

The Example of the UNESCO Biosphere Entlebuch (Switzerland)

Cultural Landscape in Conflict between Economy, Ecology, and Institutional Steering

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In Switzerland, the general approach to traditional cultural landscapes and regions is currently undergoing a double paradigm change¹. Whereas the economic value of traditional cultural landscapes and particularly traditional agrarian landscapes has been dwindling for decades, their scarcity value has been increasing because of the geographical spread of settlements, the growing urban sprawl, the intensification of agriculture, the degradation of historic landscape elements (e.g. stone walls, hay barns) and the extensification of agriculture in extreme peripheral regions. At the same time, the demand for such landscapes has been growing precisely because traditional cultural landscapes, being finely structured and sparsely settled, form a highly attractive ground for all kinds of activities, such as leisure sports. Accordingly, the interests of protection and conservation often clash head on with the interests of utilisation. Traditional cultural landscapes – and this is the first paradigm change – are increasingly rated as worth preserving because they perform such a wide variety of functions for our service-based society. They furnish an identity for the urban population, form an archive of societal change, and counterbalance our modern urban cultural landscapes.

At the same time, another paradigm change is beginning to emerge in the federal and cantonal approach to local regions. In Switzerland, regions were originally established as administrative units with a primarily executive character, but according to the new Swiss regional policy, which has been in place since 1996, they are now supposed to operate their own regional development programmes reaching far beyond the traditional aspect of infrastructure-building. In the development of their own regional concepts, they are supported by both the federal and the cantonal governments. The objective is to enable the regions to hold their own in an increasingly globalized market by implementing regional initiatives and placing an economic value on their own characteristic features.

As a peripheral rural region in the Alpine foothills between Lucerne and Bern, this double paradigm change presented

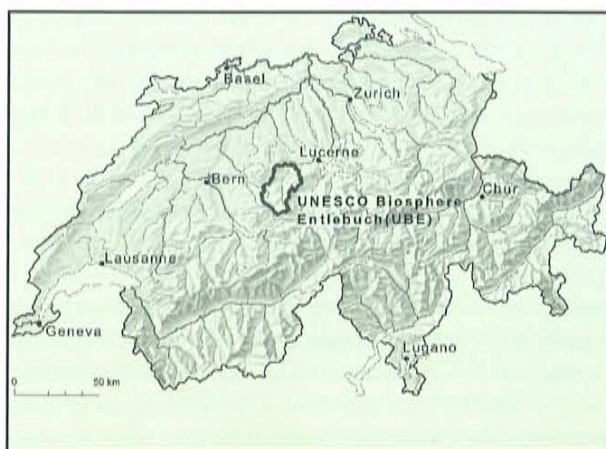


Fig. 1: Location of the UNESCO Biosphere Entlebuch in Switzerland

the Entlebuch region with an opportunity to change its orientation from the ground up (Fig. 1). Entlebuch not only seized this opportunity but developed within the few years that have elapsed after 1997 into the Swiss showpiece for regional innovation in rural areas. Ever since then, Entlebuch has been trying to amalgamate the protection and utilisation of a traditional cultural landscape with regional development², largely guided by the biosphere concept of the United Nations Educational, Scientific and Cultural Organisation (UNESCO). In 2001, Entlebuch (comprising eight political communities) was awarded the label 'UNESCO Biosphere'. In the following, the terms 'Entlebuch', 'Biosphere Entlebuch', and the official name 'UNESCO Biosphere Entlebuch' together with its acronym 'UBE' will be used synonymously.

Specifically, this paper describes how research and its environment contributed towards the current UBE protection and utilisation concept, what institutional framework conditions on the international, national, cantonal, and region-

¹ Hammer 2006: 13-29

² Cf. regional management BRE 2002

al plane influenced the protection and development concept, how a value was placed on the landscape, how the concept is perceived by both locals and visitors, and what the perspectives are for research and the region itself. In this description, we will highlight those aspects which we regard as exemplary. Pre-empting our conclusion, we may say that there is more than one context in which Entlebuch may be regarded as a good example for integrating protection and utilisation in order to preserve a valuable traditional cultural landscape in a regional context.

Research

Cultural-landscape research and the public function of landscape conservation developed independently in Switzerland. However, both sectors played a major role in the creation of large protected areas such as the UNESCO Biosphere Entlebuch (UBE): While the scientific side developed the requisite basic information, the political side provided the legal and financial framework conditions required for landscape conservation and further research.

Even in the late 19th century, resistance began to form against the massive reconstruction of the landscape that was caused by urbanisation, industrialisation, the development of railway lines and funiculars, and the large-scale drainage of low moors and valley bottoms. Activists particularly bewailed the demolition of historic buildings, celebrated as late as the middle of the 19th century as a move to liberate and open the cities: „L'une après l'autre, elles tombent pierre à pierre. Non contentes d'avoir dénoué leurs ceintures de murailles pour raison de croissance, elles s'appliquent à abattre, souvent sans motif, [...], leurs vieilles tours, leurs vieilles portes, tous les détails respectables et charmants qui rappelaient encore leur histoire. Elles dépouillent leur physionomie, leur caractère, leur expression."³ In 1905, the Swiss Heimatschutz (heritage protection) was founded after the city of Solothurn had decided to tear down part of the town's defensive ring wall. The Heimatschutz movement attracted artists, architects, and scientists of renown. The nature conservation and folklore movements separated from the Heimatschutz movement at a later date.

