Part IX
Regional Development Dynamics in the Swiss Alps

33 Sustainable Development and Nature Protection in the Swiss Alps: Finding the Balance
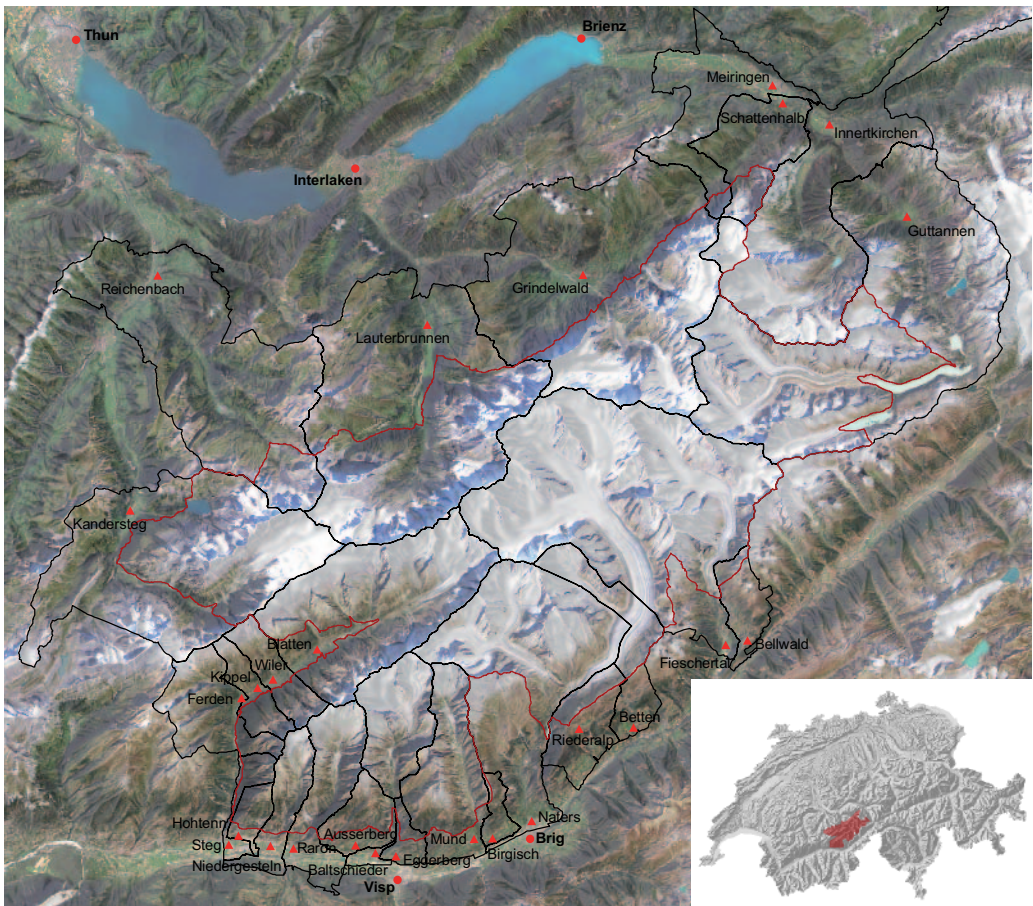
Astrid Wallner[1]

33.1 Introduction

The Alps are the highest and largest mountain system in Europe. In Switzerland, they cover 60% of the country's area. However, only 20% of the Swiss population live in the Alps. Nevertheless, the mountains contribute much to Switzerland's identity. Even though the country's main economic activities are concentrated in the lowlands, the Swiss Alps are more than just a peripheral area: they provide historic examples of problematic interactions involving human development and the environment (Bätzing 2003). The interplay of economic issues with cultural values has been a central factor in the development of the Swiss Alps, where agriculture, forestry, tourism and trade are the mainstays of local livelihoods today. Agrarian mountain cultures and adapted land-use systems have played a key role in creating and maintaining diversity and uniqueness in the Alps (Liechti and Wiesmann 2004). The Alps served as important bridges between major European centres, and transalpine trade had a fundamental influence on the development of the Alps. However, at the beginning of the 19th century, the Alps were heavily affected by structural changes due to the industrial revolution. They began to lose their supplementary position in European agricultural production, and marginalisation and impoverishment spread throughout many mountain areas. Subsequently, the Alps became a peripheral region in a rapidly developing Europe. In the mid-19th century tourism emerged as a new form of use of Alpine landscapes. In some parts of the Alps this development counterbalanced the marginalisation of traditional mountain agriculture, and sub-centres of economic development emerged. In this highland–lowland context, the Swiss Alps today constitute a peripheral, sensitive and valuable area within a global core region of economic development and globalisation.

Multifaceted demands on land use as well as continuously changing economic and social structures and processes led to increased change in mountain landscapes (Baumgart 2005). In the 1980s, a research project on "Socio-Economic Development and Ecological Capacity in Mountain Regions"
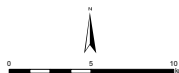
was started in the Swiss Alps within the framework of the Man and the Biosphere (MAB) Programme of the United Nations Educational, Scientific and Cultural Organisation (UNESCO). The guiding questions were the carrying capacity of a region and the balance between the ecosystem and human activities (Messerli and Messerli 1978). This integrated view of mountain regions as areas of production, recreation and protection formed a basis for discussions regarding inscription of the Jungfrau-Aletsch region on the UNESCO World Heritage List (Figure 1; Liechti et al, accepted).

Fig. 1
Focus area of the Joint Area of Case Studies (JACS) Swiss Alps (ALP). (Map by Centre for Development and Environment)

Today, researchers of the Swiss National Centre of Competence in Research (NCCR) North-South in the Joint Area of Case Studies (JACS)[2] Swiss Alps (ALP) can draw on the experience of integrated and interdisciplinary research gained in this MAB project. The core research questions in the JACS ALP relate to the balance between endogenous and exogenous driving forces and the potential to foster sustainable regional development. Close collaboration with the Swiss Alps Jungfrau-Aletsch UNESCO World Heritage Site – which was formally established in 2001 – allowed the JACS ALP to contribute to the development of integrated management of this World Heritage Site (WHS) and its surrounding contexts. Therefore, the research scope of the JACS ALP has incorporated issues relating to the challenge of preserving the delicate natural environment of high mountain areas and to simultaneously balancing the interests of conservation and development in the region (Figure 2).

The JACS ALP research focus on issues relating to the Swiss Alps Jungfrau-Aletsch WHS shaped the selection of themes for this synthesis. The underlying research questions within these selected themes were the following:

– Discussions on conservation and development of a region relate to both global and local dynamics and interests. How can these be balanced in order to pursue sustainable regional development?

