that it remains intact for future generations. That is why the administration works closely with individual fishers and farmers. In parallel, it supports the Sorb culture; an example of this is the



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extensive Sorb cultural programme regularly launched on the occasion of the spring and autumn nature markets.

Environmental education plays a major role in the work of the biosphere reserve, not only, but primarily for children and teenagers. A wide range of activities are on offer such as excursions, seminars or holiday camps arranged with different target groups in mind. 'Village children' is, for example, aimed at teenagers living in the immediate neighbourhood of the biosphere reserve.

Further information:

<http://www.biosphaerenreservat-oberlausitz.de>

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Learning for sustainability presupposes that staff involved in biosphere reserves see their task as also contributing to making their biosphere reserve into a 'learning landscape', developing new teaching and learning methods and processes. Learning for sustainability must be designed holistically in the sense that it must mirror ecological, economic and socio-cultural frameworks and interactions to make a subject or a problem tangible. Learning processes of this kind should be supported by integrated research approaches, whereby natural and social sciences interact in an interdisciplinary manner.

Learning for sustainability: Examples from German biosphere reserves

(1) Breakfast at the Rhön biosphere reserve

The initiative of the Bavarian Rhön biosphere reserve entitled 'breakfast: healthy – regional – sustainable' has already been awarded the title of 'project of the UN Decade'; this initiative pursues a number of goals. Firstly children (from year 3) learn about the groceries they consume on a daily basis; they learn about their contents and how to assess them according to their nutritional value. Secondly they find out about the groceries' regional origin or, alternatively the vast distance of the import route. Thus the children develop an understanding for the importance of consuming locally produced food and how this can contribute to climate protection and new employment in the region. Last but not least, by preparing the breakfast together and taking time to enjoy their meal, they learn the value of a harmonious family meal, rounded up with playful physical exercise. This project is a child-oriented method and a 'fun' way of bringing various dimensions of healthy eating, social (family) aspects of eating as well as a contribution to the local economy together. The action-oriented part of the initiative tells the children that to know is not sufficient.

(2) 'The forest and I' – role game in the Schorfheide-Chorin biosphere reserve

This project gives (town-) children the opportunity to get to know certain deci-

sion-making processes, which often lead to conflicts when, for example, a forest is about to be sacrificed for an 'amusement park' (i.e. a job opportunity and a tourist attraction). A number of days are spent learning about various aspects of the biosphere reserve; how it came about, which different types of forest, which biodiversity and which functions it contains. Subsequently the children are divided up into four groups for the role game of a municipal council meeting; the groups represent the positions of the investor, the building contractor, the owner of the forest land and the nature conservationist (or a nature friend from a hiking or riding club). The preparation within the groups as well as the representation of opposed viewpoints, the acceptance of other viewpoints, and negotiating compromises develop awareness for coping with difficult situations between different stakeholders, which are to do with 'sustainable decisions'. The role game also serves to convey skills like competence of participation and being able to solve conflicts without violence.

Learning sustainability focuses
on long-term changes in
patterns of everyday behaviour



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Information centre at the Rhön biosphere reserve

Photo © Lutz Möller

(3) Leisure-time groups for primary school children in the Upper Lausitz Heath and Pond Landscape biosphere reserve

This project addresses a biosphere reserve's function, however in this case unusual aspects are dealt with and brought over in an unusual way. Leisure-time groups, which have existed for a long time, consisting of 4 to 13 primary school children, get together once a week and learn about the biosphere reserve. They not only spend time talking to the project personnel, they also talk to inhabitants and residents in their various roles and positions, who in turn give the children an insight into the special features of the biosphere reserve, the history and various stories, thus providing possibilities for the children to identify with their biosphere reserve. The communication between the generations develops on both sides and leads to a feeling of belonging and, in the case of the children, possibly to a lasting bond with the region. The project staff can derive benefits for themselves since their own increased communication with the inhabitants and that of the children, leads to the philosophy of the biosphere being spread.

This casual and voluntary communication between the generations, during which

the roles of those teaching and those learning may very well interchange, leads to an interesting approach to the development of identification with the region, which can only be of advantage for a sustainable, and that means long-lasting development of the biosphere reserve.

The future of education for sustainable development in biosphere reserves

With their concept of the various zones (from the strictly protected core area, to the often traditional and carefully treated buffer zone to the transition area, where sustainable economic development is possible), biosphere reserves offer outstanding possibilities for creating learning sites and even learning landscapes. Here learning about sustainability can be made attractive, using different learning methods for different target groups every other day.

In the biosphere reserve, the village church, the environmentally friendly B&B and the market place can become learning sites just as much as the classic educational institutions (school, higher education establishment, and adult education centre). Administrative entities, craft enterprises or other

businesses can be addressed to create even further opportunities for learning. Relations to such new partners certainly need to be strengthened in future.

For the advancement of these learning landscapes outside of the traditional, formal educational institutions, it would be an advantage if approaches and their results could be assessed more than just quantitatively. This would not only benefit the World Network of Biosphere Reserves but could also aid the development of new learning cultures in other settings.

Sustainable development should be seen to be a process involving comprehensive, worldwide and permanent changes. These changes are repeatedly reflected in the specific patterns of behaviour of individuals, groups and societies, in lifestyles, patterns of production and consumption, which are directly or indirectly environmentally relevant. To shape these processes of change, many instruments (e.g. financial incentives or levies, laws and administrative rules) must be used; but just as important are education and learning.

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