Research into cultural landscapes began shortly after 1900, when university chairs for anthropogeography were established. In Bern, for instance, Hermann Walser used the excellent 17th-century map of the canton of Zurich as a basis for his landscape history studies⁴. Later on, Walser concerned himself with the structure of settlements in the rural areas of Switzerland. The new maps that show the topogra-

phy of Switzerland on a scale of 1:25,000 probably played a crucial role in this because they permitted studying the landscape comprehensively and in great detail for the first time. As revised versions of these maps were published at average intervals of about ten years, it also became possible to identify and investigate changes.

In the period between the two World Wars, so-called domestic colonisation measures forged a close link between land-use intensification and landscape protection. A politician and teacher of geography and agro-economics at the Swiss Federal Institute of Technology Zurich, Hans Bernhard (1888-1942) became noted for the intensity with which he addressed the needs of agriculture and landscape protection. His plan was to create a 'domestic colonisation inventory' for all Switzerland as a basis for opening up areas suitable for agriculture, improving cultivation, and creating nature reserves. While this comprehensive basis for regional development in the rural areas was never realised, it did provide the preliminary research for the 'Swiss cultivation system of 1939-1945' which promoted agriculture to such an extent that, during the Second World War, Switzerland was the only country on the continent where potatoes and vegetables never had to be rationed and were offered at affordable prices throughout⁵.

After 1950, cultural landscapes became a key object of research at all German-speaking geographical institutes in Switzerland. In Basel, Werner Gallusser headed a research project entitled 'Cultural Landscape Changes in Switzerland' from 1970 onwards (EGLI 1988: 560), with which he intended to create an awareness of the permanent change to which our habitat is subject. He intended to institute landscape monitoring for permanent 'development observation', a process which involved mapping and surveying 21 test communities in Switzerland at intervals of ten years or so on the basis of a voluminous catalogue of characteristics. However, the project was dropped after the test areas had been surveyed once in the 1970s.

At the Department of Geography, University of Zurich, landscape history was studied intensively without, however, directly relating it to practical application in landscape conservation and planning. At the Bern Institute, on the other hand, Georges Grosjean (1921-2003) was the first to address landscape history together with landscape conservation and planning, followed by Klaus Aerni and Hans-Rudolf Egli. The 'Planning Atlas of the Canton of Bern: Historic Planning Material'⁶ provided an analysis of housing and land-use developments in conjunction with the history of the population and the economy to serve as a basis for regional planning. In various further studies conducted on behalf of the delegate for regional planning, Grosjean de-

³ Wagniere 1904, p. 78 (in: Le Dinh 1992, p. 18)

⁴ Cf. Walser 1894

⁵ Egli 1986, pp. 204-205

⁶ Grosjean 1973

veloped a matrix of spatial types for the whole of Switzerland⁷. From 1983, Klaus Aerni led the 'inventory of historic transport routes in Switzerland (IVS)' which, developed on the basis of the Swiss Nature Conservation and Heritage Protection Act, met with great international interest.

Finally and most recently, scientists from numerous disciplines investigated various issues in cultural-landscape research under the UNESCO 'Man and Biosphere' programme⁸ and the National Research Programme 48(NFP 48), 'Landscapes and Living Spaces in the Alps'⁹. These studies concentrated on the importance of multi-functional landscapes for society as well as on the integration of different landscape-management approaches. Thus, for instance, Thomas Hammer conducted the project 'Cooperation in Landscape Management – Institutional Strategies on Local and Regional Level' under NFP 48¹⁰ which yielded material of great importance for the Entlebuch as well as other biospheres.

Owing to cultural-landscape research and the efforts of individual personages, nature and heritage conservation finally began to be institutionalised at the political level from the 1960s onwards. Thus, an article on nature conservation and heritage protection¹¹ was added to the Federal Constitution in 1962, requiring the confederacy "to conserve our domestic landscapes and settlements, historic sites, and natural and cultural monuments and preserve them intact wherever the public interest appears preponderant" as part of its duties. However, the same article states that nature and heritage protection is a cantonal matter.

Later on, the Nature Conservation and Heritage Protection Act of July 1, 1966 stated precisely what federal functions are concerned with nature and heritage conservation: The planning, development, and modification of federal and cantonal plants and facilities which require a federal license or are subsidised by the confederacy. Furthermore, the same Act empowered the federal government to compile inventories of objects of national importance in collaboration with the cantonal governments. At present, the following nationwide inventories relating to the cultural landscape have either been adopted or are under preparation (Schweizerische Vereinigung für Landesplanung 1993, as amended):

- Federal inventory of landscapes and natural monuments;
- Federal inventory of Swiss townscapes meriting protection;

- Federal inventory of historic transport routes in Switzerland; and
- Swiss inventory of cultural assets of national and regional importance.

The methodologies and reference materials used as well as some of the inventories were developed either in close cooperation with universities or by university institutes¹². Besides the federal inventories mentioned above, private institutions – materially supported by public funds – developed inventories of art monuments¹³, recent Swiss architecture¹⁴, and farmhouses¹⁵. While none of these documentations has any direct legal import, they are very frequently used as reference material for assessments.

Next to the tools of nature and heritage conservation in the narrower meaning of the term, agricultural and regional-development laws and funding tools have risen to crucial importance in landscape conservation by now.

While food production enjoyed absolute priority in the era of the domestic colonisation programme (s.a.), the last three decades saw a gradual societal and political change which led to a reorientation in agricultural policy and an increased appreciation of landscape conservation. In 1976, for example, the Fifth Agricultural Report of the Federal Council named landscape conservation as another key function of agriculture next to food production: "It is the purpose of landscape conservation to avoid external social costs arising from the neglect of cultivable land and to create external social benefits as third parties enjoy the free benefit of a well-groomed landscape under cultivation"¹⁶. For the first time, the 1984 Agricultural Report mentions protecting and conserving the cultural landscape and contributing towards the protection of the environment, plants, and animals as one of the four overarching goals of Swiss agricultural policy, on par with supplying the population with high-quality healthy food at favourable prices¹⁷. The point is that the contribution made by agriculture towards the conservation and preservation of the cultural landscape was to be funded not through the price of agricultural products but through direct payments to the farms themselves. This suggestion, however, was implemented only in the 1990s.