Fig. 2
Sheep farming is part of the traditional agricultural use of the Alpine region and is still practised today, even though its economic significance is low.
(Photo by Karina Liechti)

– A process of socio-political negotiations is decisive in order to make sustainability meaningful, explicit and operational. In such negotiations, the involved actors construct their own individual 'realities', ascribing meanings to the issues under consideration. How decisive are these different meanings in the negotiation of pathways to sustainable regional development?

– Finding pathways to sustainable regional development – where conservation does not impede development – is a complex societal problem that requires the integration of actors from the world of science and from the life-world. This situation sets the frame for transdisciplinary research. What are the potentials and limitations of transdisciplinary approaches?

The three selected themes, 1) *Sustainable Regional Development*, 2) *Meanings of Conservation and Nature*, and 3) *Conservation and Development*, complement each other and together constitute an exemplary approach to analysis of the dynamics of regional development in the Swiss Alps.

33.2   Main research outputs

33.2.1   Sustainable regional development

The Swiss Alps Jungfrau-Aletsch WHS and its surrounding region extend over an area of 1629 km^2, encompassing territory in the cantons of Bern and Valais, in five planning regions, and in 26 communes. The political and administrative environment of the Swiss Alps Jungfrau-Aletsch WHS consists of a federal system on three levels: the communal, the cantonal and the federal (Hammer 2007; see Figure 1 in Chapter 34 on p 536 of the present volume). Due to this institutional complexity, responsibility for the different economic sectors and activities related to the WHS is shared by a multitude of administrative units. For example, the primary sector (agriculture and forestry) is managed at the federal level. The national policy of agricultural subsidies has a basic impact on the region but is barely influenced by regional actors. At the same time, there is a tendency towards more regional cooperation in linking agricultural and ecological needs for the benefit of cultural landscapes. Policies in this area are mainly in the hands of the cantons. Analysis of this institutional complexity has shown that division of responsibilities among different administrative levels has impacts on coordination and cooperation in practice (Hoppler and Strässle 2007). Moreover, it also leads to 'non-negotiable' situations at the local level, such as is

the case, for example, for ecological standards – an issue that is discussed and decided upon at the federal level and in which local actors hardly have a say (Wallner et al 2008).

Next to institutional complexity, there is also a disciplinary complexity inherent in the Swiss Alps Jungfrau-Aletsch WHS region. This region encompasses a glaciated high-alpine area and also links two major hubs of regional economic development: the highly developed tourist region in the eastern Bernese Oberland to the north, and the upper part of the main valley of the Valais to the south, where remote traditional agriculture was superseded by industrial and tourism development during the second half of the 20th century (Wiesmann et al 2005). In order to provide a comprehensive overview of the disciplinary complexity of the region, various baseline studies on diverse topics, including geology, hydrology, glaciology and biology, as well as on regional development, tourism and management were carried out (Wallner et al 2007). The results are highly relevant, as they laid the groundwork for long-term monitoring in the WHS region.

33.2.2   Negotiating conservation

A multi-stakeholder participatory process was launched in order to negotiate overall goals, specific objectives and concrete projects related to the Swiss Alps Jungfrau-Aletsch WHS. This methodology had been used in a similar setting in the remote Tajik Pamir Mountains (Breu et al 2005) and was adapted and enhanced for the Swiss context. Analysis of this process revealed eight different pathways to development and conservation, thereby contributing to the discussion of local and global stakes relevant to the issue of sustainable regional development (Aerni 2005; Wiesmann et al 2005; Wallner et al 2008). In order to achieve sustainable regional development, it is necessary to actively involve all relevant stakeholders. However, each of these actors involved have their own particular ideas about the meaning of regional development and how the Swiss Alps Jungfrau-Aletsch WHS can contribute to it. These different meanings play a decisive role when it comes to negotiating pathways to sustainable regional development. Therefore, it is important not only to assess which local and global dynamics are relevant for the development of a region, but also to appraise the existing different meanings of development that influence the negotiations (see Chapters 34 and 35 in the present volume, respectively). These assessments are crucial when it comes to the elaboration of a management plan that must have the support of the stakeholders concerned.

Wiesmann et al (2005) showed that different visions and perceptions of nature and landscape are an underlying current in the debate on the development of the Jungfrau-Aletsch region. These different visions and perceptions influence the positions taken in negotiations. Liechti (2008) has addressed this issue, and her research helped to improve understanding of how the ecological dimension becomes manifest in negotiations of sustainable regional development, how meanings associated with an issue under negotiation are constructed, and whose ascribed meanings are decisive in shaping a concrete way forward. The results indicate that several distinct, but interrelated dimensions – process, history, identity, existence, and power – contribute to the construction of meaningful spaces. On the one hand, consideration of these dimensions has the potential to foster improved understanding of actor perspectives in interactions. On the other hand, it can be useful in understanding, setting up or supporting negotiation processes for sustainable regional development.

33.2.3   Mutual learning

The multi-stakeholder participatory process chosen represents a chance to integrate knowledge from society at large into the realm of science. This integration, linking the scientific world with other parts of society, constitutes the focus of transdisciplinary research (Wiesmann et al 2008). Analysis of the multi-stakeholder participatory process carried out in the Swiss Alps Jungfrau-Aletsch WHS region (Wiesmann et al 2005; Wallner et al 2008; Wallner and Wiesmann 2009) showed that participatory processes hold great potential for striking a balance between conservation and development, thereby contributing to mutual learning processes between various stakeholder groups from the scientific community and society at large. However, there are also limitations to these processes, due mainly to the fact that there is always an inherent power play between the stakeholders involved in such processes (see Chapter 36 in the present volume). Nevertheless, the multi-stakeholder participatory process in the Swiss Alps Jungfrau-Aletsch WHS region supported social learning processes that led to a partial shift from strategic to communicative action through the creation of appropriate social spaces, and thereby confirmed the results of an analysis of similar participatory planning processes in other countries (Rist et al 2006). The fact that the creation of social spaces is essential for social learning processes has been further confirmed by the findings of Schneider et al (2009).

33.3   Outlook

A region such as the Swiss Alps Jungfrau-Aletsch WHS or the Swiss Alps in general is never an isolated nucleus. On the contrary, such regions are greatly influenced by local as well as national and global developments. The influence of developments at various scales will be the focus of further NCCR North-South research in the Swiss Alps.

The issue of striking a balance between conservation and regional development is a persistent one in the Swiss Alps. The multi-stakeholder participatory process in the region of the Swiss Alps Jungfrau-Aletsch WHS has helped to address various conflicting issues and raise awareness of differing views among and also within the involved stakeholder groups. However, mutual understanding has not yet solved conflicts. How can persistent conflicts at the regional level be tackled, and which concessions have to be made by the different stakeholder groups in order to overcome the main conflicting issues?