Although it had been a subject of debate since 1969, a paradigm change proper occurred in agricultural policy only in the 1990s, when product-price subsidies were replaced by direct payments. For the first time, landscape conservation could now be financed by the state independently

⁷ Cf. Grosjean 1974

⁸ Cf. Messerli 1989

⁹ <http://www.nfp48.ch>

¹⁰ Cf. Hammer 2006

¹¹ Bundesverfassung 1874: Art. 24 sexties

¹² Knöpfli 1976; Aerni 2005

¹³ Cf. Gesellschaft für Schweizerische Kunstgeschichte 1927

¹⁴ Cf. Gesellschaft für Schweizerische Kunstgeschichte 1984

¹⁵ Cf. Schweizerische Gesellschaft für Volkskunde 1965

¹⁶ Fifth Agricultural Report 1976, pp. 175-176

¹⁷ Sixth Agricultural Report 1984, p. 243

of agricultural production: "The new social contract with agriculture aims to integrate the agrarian sector into our modern service-based society. The insight that extending the present production-based development concept endangers not only agriculture itself but also our own habitat has led to a better appreciation of the multiple functions of agriculture. One of the important items in this new service contract is the provision of attractive cultural landscapes for which the majority of the Swiss population would be willing to pay. To be sure, the demands made on the provision of cultural landscapes by the relevant societal groups (resident population, leisure population, tourists, nature and landscape conservationists, etc.) are bound to grow more stringent at the same time ... This clearly shows that the new production models for cultural landscapes will have to take both the demand and the supply side into account."¹⁸

In 2004, direct payments made to compensate public-benefit agricultural services and to reward outstanding ecological and ethological achievements amounted to no less than 70% of the total expenditures of the Federal Ministry of Agriculture. More than half, i.e. 1.3 billion Swiss Franks, was spent on subsidies with a direct impact on the landscape. At around 35% of their gross revenue, these direct payments form one of the most important sources of income for farms in the mountain regions¹⁹. Because of their importance for the management of the Alpine cultural landscape, these agropolitical funding instruments may be seen as a direct contribution towards the protection and management of Switzerland's cultural landscapes. At the same time, intensification in the valleys and extensification in the mountains continues unbroken despite the growing volume of direct payments in agriculture.

While it does accord a key role to agriculture, the Swiss landscape concept mentions cultural landscapes only in conjunction with structural-improvement measures (meliorations etc.)²⁰. Despite its ambition to integrate, the implementation of the landscape concept is largely informed by ecological considerations, hardly paying heed to the social, economic, visual, aesthetic, scientific, and didactic aspects of the cultural landscape. This being so, its capability to stem the countercurrent of intensification and extensification appears limited.

Today and in the future, agriculture plays a key role not only for cultural landscapes under extensive and ecological management but for all land that is under some form of cultivation in Switzerland, which includes modern and intensive forms of land use. Adopted on December 9, 2004, the agricultural philosophy formulated by the Federal Council's Advisory Commission on Agriculture expressly points out that the "diversity of regions and their typical characters"

should be preserved by agriculture. However, the philosophy tolerates borderline areas that are overgrown for lack of management, provided that the interests of tourism or diversity do not conflict with constitutional objectives²¹.

Past landscape, present landscape

The Entlebuch Biosphere Reserve contains relatively many historic agricultural elements and structures that have survived intact, including farmhouses and outlying hay barns, field structures that are sometimes fragmented and semi-natural elements that were created and maintained by man, such as hedgerows, clumps of trees, and drainage ditches. In addition, the character of most villages and hamlets hardly changed at all in the last few decades, so that Entlebuch conveys the overall impression of a traditional rural region in the old style. Only the quarters of single- and multi-family residential buildings that have sprung up on the fringes of the villages since the 1960s, the development of the hamlet of Sörenberg into a centre of tourism with its own ski slopes, some holiday-home estates, traffic infrastructures, and a few accumulations of industrial, commercial, and service enterprises do not conform to this picture.

There are three reasons why Entlebuch is a region with a special landscape:

- Entlebuch is one of only a few traditional agrarian regions remaining without an urban centre in Switzerland. The fact that more than one third of the working population is employed in agriculture and forestry has left its mark on the landscape as well as on the regional identity.
- Owing to the hilly and mountainous topography in a region where the low-lying areas of Switzerland merge with the Alpine foothills and the Alps themselves, agriculture never was completely mechanised, motorised, and intensified. Together with the Swiss agricultural policy, this explains the relatively high density of farmsteads, the survival of small plots, and the preservation of historic landscape elements.
- Entlebuch has a very large proportion of landscapes that are protected at the national or cantonal level. At the national level, these include Napfbergland, Schratzenflue, Flyschlandschaft Hagleren-Glaubenberg-Schlieren, and Pilatus, all objects listed in the federal inventory of landscapes and natural monuments that are situated entirely or partially in the Entlebuch region, as well as four of the ten largest moor landscapes of national importance (Glaubenberg, Habkern/Sörenberg, Hilferenpass, Klein

¹⁸ Gantner/Messerli/Vogel 1999, p. 3

¹⁹ Agricultural Report 2005, pp. 152 ff

²⁰ Landschaftskonzept Schweiz 1998: I, pp. 52ff

²¹ Beratende Kommission Landwirtschaft 2004, p. 5



Fig. 2: Habkern-Sörenberg, a moor landscape of national importance characterised by the Schratzenflue (limestone), moor forests, low and high moors, pastures, meadows, isolated farmsteads, and hay barns. Low moors developed after the trees were felled by glass factories in the 17th/18th century.