Fig. 3
The glacial lake at the Lower Grindelwald Glacier in May 2009. From a great distance the lake looks rather small. However, there is potential danger in the possibility that the natural dam could break and cause a flood in the river valley. (Photo by Astrid Wallner)

Fig. 4
Researchers from
Mali and Kyr-
gyzstan interview-
ing a sheep farmer
in the Lötschental,
Switzerland.
(Photo by Karina
Liechti)

Another important issue is continuous structural change in the agricultural sector as a result of national and international agricultural politics and their interconnection with international trade agreements. This poses a challenge to the cultural landscape as we know it today, at the regional level. The close interrelationship between the traditional agricultural landscape and the contrasting high-alpine natural landscape is the centre of attraction in the Alpine region. However, recent changes in agricultural policies are influencing land use, and in some areas this can lead to re-wilding of former agricultural land. Will this development lead to a loss of attraction?

At the same time, global phenomena such as climate change are posing a challenge to Alpine tourist regions through rising snow lines owing to higher temperatures. Snow security is important for Alpine skiing areas if they hope to continue to attract as many tourists as they have so far. Furthermore, climate change can lead to an increase in natural hazards such as rock slides triggered by the melting of permafrost. This has implications for the security of hiking trails, for example, but also – as in the case of the glacial lake at the bottom of the Lower Grindelwald Glacier (Figure 3; Swissinfo 2009) – for the security of villages, their inhabitants, and tourists. How can a region that has devoted itself to pursuing pathways to sustainable regional development handle such challenges arising at the local level, but in many cases also at the national and international levels? Research on these issues in the Alpine region can be linked to similar issues in other regions and thereby foster new collaboration among researchers from the North and the South (Figure 4).

Endnotes

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[2] The NCCR North-South is based on research partnerships with researchers and research institutions in the South and East. These partnership regions are called JACS (Joint Areas of Case Studies). Regional Coordination Offices (RCOs) were established in each of these JACS at the outset of the programme. The original function of the RCOs was to coordinate research; in the third phase of the programme, they will become hubs for generating new research projects and partnerships. The JACS Swiss Alps is the only JACS that is not located in the global South or East; it served as a basis for transferring approaches from South to North and vice versa and studying the outcomes of this exchange.

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34 Sustainable Regional Development: Reconciling Global and Local Dynamics and Stakes in the Swiss Alps

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Abstract

This article explores how global and local dynamics and stakes can be brought together when trying to combine conservation and regional development. For this purpose we analyse a series of studies carried out in the area of the Swiss Alps Jungfrau-Aletsch UNESCO World Heritage Site (WHS). The approaches used in these studies to analyse the diversity and development of the region included data collection and evaluation of indicators such as population development, number of working places, occupation rates in various economic sectors and commuter balance, as well as interviews with key informants and assessment of existing planning tools. The major challenge of the newly declared World Heritage Region is that it is neither a political or administrative nor a cultural unit but constitutes a completely new type of space that breaks up and crosses traditional boundaries. The studies revealed an economic tertiarisation process and migration of the population from remote areas to regional centres. Tourism was identified as the key economic sector in the region. Regarding regional sustainability, the studies identified a need for quality dialogue and negotiation of interests and stakes. It was shown that in dealing with sustainability at the local level, many key issues cannot be resolved on the ground, as they depend on regional or national decisions, e.g. the conditions for tourism promotion in the region or economic validation of agricultural activity. We conclude from these findings that national or even international factors do not provide a basis for location-specific solutions, as they are often too general, and that the global label does not ensure sustainability in a designated WHS region; this depends entirely on local and regional dynamics.

Keywords: World Heritage Site; protected area; sustainable regional development; management; negotiation; Switzerland; Swiss Alps.

34.1   Introduction

34.1.1   From the Brundtland Report to the Johannesburg Declaration

High intentions prevailed when the idea of 'sustainable development' found its way into the global policy debate on future development in 1992 at the Rio Conference (Earth Summit), based on the Brundtland Report entitled "Our Common Future" (WCED 1987). The Brundtland Report argued that environment and development are inseparable; the environment is where we live, and development is what we do in attempting to improve our well-being in the world in which we live. The Brundtland Commission defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987). Meeting human needs and reducing hunger and poverty, while also trying to maintain the planet's life support systems, ultimately requires a change in fundamental human values, attitudes, and behaviour (Leiserowitz et al 2005). Consequently, the concept of sustainable development calls for a global agenda for change (WCED 1987).

With Agenda 21 (United Nations 1992), the United Nations implemented consensus among the participating states at the Rio Conference on a global action programme for sustainable development. The standard definition of sustainable development was expanded at the 2002 World Summit on Sustainable Development (United Nations 2006), when the three dimensions of sustainability – the economic, socio-cultural and ecological – were broadly recognised. The Johannesburg Declaration (United Nations 2004) that resulted from the Summit expressed consensus on the three dimensions of sustainable development, their interplay, and the levels of their implementation as "a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development: economic development, social development and environmental protection – at the local, national, regional and global levels" (United Nations 2004; see also Kates et al 2005). Since then, many policies, plans and tools have been designed to promote sustainable development; nevertheless, sustainable development is "not yet integral to the machinery of government or business, or people's daily lives" (Bass 2007, p 1).

34.1.2 Translating sustainability into context

The term 'sustainable development' has been subjected to a wide range of interpretations (Kates et al 2005) and is very controversial when it comes to concrete application (Liechti 2008). Sustainability is a normative concept concerned with target values, which always reflect a standard established by society (Wiesmann 1998). As a normative concept, sustainability can only be defined in practical contexts (Kates et al 2005). Sustainable *regional* development is thus a more contextualised form of sustainability (Liechti 2008).

The question of which individuals or which societies establish target values is of great importance in contextualising sustainability and finding the best strategies for achieving it (Wiesmann 1998). Regarding the interplay of the three dimensions of sustainability with a view to fostering sustainable development, the challenge is to find a balance between the target values for ecological, socio-economic and socio-cultural interests. Even though the concept of sustainability was originally rooted in environmental concerns, its socio-economic and socio-cultural dimensions tend to overrule ecological considerations (Wiesmann and Messerli 2007; Liechti 2008). However, development at the local, regional, national or global levels is sustainable only if, as a minimum condition, there is no long-term depreciation in any of the values used to evaluate socio-economic, socio-cultural or ecological sustainability (Wiesmann 1998). The interrelations outlined in this first section are further explored below based on analysis of various studies of a concrete case – the Swiss Alps Jungfrau-Aletsch UNESCO World Heritage Site (WHS).