Entlen), two of which are entirely situated in Entlebuch. Nationally-protected moor landscapes alone cover more than one quarter of the Entlebuch area.

Entlebuch is particularly distinguished by the last-named aspect, the high proportion of moor landscapes. Together with the fact that most large moor landscapes of national importance are situated in the Alpine foothills between Lucerne and Lake Thun and thus in or around the Entlebuch region, this places Entlebuch firmly at the centre of all Swiss moor landscapes²². Because of this alone, the landscape of Entlebuch enjoys a status that is unique in Switzerland. From the point of view of cultural history, on the other hand, the Entlebuch Biosphere and its constituent elements are not particularly valuable compared to other Swiss regions. It contains only a few exceptional objects, such as the village centre of Escholzmatt and the pilgrimage site of Heiligkreuz, both listed in the federal inventory of townscape of national importance that merit protection, or the Flühli spa hotel, a monument of spa and health tourism during the period of rapid economic expansion at the end of the 19th century.

In Switzerland, moor landscapes are not natural landscapes but traditional cultural landscapes in a state close to nature. According to the Swiss definition, they are quasi-natural landscapes characterised by moors whose non-marshy

parts are closely related to the moors in ecological, visual, cultural, or historic terms²³. According to the Act, a moor landscape may be classified as being of particular beauty and national importance if it is the only one of its kind in Switzerland or if it ranks high in ecological, visual, cultural, or historic value in a group of comparable moor landscapes.

According to this definition, moor landscapes developed in centuries of extensive use. They include man-made features (low moors, farmhouses, roadways) as well as natural elements (high moors) (Fig. 2). A very large proportion of the original moor landscapes in Switzerland and/or their characteristic elements, such as low and high moors, were destroyed by draining, agricultural intensification, fuel extraction (peat was used for fuel well into the Second World War), and the development of infrastructures and settlements. The fact that so many important moor-landscape elements remain intact in the Alpine foothills and in Entlebuch is due to the hilly topography of the land, its unsuitability for intensive cultivation, its peripheral location far away from the urban centres, and its use by the military.

The moor landscapes of Entlebuch incorporate a variety of historic elements, especially low moors caused by deforestation, grazing, or haymaking, meadows and pastures, timber forests, roadways, farmhouses, stables, cattle shel-

²² Hammer 2003, p. 103-114; cf. von Wyl 1997

²³ Art. 23b NHG, Nature Conservation and Heritage Protection Act



Fig. 3: Outlying hay barns are important man-made elements in a moor landscape. Owing to the progress of motorisation and the enlargement of farmstead hay barns, most have not been used for some decades and are left to decay.

ters, hay barns, woodsheds, hunting cabins, raised hides, and some military installations. Many of these elements are threatened because extensive land use gradually ceased to be competitive from the 1950s/1960s onwards, and the land is accordingly underused and even overused in some instances. Land that was formerly used for agricultural purposes is increasingly overgrown by bushes and forests, a burgeoning problem. What is more, partial motorisation has eliminated the need for the hay barns that form a characteristic of the moor landscapes, so that they are no longer repaired and left to decay (Fig. 3). Lastly, certain products, such as the litter produced on the low moors, have fallen almost or entirely out of use for a variety of reasons, imported straw being used instead.

The character of the landscape and the peripheral location of the region have always played an important role in the development of its identity. Because of its topography and its general natural condition, the landscape is particularly suitable for producing milk, meat, and timber. In times of war, the region consequently enjoyed great importance as a supplier of the cities, which had its impact on its external and internal perception. Particularly in times of crisis, the Entlebuch region and its population saw themselves as valuable and equal partners in the relationship between town and country.

When the development of the economy speeded up after the Second World War, this equal relationship changed gradually until Entlebuch became entirely dependent on federal and cantonal policy. The importance of agriculture and forestry declined; there were no genuine growth sectors, the ski tourism in Sörenberg alone excepted; and only a few industrial and service enterprises moved into the region. The proportion of subsidies and price-based revenues in agriculture increased step by step until Entlebuch began to be regarded in the 1980s as the poorhouse of Switzerland, subsisting to a large extent on the transfer of funds. At the time, the modernisation of the region was actually hampered by the character of the landscape and its peripheral location.

As societal change progressed, the outside world began to appreciate the potentials of the region as a natural and cultural landscape more highly from the 1980s/1990s onwards. All over Switzerland, civil organisations intervened to protect the nature and landscape of Entlebuch, moving the region into the focus of a variety of nature- and landscape-protection interests. When the national inventories (see Chapter 1) were drawn up, large areas of Entlebuch were designated biotopes of national importance, and entire landscapes were placed under protection, forming a basis for the recognition of Entlebuch as a UNESCO Bio-

sphere Reserve in 2001. This recognition further boosted the appreciation of Entlebuch in the eyes of the general public, and the region was widely regarded with positive attention. At the same time, its self-perception underwent a certain change of focus: Rated as devoid of agricultural value after the two World Wars, moor landscapes were now increasingly seen as valuable in terms of ecology, aesthetics, and cultural history. When biotope protection was implemented in Switzerland and the orientation of the agricultural policy changed after the early 1990s, farmers suddenly found themselves at the receiving end of subsidy payments for landscape conservation. Next to food production, farmers were given the additional task of conserving and maintaining traditional cultural landscapes or, to put it differently, to produce not only goods but also services for society. This was reflected in the self-perception of at least some farmers, particularly among the younger set: Farmers and, through them, the entire biosphere reserve were now supplying services for society that were appreciated across the nation as well as abroad. Within the framework of regional development, the landscape aspect was upgraded considerably. The image of the region began to change from poorhouse to showpiece both in its external as well as in its internal perception.

Legal and institutional framework

A decisive institutional framework condition was the recognition of Entlebuch as a UNESCO Biosphere Reserve in 2001, for it obliged the governments of the confederacy, the canton of Lucerne, and the eight political communities involved to contribute jointly towards achieving the objectives of the biosphere reserve. In point of fact, this meant that the institutional regulations to protect and preserve the landscape existing at the time would continue valid and further improvements would have to be instituted to comply with the overarching goals of the UNESCO biosphere programme (Fig. 4). Furthermore, a regional management was created as an institution responsible for implementing these goals within the UBE. Since then, the UBE has been a role model for amalgamating and integrating a variety of institutional framework conditions into a master concept combining protection, utilisation, and regional development.

In the exogenic environment, two institutional innovations at the national level had a crucial impact on the creation of the biosphere reserve, namely moor-landscape protection and the so-called 'new regional policy'.

- In 1987, the people of Switzerland decided in a referendum that moor landscapes of national importance should be preserved and placed under strict protection. Consequently, the Swiss Federal Constitution was amended by a regulation which placed moors and moor landscapes of particular beauty and nationwide importance under protection, and prohibited any changes to the ground as well as the erection of facilities. Only op-

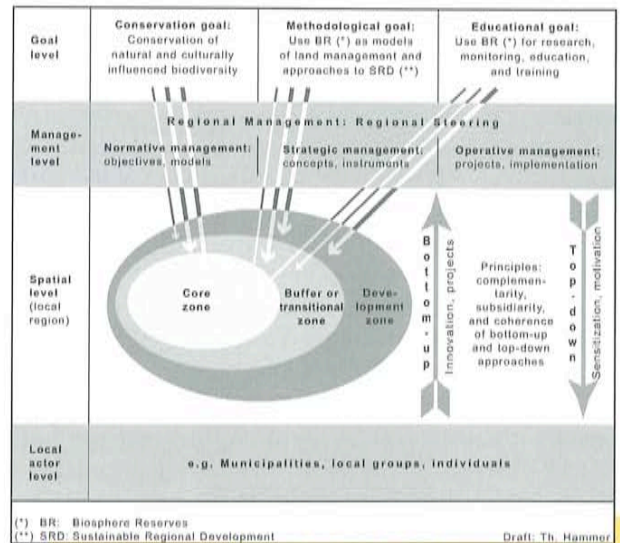


Fig. 4: Theoretical model of the UNESCO Biosphere Reserve

erations serving to protect moors and moor landscapes or to sustain their current agricultural use were excepted. The consequence of this referendum, in which the majority of voters in Entlebuch agreed to the proposition, was that more than a quarter of the Entlebuch area was placed under strict landscape protection, and around a quarter of the protected area was additionally placed under strict nature protection (biotope protection of low, intermediate, and high moors).

- After the 'new regional policy' had been launched in the middle of the 1990s – since then, the federal government has been funding not only infrastructural but also regional-innovation projects in rural regions in the mountains –, the eight communities of the future biosphere reserve submitted a project to the federal government in 1997 which involved redefining the regional development of Entlebuch on the basis of its endogenic potential. During the three-year term of the project (1998–2000), the regional management instituted for the purpose developed a concept outline for creating and building a UNESCO Biosphere Reserve in close cooperation with the population as well as with local and regional players.

After some initial resistance, which was primarily offered by agricultural circles, it was found relatively quickly that part of the population supported the idea of turning the region into a biosphere reserve, given the large number of protected landscapes and biotopes. Nevertheless, it was a great surprise when more than 94% of the voters present approved the creation and development of a biosphere reserve in a referendum conducted at village meetings. Quite obviously, the regional management instituted by the communities had succeeded in convincing the population of the potential inherent in an amalgamation of nature and landscape protection on the one hand and regional development on the other.

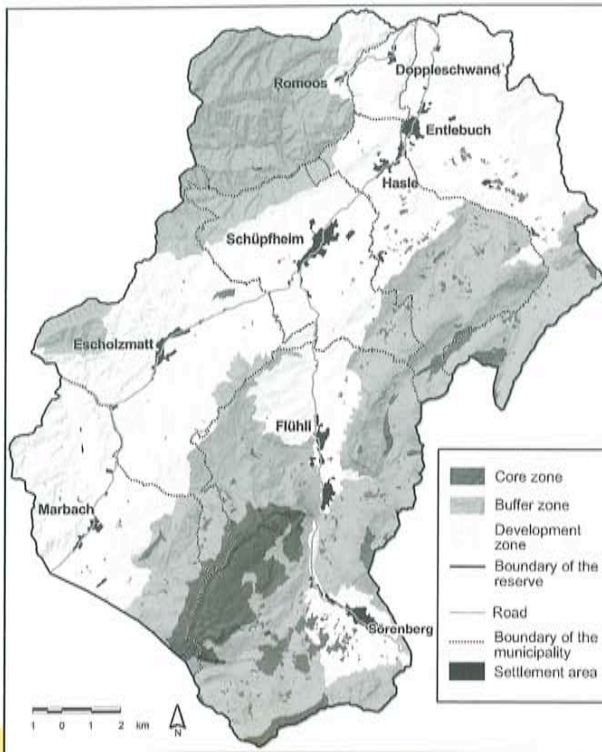


Fig. 5: Outline zoning plan of the Entlebuch Biosphere Reserve. In the core zone, nature and the landscape are strictly protected. In the buffer zone, the focus is on landscape protection and the promotion of traditional, gentle forms of land use. In the development zone, man enjoys top priority, although even here, intensive forms of land use should be ecological and conservative as far as possible.