34.2 The Jungfrau-Aletsch region

34.2.1 From conservation negotiations to regional development

In 2001, 15 communes in the Jungfrau-Aletsch region signed the Charter of Konkordiaplatz, "testifying to their willingness to support the sustainable future development of this World Heritage Region" by preserving the region and its diversity for both present and future generations and aiming to promote sustainable development of the region's economy, community, and ecology (Jungfrau-Aletsch-Bietschhorn World Heritage Association 2005a). The original signatories were joined by 11 additional communes

in 2005, when the WHS was expanded to cover a larger area. The discussions leading up to the decision to sign the Charter originated in negotiations on inscription of the Jungfrau-Aletsch area on the UNESCO World Heritage List.[4] Based on international scientific debate, and linking conservation goals to development issues, the local WHS Management Centre launched an extensive participatory process in 2003 to "negotiate and prioritise overall goals, specific objectives, necessary measures, and concrete projects for the region" (Wiesmann et al 2005; see also Hoppler et al 2008).

The Jungfrau-Aletsch region is an example of how international acknowledgement benefits sustainable regional development. We analyse this example in the present article, focusing on how local and global dynamics and stakes can be brought together when trying to combine conservation and regional development. For this purpose we review the findings of a series of studies carried out in the area of the Swiss Alps Jungfrau-Aletsch WHS regarding sustainable regional development (Wiesmann 2003; Wiesmann and Liechti 2004; Aerni 2005; Wiesmann et al 2005; Aerni et al 2007; Hoppler and Strässle 2007; Wiesmann et al 2007a; Wiesmann et al 2007b; Hoppler et al 2008).

34.2.2   Glaciated areas and traditional Alpine agriculture in the Jungfrau-Aletsch region

The Jungfrau-Aletsch site in the Swiss Alps, with an area of 824 km^2, corresponding to approximately 2% of the total area of Switzerland (41,293 km^2), was declared a UNESCO World Natural Heritage Site in 2001. Universal significance was attributed to the site because of its glaciations, its status as a source of geological data and a witness to climate change, its extraordinarily beautiful landscape, and its great ecological and cultural diversity. Although the WHS consists mainly of natural high-mountain landscape – 85% of its area is situated above an altitude of 2000 m and 88% is covered by unproductive vegetation or altogether vegetation-free – the outstanding characteristic of the region is close proximity of glaciated areas and traditional Alpine agriculture. The Swiss Alps Jungfrau-Aletsch WHS, together with the surrounding and contrasting cultural landscape, thus constitutes a multifunctional space that is both a natural area and an important residential and economic space. This was taken account of in the planning process for the WHS by including not only the 824 km^2 designated as the actual Swiss Alps Jungfrau-Aletsch WHS, but the entire territory of the communes participating in the WHS. This entire territory is referred to as the Swiss Alps Jungfrau-Aletsch World Heritage (WH) Region.

### 34.2.3   The complexity of the Jungfrau-Aletsch region

The key challenge in the Swiss Alps Jungfrau-Aletsch WH Region lies in the fact that it is neither a political or administrative nor a cultural unit, but constitutes a completely new type of space. The Swiss Alps Jungfrau-Aletsch WHS straddles the boundary between the 2 cantons of Bern and Valais, includes 5 planning regions, and covers areas in 26 communes (Figure 1). Communes enjoy a high degree of autonomy within the Swiss political and administrative environment, which consists of a federal system comprising communal, cantonal and federal levels that share official responsibilities in accordance with the cantonal and federal constitutions (Hoppler et al 2008; Wallner et al 2008). The regional planning associations are a result of the 1974 Federal Law on Investment Assistance in Mountain Regions (*Bundesgesetz über Investitionshilfe für Berggebiete*), which was designed to foster investment in infrastructure and thereby enhance living conditions in mountainous areas (Hoppler and Strässle 2007; Wallner et al 2008).

The WH Region is thus situated in a politically and administratively highly complex setting. In addition, complexity also characterises the historically shaped cultural landscape:

> *Due to its transboundary position (straddling the border between two cantons […]), the WHS is related to two major hubs of regional economic development: the highly developed tourist region in the eastern Bernese Oberland to the north, and the upper part of the main valley of Valais, where remote traditional agriculture was superseded by industrial and tourism development during the second half of the 20th century, to the south.* (Wiesmann et al 2005)

94.4% of the area inside the WHS perimeter is under national landscape protection. 41% of the area has at least one additional, overriding protection status, for example that of a biotope of national importance, a cantonal or a communal nature reserve, a federal hunting reserve, or others. Inscription on the World Heritage List does not override national legislation (UNESCO 1972). However, in accordance with the relevant UNESCO Convention, the World Heritage Site label commits the Swiss Confederation to maintain existing protection of the area and to establish a management scheme for the site.

Given the complexity of the WH Region, decision-making on economic and natural space will always remain a challenge. Thus continuous processes of coordination among the various stakeholders will be of great importance.
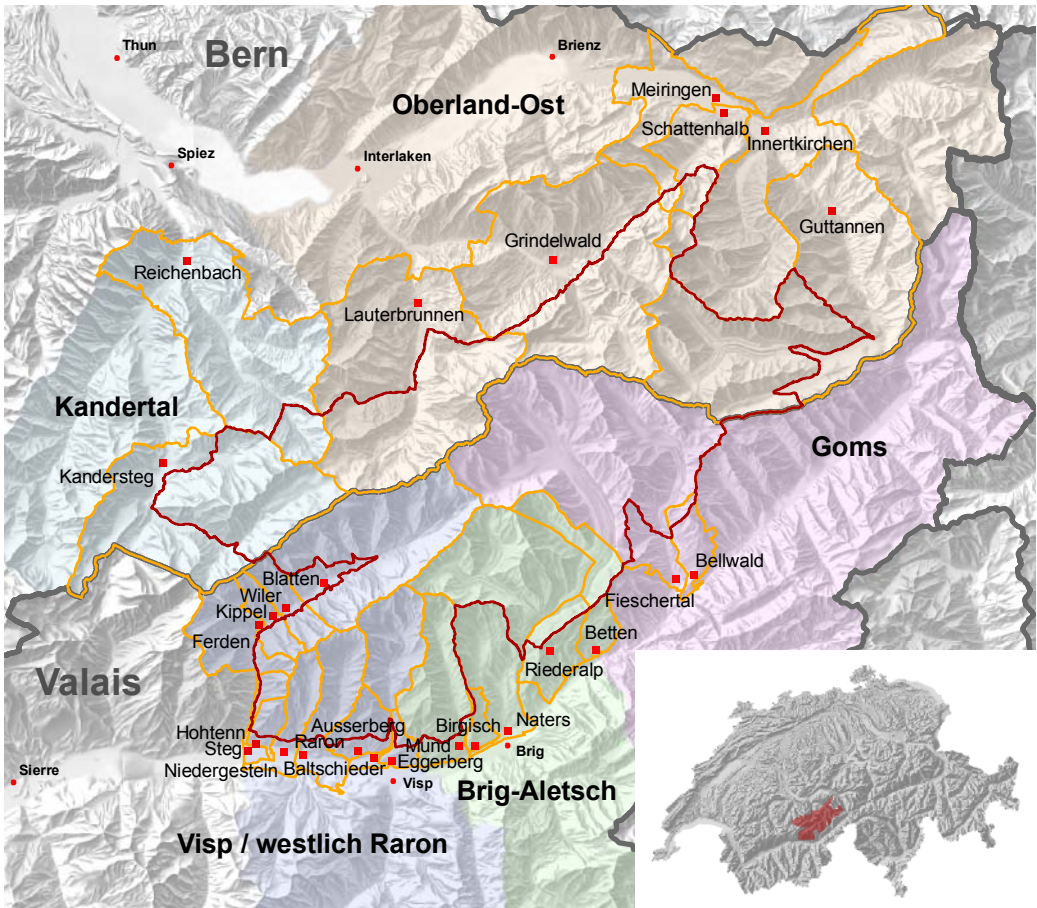
Map key:

- ■ Centre of associated commune
- • Centre of commune with more than 2000 inhabitants
- Perimeter of the World Heritage Site
- Border of associated commune
- Cantonal borders

Sources of data:
National borders, lakes: GG25 © 2002
    Swiss Federal Office of Topography (DV002213)
Main centre in communes: SWISSNAMES © 2004
    Swiss Federal Office of Topography (DV012687.1)
Perimeter of the World Heritage Site, 2005,
    Swiss Agency for the Environment, Forests and Landscape
Relief: PK100 © 1998 and PK500 © 1999,
    Swiss Federal Office of Topography (DV 351.5)

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Map compilation and cartography:
Centre for Development and Environment (CDE), Institute of Geography, University of Bern, in cooperation
with the Swiss Alps Jungfrau-Aletsch World Heritage Site Association, Naters, 12.2008

Political setting of the World Heritage Region

Regional Planning Associations:

Canton of Bern:

- Kandertal
- Oberland-Ost

Canton of Valais:

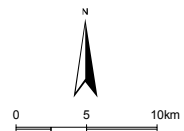- Visp / westlich Raron
- Brig-Aletsch
- Goms

Fig. 1

Map of the Swiss Alps Jungfrau-Aletsch World Heritage Site and the surrounding region (World Heritage Region)
showing the WHS perimeter, communal borders, planning regions, cantonal borders, land use, and the region's
location in Switzerland. (Map by Centre for Development and Environment)

34.3 Global and local dynamics and stakes in the Jungfrau-Aletsch region

In the following we reflect on the findings of the various studies undertaken in the Swiss Alps Jungfrau-Aletsch WH Region in order to discuss how global and local stakes have been influencing regional development. The approaches used in these studies to analyse the diversity and development of the region included data collection, evaluation of indicators such as population development, number of working places, rates of occupation in the various economic sectors, and the commuter balance, as well as interviews with key informants and assessment of existing planning tools. Re-examination of these studies revealed a number of salient dynamics that pose challenges in the region.

Tertiarisation: The tertiary sector gained in importance from 1985 until 2001 and became central to the economy of the region (Aerni et al 2007). Tourism, with its up- and downstream industries, is now by far the dominant sector (Wiesmann et al 2007a). This has helped to profile the region for a broad clientele beyond its boundaries, intensified interaction with outside visitors, life concepts and ideas, and fostered economic turnover and value added. The result, and the respective price of this transformation, has been accelerated infrastructure development, e.g. housing development (and cable car construction), loss of certain local livelihood opportunities in traditional economic domains such as mountain agriculture, and interference with previously less frequented natural landscapes.

Concentration and peripherisation: With respect to migration, tertiarisation of the economy leads to concentration of settlements and economic activity in regional centres and communes close to these centres, and to a relative decline in activity in remoter areas (Aerni et al 2007). Concentration of settlements in the WH Region is found largely along its border, where most of the regional centres are located. Settlements that function as regional centres are becoming key providers of employment. With the exception of the places frequented by tourists, residential and economic spaces are increasingly becoming segregated. The growing mobility of the population further increases the possibility of spatial separation of living and working places. To keep economically weaker places attractive as living space in the future, it will be necessary to maintain basic provision of services and living quality in these areas (Aerni et al 2007).

Dominance of tourism: Over the last two centuries, tourism has become the key economic sector in the Jungfrau-Aletsch region. The motivations for travelling to this Alpine region were manifold and included scientific interest, the search for romance, nativeness and recreation, as well as the feeling of liberty inspired by the landscape. Alpinism and pioneer tourism emerged, culminating in modern forms of tourism such as skiing, snowboarding, hang-gliding, and others. The Jungfrau-Aletsch region today is also a very important destination for summer and winter alpinism, alpine hiking, and other forms of nature-based tourism. The tourism sector has always been subject to change. Times of immense, often uncontrolled growth have alternated with drastic declines. The development of tourism is closely linked to prevailing economic conditions at the global, national, regional and local levels. With growing internationalisation, the tourism market is increasingly responding to external factors such as changing market preferences, exchange rate fluctuations, and economic recession. In earlier times, crises in other regions of the world might have increased the risk of travel, while today most of all larger-scale economic activities and currency fluctuations influence international tourism flow to Europe and, correspondingly, expensive Alpine holiday places. Despite growing internationalisation and uncertainty in the tourism sector, the chances of the region maintaining its independence and authenticity are still regarded as good; if economic fluctuations and shifts in ideals can be anticipated, the region could remain attractive for tourism for longer periods (Wiesmann et al 2007a). Tourism is a source of income in the more remote areas of the WHS region and thus counterbalances depopulation processes taking place there. The studies synthesised here, as well as stakeholder interactions, suggest, however, that agriculture does not benefit proportionately from the economic value added generated by tourism (Hoppler et al 2008).

Natural landscapes and traditional agriculture: Dialogue between the various stakeholders suggests that risks due to the effects of global, regional and local change faced by the cultural landscapes in the WH Region must be assessed as greater than those facing the natural landscapes inside the perimeter of the WHS (Wiesmann and Liechti 2004; Wallner et al 2008). Currently, about 15% of the area under investigation is forested, and this area is continually expanding (Wallner et al 2008). When agricultural land is abandoned in cultural areas, it quickly turns into fallow or forested land mostly closed off to future agriculture. But as diversified smallholder mountain agriculture is the underlying success factor responsible for the attractiveness of the region – in addition to its natural treasures – a decrease in

the number of people working in the agricultural sector, and the consequent decrease in ecosystem services, could have negative impacts on the tourism sector. Tertiarisation of the economy and agrarian policies that are not conducive to smallholder mountain agriculture have been among the main factors responsible for this development. The WHS is an area designated for conservation for future generations. The subtle balance in the WH Region between conserved natural areas, extensive agriculture and tourism constitutes a fragile system of mutual dependence.

Identity and responsibility: The WHS has generated value added for the participating communes in terms of identity and shared responsibility for a unique natural landscape hosting multiple and diverse expressions of socio-cultural and economic activities among its resident population (Wiesmann and Liechti 2004; Wiesmann et al 2005). Designation as a WHS has provided an internationally acknowledged label for a shared landscape as a common asset for regional development. Moreover, several sub-regions were linked together through a joint participatory assessment of issues and potentials which resulted in a Management Plan for the Swiss Alps Jungfrau-Aletsch World Heritage Region (Jungfrau-Aletsch-Bietschhorn World Heritage Association 2005b).

34.4   Discussion and conclusions

Based on a global dynamics – global discourse on protected areas – a negotiation process is taking place at the regional/local level on sustainable development in the area of the Jungfrau-Aletsch WHS. The WHS can be understood as a spatial unit only by its confines as a WHS. Global sustainability standards require a socio-political negotiation process in the WHS region that contextualises the concept of sustainability in the form of sustainable regional development.

Today the term 'sustainability' is widely used by governments, international organisations, and an increasing number of business and civil society groups. But to date, sixteen years after the Rio Conference, development remains far from sustainable. Broadening negotiations on the conservation of the region to include the issue of actively protecting the natural landscape without hindering economic development in the region has made sustainability concrete in the Swiss Alps Jungfrau-Aletsch WH Region in ecological, economic and socio-cultural terms. Traditional and local approaches

might hold the key to future achievement of sustainable development on the ground, but the concept will also be constructed globally, creating shared public goods. In a nutshell, the concept of sustainable development deals with global dynamics and at the same time seeks concretisation and contextualisation in a local framework, thereby also addressing local dynamics. This complements Hammer's (2001) observations that the processes of globalisation, regionalisation and localisation are mutually dependent. All these processes induce change. The driving forces behind them respond to transformation processes in the agricultural and industrial sectors, as well as to the recreational and tourism behaviour of human populations at all regional and global levels.

The global WHS label requires that the beauty of the natural landscape of the Jungfrau-Aletsch region be conserved. Agriculture plays a central role in the conservation of both natural and cultural landscapes. However, as a result of structural transformation in the region, which shows a shift from agriculture to tourism, the continuous maintenance of landscape by agriculture is no longer ensured. As the cultural landscape is very important for the attractiveness of the region as a whole, it must be consciously maintained and managed. This task cannot be left to farmers alone. Current Swiss regional development policy in mountain regions includes the concepts of both conservation and development. The core of this policy is the 1974 Federal Law on Investment Assistance in Mountain Regions, designed to promote economic investments in mountain regions. At the time this law was passed, the ultimate goal was basic provision of services for the local population. Today, Swiss regional policy has been transformed into a more holistic vision of promoting infrastructure for development, and the attractiveness of sites for entrepreneurial activity as well as tourism.

However, global policy changes in transportation, agriculture, energy and development of settlements are more decisive factors in regional development today than the modest public resources made available through the country-wide regional policy. For example, the World Trade Organisation (WTO) negotiations on trade liberalisation have put tremendous pressure on the heavily protected Swiss agricultural sector; liberalisation of public procurement has hit small enterprises in rural areas hard; and rejection of membership in the European Economic Community (EEC) in 1992 by Swiss voters forced the Swiss government to adopt a policy of small steps towards integration. Enforced liberalisation of agricultural markets led to loss of income which was increasingly compensated by payments for environmen-

tal services. This major policy shift is the guarantor of multifunctional agricultural activity in mountain areas by way of maintaining the cultural landscape, which in turn guarantees attractiveness of the environment as a key asset for tourism (Thierstein 2000). Very recent global dynamics, such as rising fuel prices and the consequences of the incomplete WTO negotiations on agricultural trade, may put the functioning of the balanced local system of nature-based income generation and tourism at further risk. Therefore, the question arises of what will happen to the Swiss Alps Jungfrau-Aletsch WHS when its surrounding areas are modified under national and international pressure. Mountain agriculture today can hardly exist without income from non-agricultural employment. Tourism, as the main economic sector in the region, will play an increasingly important role as a source of income.

No data currently exist to support or disprove the expectations of some stakeholders that the global label of a UNESCO World Heritage Site will bring additional tourism to a region. Doubts persist whether tourism can be a sufficient motor to drive regional development, and who will profit. Benefit-sharing of tourism-based value added with the local agricultural sector requires re-thinking strategies and value chains of goods, as well as valuation of ecosystem services provided by local farming communities. Value added generated by farmers must be adequately validated in relation to maintenance and care of the natural and cultural landscapes as a source of capital for local tourism. Heavy dependence on tourism constitutes an elevated risk in terms of exposure to market fluctuations (Wiesmann 2003). This should be mitigated in combination with domestic tourist markets and alternative livelihood opportunities for the local population. Specific studies would be needed to identify an optimal mix of mass tourism, alternative forms of tourism, and local niche markets in other sectors. Such studies should focus on questions such as: How can specific forms of sustainable and nature-oriented tourism be consolidated?

The regional WHS Charter of Konkordiaplatz greatly motivated the development of an endogenous vision among the population in the region of the Swiss Alps Jungfrau-Aletsch WHS. The necessary dialogue between the various stakeholders (administration, communities, political officials, commerce and industry, development and conservation institutions) was initiated by their affiliation in the new unit of the globally designated WHS. However, agreements reached in the participatory process have a largely informal character and cut across the existing regional planning instruments and planning frameworks in place at federal, cantonal and local levels

(Wiesmann et al 2005). The dynamics generated by the broad-based participatory process have yet to be translated into committed steps of action in the framework of formal planning instruments. It remains to be seen if the globally declared WHS region can act as a long-term vehicle for endogenous direction of sustainable regional development.