Conversely, other institutional regulations in the exogenic environment, such as the federal inventory of protected landscapes and natural monuments (BLN), cantonal and communal landscape reserves, or the no-shooting zones established by the federal and cantonal governments played no more than a subordinate role in the creation of the UBE.

Thus, there are two decisions that should be highlighted in the endogenic institutional environment, namely the decision taken by the political communities and/or the regional planning association to develop a project application and submit it to the federal government, and second the decision to create a regional management, a novelty in Switzerland, which would be responsible for clarifying matters where necessary, developing concepts, and conducting information and sensitisation campaigns, among other things. All in all, we may say that the establishment of a biosphere reserve was initiated not only by exogenic but also by endogenic innovations.

What has meanwhile come to be called biosphere management plays a key role in harmonising the various institutional framework conditions that enable the landscape to

be protected, used, and developed. It operates on the basis of the UNESCO's international biosphere concept and the overarching goals laid down in the so-called strategy of Seville²⁴. According to their own definition, biosphere reserves aim, first, to secure the preservation of natural and cultural biodiversity; second, to develop regional-planning models and experimental spaces for sustainable regional development; and third, to conduct research, monitoring, education, and training programmes so that the region in question may serve as a role model for others.

One important factor for the preservation of the traditional cultural landscape in Entlebuch is the zoning scheme for biosphere reserves specified by UNESCO. As a minimum, a biosphere reserve must consist of a core zone and a buffer zone, supplemented wherever possible by a development zone. The whole is arranged according to the nesting principle, meaning that a core zone must always be surrounded by a buffer zone. In a core zone, the protection of nature enjoys top priority. The buffer zone affords a gentle transition from the core zone to the development zone in which major settlements and areas of intense land use are located (Fig. 5). Accordingly, the buffer zone is designed for extensive and gentle forms of cultivation and, by the same token, for the preservation of traditional cultural landscapes.

Following this logic, the UNESCO Biosphere Entlebuch was subdivided as follows: The core zone is formed by nationally-protected high moors, low moors used for haymaking, moor forests, the Schratzenflue cantonal nature reserve, and the federal no-shooting zone of Tannhorn above 1,700 metres. The buffer zone comprises all areas outside the core zone that are protected under the national moor-landscape regulation and/or the federal inventory of protected landscapes and natural monuments (BLN). The remainder of the area forms the development zone.

This subdivision into a core, a buffer, and a development zone did not entail any additional protection or utilisation regulations with a binding effect on landowners (or rather only such regulations that were irrelevant in point of fact, such as species protection above the forest limit). Nevertheless, zoning does have a controlling effect: Whereas nature and the landscape are strictly protected by law in the core zone, conservation regulations are far less strict in the buffer zone, permitting deviations from the norm. Nevertheless, landscape protection is accorded greater importance in project design, decision-making, and planning particularly in the buffer zone, not *de iure* but *de facto*, because any activities and infrastructures that might spoil the landscape belong in the development zone and not in the buffer zone according to the self-imposed rules of the biosphere. In addition, the biosphere management initiates, coordinates, or assesses a wide variety of projects that contribute either directly or indirectly towards the preservation and appropriate use of the buffer zone and, by the same token, of the traditional cultural landscape. Such projects include

²⁴ UNESCO-MAB 1996

gentle forms of tourism (an additional source of income for farmers who cultivate and maintain the landscape), marketing regional products to sustain landscape use, and training and education events (sensitisation for the cultural landscape). At the same time, these projects produce inducements for other players to suit their actions to the overarching goals of the reserve.

The zoning concept partially controls strategic decisions, project designs, and the selection of locations. Thus, for example, the decisions of the players represented on the wood and energy forum as well as those of the tourism industry are often informed by the idea of the biosphere reserve. At the regional level, the biosphere reserve concept has meanwhile even become the most important instrument of regional planning and regional development: Virtually all regional-planning decisions are influenced by the goals of the biosphere reserve.

Thus, all direct institutional inducements to create a biosphere reserve and set up regional management tools were provided by regional policy and moor-landscape protection. Besides these, legal framework conditions play an important role in the preservation of the traditional cultural landscape in Entlebuch. At the federal and cantonal level, these include agricultural policy (see Chapter 1) which provides most of the funds for conservation and gentle land use, and spatial planning policy which prescribes most of the utilisation and protection regulations that are binding for landowners. Now that these two policies have been revised and cuts in the funds available from political sources for protecting nature (e.g. conservation subsidies) appear possible, the future preservation of cultural landscapes is at risk. If no compensation should be forthcoming for the steadily increasing cost of landscape conservation, ecological management, and biotope conservation, and if building regulations in the agricultural zone should be relaxed (further), it will very likely become more difficult to achieve the goals of moor-landscape preservation.

All in all, the institutional arrangements, meaning the most important institutional regulations and players, that govern the management of the traditional cultural landscape in Entlebuch are complex indeed. At the national level, these include the Nature Conservation and Heritage Protection Act, regional policy²⁵, and agricultural policy (direct ecology payments etc.). At the cantonal level, the areas just mentioned are among the most important institutional framework conditions. Thus, cantonal legislation and cantonal policies largely follow those of the confederacy, regional projects and forms of management, for instance, being supported at that level whenever they conform to federal directives and are funded by the federal government. And at the regional level, the most important institutional arrangements include the biosphere reserve concept, the UBE responsible body, the biosphere management, and the theme forums.