Sustainability calls for quality dialogue and negotiation of interests. In dealing with sustainability at the local level, however, many key issues cannot be resolved on the ground, as they depend on regional or national decisions, e.g. the conditions for promoting tourism in a region, or economic validation of agricultural activity. At the same time, national or even international factors do not provide for location-specific solutions; they are often too general. Decision spaces remain within the reach of local actors. We conclude that the global label does not automatically ensure sustainability of a designated WHS region; it is important to have a global frame, but regional and local sustainability depends entirely on local and regional dynamics.

Endnotes

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[4] Declaration of a UNESCO World Heritage Site: The World Heritage Convention (UNESCO 1972) defines the kinds of sites which can be considered for inscription on the list, and sets out the duties of the parties. Based on the Convention, the Budapest Declaration on World Heritage accordingly defines that states that are parties to the Convention will "seek to ensure an appropriate and equitable balance between conservation, sustainability and development, so that World Heritage properties can be protected through appropriate activities contributing to the social and economic development and the quality of life of our communities" (UNESCO 2002).

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35   Negotiating Conservation: The Construction of Meaningful Spaces in a World Heritage Debate

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Abstract

According to their personal experience, social background and resultant degree of affectedness, people have certain ideas about the meaning of a World Heritage Site (WHS): What can be expected from it? What relation can and should one have to it? Dealing with potentially different meaningful spaces is decisive when it comes to negotiating pathways to the sustainable development of a WHS region. The multiple realities that exist in a pluralistic world must be taken seriously and addressed adequately. The present article describes how the Jungfrau-Aletsch-Bietschhorn WHS was socially constructed by exploring visual and verbal representations of the WHS during the local decision-making process preceding inscription (1998–2001). The results demonstrate that in visual representations (images) the WHS was to a large extent idealised as an unspoiled natural environment. Such a picture-book-like image has no direct link to the population's daily needs or their questions and anxieties about the consequences of a WHS label. By contrast, verbal representations (articles, letters to the editor, and comments) were dominated by issues concerning the economic development of the region, fears of disappropriation, and different views of nature. While visual and verbal representations differ significantly, their combination may have contributed to the final decision by a majority of the people concerned to support the application for inscription of the Jungfrau-Aletsch-Bietschhorn region in the World Heritage List of the United Nations Educational, Scientific and Cultural Organisation (UNESCO).

Keywords: World Heritage Site; decision-making processes; meaningful spaces; sustainable regional development; Swiss Alps.

35.1   Introduction

World Heritage Sites, according to the World Heritage Convention of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) (UNESCO 1972), are considered as sites of outstanding universal value from the points of view of science, aesthetics, and conservation. In the case of the Jungfrau-Aletsch-Bietschhorn World Heritage Site[3] in the Swiss Alps, this outstanding universal value is related to its classic glacial features, its geological records, its alpine and sub-alpine habitats with great diversity of wildlife and excellent examples of plant succession, and its impressive vista that has played an important role in European tourism, literature, and art (UNESCO World Heritage Centre 2003). These values are said to be of the highest importance to the international community as a whole (UNESCO 2005, Art. 49; see also Art. 77) and must be preserved for coming generations.[4] But who is this international community? Who defines outstanding universal value? And, most importantly, is this value also reflected at the local scale?

In the present article, we demonstrate that in the process of negotiating about a World Heritage Site (WHS), people construct their own individual 'realities', ascribing meanings to the issues under consideration, and thus, in a spatial sense, they construct their own individual meaningful spaces. According to their personal experience, social background and the result-ant degree of affectedness, people have certain ideas about the meaning of a WHS, for example: What can be expected from it? What relation can and should one have to it? Thus, to put it simply, the Jungfrau-Aletsch-Biet-schhorn WHS does not represent the same values for a local livestock herder as it does for a glaciologist or a winter sports tourist. By exploring how the region was represented in the local press during the decision-making process (visual and verbal representations), we identified what meanings the persons concerned ascribed to the Jungfrau-Aletsch-Bietschhorn WHS, how the WHS was socially constructed, and thus how it became a mean-ingful space to the actors involved. We point out that the existence (and handling) of these different meaningful spaces is decisive when it comes to negotiating pathways to the sustainable development of a WHS region. The multiple realities that exist in a pluralistic world must be taken seriously and addressed adequately.

35.2   Theoretical background

The research presented here takes a social-constructivist perspective (Berger and Luckmann 1966), advancing the view that meaning is not inherent to objects but ascribed (Werlen 2000, p 307). The primary emphasis of social constructivism is on looking into the question of how we interpret and represent our environment – implying a refusal to take the environment as a given that can only be depicted in one specific way – and on seeking to understand how environmental claims are created, legitimated, and contested (Hannigan 1995, p 3; Rydin 2003, p 16). A constructivist perspective does not deny the existence of the material world.

> *However, it is not the material world which conveys meaning: it is the language system or whatever system we are using to represent our concepts. It is social actors who use the conceptual systems of their culture and linguistic and other representational systems to construct meaning, to make the world meaningful and to communicate about the world meaningfully to others.* (Hall 1997, p 25)

Incorporated meanings structure the way actors interact with their environment. Only through the attribution of meanings do 'things' really become things. In the context of the present article, this means that the World Heritage Site cannot be experienced directly, but only through the lenses of internalised meanings. Subject to our personal and social background and hence our degree of affectedness, and in our interactions with other people and the environment, we make the WHS a meaningful space. Or in the words of Jäger (2001, p 42): "[…] all meaningful reality is existent for us because we make it meaningful or because it has been allocated some meaning by our ancestors or neighbours and is still important to us." Meaningful spaces can be merely individual constructions, but usually they are conventionalised and shared collectively among the members of certain social groups.

Meanings are shaped and reshaped in a complex process of internalisation, storing and recollection of experiences. As humans are not in a position to witness the endless variety of matters of concern with their own eyes, the media play a crucial role in the construction of meaning. Even though Luhmann's statement that "whatever we know about our society, or indeed about the world in which we live, we know through the mass media" (Luhmann 2000, p 1) is exaggerated in regional contexts, the media not only make different perspectives and meanings visible, but also contribute significantly

to creating 'realities'. The way meaningful spaces became visible and were constructed by the media in the case of the Jungfrau-Aletsch-Bietschhorn WHS is further elaborated below.