Valorisation model

What gives the UNESCO Biosphere Entlebuch the character of a model is the attempt to integrate no less than two and, wherever possible, all three dimensions of sustainable regional development in the valorisation of its landscape. The intention is that a strategy, a project, or a new product should generate not only economic or socio-cultural or ecological added value but to do so in two or even all three of these dimensions of sustainability, one of the objectives being to avoid conflicts and promote synergies between different interests. The goal is to generate win-win and, wherever possible, win-win-win situations in the three dimensions of sustainable development. It is difficult to say whether this will always work out in practice. At all events, the approach is designed to ensure that potential conflicts between the objectives of the three dimensions are considered in the planning process from the start, and that an attempt is made to eliminate these conflicts as far as possible or, alternatively, to prioritise objectives as appropriate for the zone in question.

The theoretical approach of valorisation combines the model of regional cycles with the approach of sustainable regional development. The intention is to develop cycles based on endogenic regional potentials. Action chains (the social dimension) form the basis for the development of regional material flows and resource chains (the ecological dimension) and the resultant valorisation of endogenic resources. Finally, regional action and resource chains facilitate the development of value-added chains (the economic dimension), the intention being that any added value generated should be both ecological and socio-cultural wherever possible, resulting in synergies and/or win-win-win situations. Here are three examples to illustrate this:

- Wood chains: To slow down forest senescence and destabilisation as well as the regional emission of CO₂, and to preserve the tradition of forestry and wood processing, wood chains will be promoted. Forest users, sawmills, cabinet makers, and furniture dealers collaborate on creating high-quality regional wood products with a high added value (examples: biosphere tables, biosphere doors).
- Gentle tourism: Developments within the biosphere include a) a multitude of landscape, learning, cultural, and adventure trails; b) a wide choice of nature excursions guided by experts; c) nature- and landscape-oriented holiday and hotel arrangements; d) information centres; and e) 'soft' infrastructures using local materials (including a Kneipp hydrotherapy facility, barefoot trails, and board walks) for locals as well as tourists. Based on cooperation among a wide variety of players, these offerings aim at improving the quality of life in Entlebuch, awakening the visitors' interest in nature, the cultural landscape and, more generally, the objec-

²⁵ RegioPlus Programme etc.

tives of the biosphere reserve, enhancing the utilisation of existing infrastructures, promoting year-round tourism, and increasing the revenues of the tourist industry (Fig. 6).

- Labelling of local quality products: A wide variety of goods and services (agricultural products, caterers, wood products, etc.) may be awarded labels bearing the logo 'Echt Entlebuch' (genuine Entlebuch product) provided they meet a set of strict criteria. The intention is not only to ensure product quality but also to promote trans-sectoral cooperation, the regional and traditional use of resources and land, and marketing (Fig. 7).

All these projects are designed to encourage traditional and gentle land uses and the preservation of the landscape and the habitat. In view of the peripheral situation of Entlebuch and its rural and agricultural structure, the region's development strategy deliberately relies not on industrialisation nor on attracting high-tech companies and international service providers but on developing and

modernising the region's own forms of land, landscape, and resource use.

Whereas the valorisation of the traditional cultural landscape in Entlebuch may well serve as a model for other regions, there is no mature and consistent overall concept for presenting the landscape to the general public. There is no particular emphasis on the moor landscapes that characterise Entlebuch and give it a unique position among the regions of Switzerland, although they might well be used to demonstrate the attractiveness of the region to the outer world. In the long run, it would make sense to emphasise the value of these cultural landscapes more than before, making Entlebuch the first mover to do justice to the great importance of moor landscapes.

Instead, external marketing efforts so far focussed on presenting Entlebuch as a wild and even alpine natural landscape, the objective being to attract international tourists visiting the city of Lucerne. Internally, on the other hand, the focus is on village – not moor – landscapes. There is

Fig. 6: The Seelensteg (soul trail) as part of the cultural, strength, and forest-experience centre of Heiligkreuz: The impact of the soul trail is supposed to extend to all three dimensions of sustainable regional development, namely the socio-cultural (sensitisation of visitors for the regional culture and nature), the ecological (forest protection instead of exploitation), and the economic dimension (improving revenues from tourism at the Heiligkreuz spa).





Fig. 7: Labelling of regional products – the biosphere cheese example: The objective is to assure product quality as well as to improve the marketing of regional products and, consequently, the income of the producers.

a hitherto-untapped future potential here – the option of presenting and marketing moor landscapes as traditional cultural landscapes that are attractive in many ways.

Local population and visitors

The local population is involved in landscape valorisation and regional development in more ways than one. People may a) use all the offers described above for their own benefit; b) attend theme forums and actively contribute to them; c) participate in existing projects or propose new projects; d) join the support association; or e) confine themselves to obtaining information about activities, offers, and projects from sources like the biosphere journal. Viewed from the outside, the way in which the forums that are open to all are actively supported is exemplary. Jointly moderated by local players and the biosphere management, the theme forums (energy, mobility, wood, tourism, art and culture, agriculture, nature and landscape) represent germ cells from which projects originate. Even though only a small part of the population actively contributes towards them, everyone may participate.

Given the manifold opportunities for involvement that were available ever since the creation of the biosphere reserve began, lack of participation never was a big issue. Even the question about the extent to which the biosphere reserve was accepted by the population was debated only briefly before the referendum in the communities. Those who wish to get involved may choose from a wide range of options and take advantage of expert knowhow. This, however, calls for a certain amount of initiative which only a small part of the population is prepared to invest. Most projects are largely uncontroversial, probably because people have so many opportunities to get involved – if they so wish.

Impacts on the population and the region can be identified in all three dimensions of sustainable regional development. Hypothetically, we may say the following:

- In the economic dimension, various individual players were able to increase their revenues (e.g. sellers of regional quality products and players in tourism). However, the direct impact on the regional economy appears modest overall. While the indirect effects (e.g. improvements in the image and marketing of the region as well as in the

quality of life) are probably several times as powerful as the direct impact, they are difficult to quantify.

- The direct effect on the ecology and the preservation of the landscape is similarly slight. Once again, however, the indirect impacts are probably several times as strong: New projects as well as revisions of concepts and regional plans are generally informed by the overarching goals of the reserve, so that political activities are steered in the direction of ecology and landscape conservation.
- The socio-cultural dimension of regional development offers the largest benefit. Local people may a) take advantage of all kinds of offers (e.g. excursions, training courses); b) participate and develop their own projects in various forums; c) form networks with other players; d) get involved in the future vision of the biosphere; and e) contribute towards the development of the regional identity, thus building a foundation on which regional-economic projects may develop and mature to full effect.

All in all, there are many and varied indications that the identity of the region is developing both in its internal and its external perception. Internally, more and more people proudly defend the reorientation of their region as a biosphere reserve while external perceptions are changing in parallel: Whereas Entlebuch used to be seen by the Swiss public as one of the poorest and most conservative regions in Switzerland – which it still is in point of fact –, it is now, after the creation of the biosphere reserve, increasingly represented as an innovative region with the character of a role model. This transformation might eventually lead to an increase in the importance of indirect effects on the regional economy as well as to the development of new dynamisms regarding the influx of families and service providers, regional product innovations, and gentle tourism.

Present results and perspectives

As far as the moor landscapes are concerned, it is their preservation much more than their protection that is in question. While landscape protection is assured, this does not imply in the least that the moor landscapes together with their natural and cultural elements will in fact be preserved. For the traditional forms of use and/or the supporting measures designed to preserve the various elements of the landscape are under threat. Especially the ongoing decline in the number of agricultural workers leads to further extensification in the use and conservation of moor landscapes, a development that might be enhanced if the subsidies for agriculture and nature and landscape protection should decline further. Even more importantly, there are no national or regional programmes that are dedicated not only to protecting but also to conserving historical buildings, infrastructures, and forms of use.

The experience in Entlebuch suggests that the following aspects of managing the protection and conservation of tra-

ditional cultural landscapes might serve as models in the future:

- Institutionalisation of regional management: Acting on behalf of the political communities, the regional management cooperates closely with local and regional players as well as with the population. Thus, the various objectives of conservation and protection, which by themselves constitute static and predetermined targets, may be continuously considered in the dynamic process of regional development and integrated in the development of individual projects. As a result, target-conformable new forms of use, particularly gentle tourism, may be promoted which, in turn, contributes towards the preservation of traditional landscapes.
- Integrative valorisation of the cultural landscape within the concept of sustainable regional development: Combined with the normative concept of sustainable regional development, the regional-cycle approach enables the players involved to suit their activities and innovations to the demands of regional development and to contribute towards the proper utilisation and conservation of endogenic resources which, in Entlebuch, include its moor landscapes.
- Creation of inventories of protected landscapes of national importance on the national level: Pursued in Switzerland since the 1970s, the strategy of systematically designating and inventorying landscapes that merit protection at the federal level in close cooperation with the cantons has produced a general survey of valuable landscapes in the various regions. This, in turn, enables local and regional players to identify any landscapes of supra-regional importance and launch dedicated management procedures.
- Strict separation of nature and landscape protection competences between the federal and cantonal governments: The federal government provides the legal and regulatory framework that enables the generation of systematic inventories of objects of national importance as well as the provision of funds for any measures that may be necessary. However, the responsibility for nature and landscape protection rests with the cantonal governments which, on their part, collaborate closely with the communities in defining related overarching objectives and implementing them in their legislation. This serves to involve players at the diverse levels of administration in the effort to achieve related targets.

Again based on the Entlebuch experience, the following items may be identified as weak points or problems proper in the management of traditional landscapes:

- From the regional point of view, the scope left to Entlebuch as well as the other regions of Switzerland in the management of traditional cultural landscapes is relatively restricted. In its agricultural, nature and landscape, and regional-planning legislation, the federal government provides major guiding rails that control the management of traditional landscapes of national

importance. The cantonal governments, on their part, allow themselves to be guided by federal policies in their landscape-related subsidies. Thus, regional administrations can only use whatever scope of action is granted them from above, but they have neither ample funds nor decision-making competences of their own to protect and preserve their landscapes.

- As landscape protection is not necessarily synonymous with preservation, efforts in research and politics should concentrate more on issues relating to landscape preservation. To preserve landscapes instead of merely protecting them, concrete preservation and development targets will have to be formulated, and steps will have to be taken to implement them. As the Entlebuch example shows, the protection of the natural and cultural elements of the moor landscapes is indeed assured, but not their preservation. As a general rule, the conservation of historic buildings in particular requires a major effort.
- While the process by which the cultural landscape of Entlebuch was valorised integratively is exemplary, the process failed for, of all things, the moor landscapes, for which the Entlebuch could claim a kind of monopoly. This indicates that in Switzerland, the traditional landscapes that form part of the character of a region could be valorised much more, and that the awareness of that possibility is not widespread as yet.

This being so, the conclusions to be drawn from the Entlebuch experience are these: Research should focus its attention more than hitherto on the question of how landscapes rated as meriting protection but threatened by utilisation might be preserved through new, gentle forms of use. To achieve this purpose, precise knowledge about the natural and cultural elements of each landscape must be gathered to permit the development of concrete alternative methods of use, maintenance, and conservation. At the same time, research should focus more on those institutional framework conditions that contribute towards the conservation of protected landscapes. And last but not least, research might advise the regions from its external point of view about the selection and integrative valorisation of traditional landscapes.

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landmarks

profiling europe's historic landscapes



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