35.3   The Swiss Alps – meaningful spaces in historical perspective and current debate

The Swiss Alps are a famous example of changing 'realities': Whereas in the 18th century the Alps were seen as gruesome and ugly, a place to avoid, a century later Thomas Cook was successfully organising cheap trips to the Alps for British tourists. The horrible Alps had changed to an attractive and inviting landscape, a sublime place which was a 'must see'. The people inhabiting the Alps were romanticised as happy mountaineers, leading a modest life in harmony with their environment. Representing an antipode to inhospitable cities, the Alps were regarded as the embodiment of an idyllic rural life. This view of the Alps as a pristine and mostly unspoiled natural space neglected age-long efforts to cultivate the environment. In the 20th century, this idealised and romanticised view, spread through tourism brochures, posters and postcards, became a commonplace among the broad public (Stremlow 1998).

The state of the art of research on (different) views of the Swiss Alpine space was recently surveyed by Backhaus et al (2007). As a result, these authors derived a landscape model consisting of four poles, where 'nature' and 'culture' mark the polarities of one axis, while 'individual' and 'society' mark the poles of the intersecting axis. They locate six dimensions of landscape within the 4-pole model: corporeal/sensory, aesthetic, identificatory, political, economic, and ecological (Backhaus et al 2008). The dimensions can be seen as foci that people (or academic disciplines) adopt when dealing with landscape. For instance, research focusing on the ecological dimension of a landscape is concerned with natural-scientific issues such as biodiversity. On the other hand, research located in the aesthetic dimension emphasises the value attributed to beauty or to personal pleasure. Both views offer meanings that complement each other and should thus be correlated in a democratic dialogue. An effort to combine the aesthetic with the economic dimension is exemplified in the work of Baumgart (2005): By applying discrete-choice experiments, she aimed to translate the 'meanings' of landscape transformations, or rather the value of the aesthetic dimension of landscapes, into monetary terms. She showed that a development project is more likely to be supported if it fits the traditional patterns of Alpine landscapes.

The 'outstanding universal values' of the Jungfrau-Aletsch-Bietschhorn WHS – when they are related to the landscape model above – are explicitly linked to the ecological, aesthetic and identificatory dimensions (see introduction). In the concrete local context, however, as is shown below, other dimensions contributed to the construction of meaningful spaces as well.

35.4 Methods

The present analysis focuses on the four years prior to the declaration of the Jungfrau-Aletsch-Bietschhorn region as a WHS in 2001, the key time frame during which negotiations on World Heritage candidature took place. It is based on press coverage of the Jungfrau-Aletsch-Bietschhorn WHS in the *Walliser Bote*, the most important daily newspaper in the Oberwallis (the German-speaking part of the Canton of Valais), which has a print run of about 27,000 and reaches 85% of the region's households (WEMF AG 2004). Two types of data were analysed: visual representations (72 press photos of the WHS) and verbal representations (122 press articles on the WHS).

Spatial appropriation categories were applied to the visual representation data. These categories were developed in a procedure that moved back and forth between theoretical considerations, empirical use of the provisional categories, and the image material (for a detailed description, see Müller and Backhaus 2007). For the categorisation of images, the main distinction was made between pictures that depict 'unspoiled natural environment' and those showing 'traces of cultural appropriation' (i.e. artefacts or activities). Pictures in the second category were further differentiated in several sub-categories. This analysis resulted in an overview of the visually communicated type of spatial appropriation that resembles an 'area statistic' for the specific region – not, however, of its 'real' space, but of its pictorial representation in the *Walliser Bote*.

The verbal representations were analysed using content analysis methodology in general (according to Mayring 2004) and 'summarising content analysis' in particular. This procedure makes it possible to reduce the material in such a way that the essential contents are preserved, but the text is shortened to a manageable length (Mayring 2004, p 268). The result of the analysis is an overview of the issues most prominently discussed in the *Walliser Bote*.

35.5   Results and discussion

35.5.1   Visual representation of the Jungfrau-Aletsch-Bietschhorn WHS

The results regarding the visual representations show that during the period of examination the *Walliser Bote* presented the WHS to a large extent as an unspoiled natural environment. 21.6% of the visual image surface area shows no cultural activities or artefacts at all (Figure 1, "natural environment"). Regarding the 78.4% that falls under the category of "cultural space", 14.3% of the visual image surface area portrays the WHS as a "harmonic space", i.e. as an idyllic, museum-like space, with no evidence of concrete land use. The category of "experiential space in general" is the largest category (24.8%). Pictures in this category depict the WHS predominantly

Fig. 1
The image of the Jungfrau-Aletsch-Bietschhorn World Heritage Site as presented in the *Walliser Bote* between 21 February 1998 and 13 December 2001. (Graph by Urs Müller, photos courtesy of *Walliser Bote*)

as a space for experiencing nature ("nature experiencing space") and enjoying grandiose views ("viewing space"); fun-sport activities are not shown. The high percentage of the category "space of identification" is due largely to pictures of opinion leaders supporting the WHS candidature. Finally, the category "space of symbols" embraces graphic illustrations such as maps of the WHS perimeter. Images focusing directly on economic or residential appropriations ("living space"/"production space") are insignificant.

If we analyse the 78.4% of the image surface area showing "cultural space" more closely, the impression of the WHS being portrayed as a natural landscape almost devoid of people becomes more striking. More than half of the image surface area for "cultural space" is dedicated to pictures showing cultural appropriation with a natural background (Müller 2007, p 247). Furthermore, the most famous landscape component of the WHS, the Great Aletsch Glacier, dominates visual communication. More than half of the pictures (37 of 72) present the iconic view of the glacier, highly staged for aesthetic appeal and reminiscent of a promotion calendar.

In summary, the visual portrait of the WHS drawn by the *Walliser Bote*, the most important regional source of information, had no direct link to the population's daily needs. Questions and anxieties about the consequences of a WHS label and the commitment to sustainable development prevalent among the population concerned were not taken into account. Instead, the potential WHS was depicted in a way similar to how it would be shown in a touristy promotion brochure, addressing the assumed values of target groups outside the region. This kind of visual communication met with criticism from some of the regional inhabitants. People fearing heteronomy complained that instead of providing information, the media and promoters of the WHS tried to 'persuade' the population by appealing to their emotions. Rather than being convinced by a picture-book-like presentation, people wanted to know the benefits and the costs of a WHS label.

35.5.2 Verbal representation of the Jungfrau-Aletsch-Bietschhorn WHS

The verbal representations show some similarity to the visual representations in terms of associating the WHS with a place of outstanding beauty. The natural features of the region are valued positively above all because of their aesthetic appeal. "This unique landscape is formed by wind, cold, sun and the powerful flow of the glacier. Fauna and flora cover this landscape in

every season so that it bristles with beauty" (*Walliser Bote*, letter to the editor, 9 March 2000; see Walliser Bote 2000b; this and the following citations from the *Walliser Bote* were translated into English by Karina Liechti). In this realm, the media debate concurs with the international view and the universal values crucial for inscription in the World Heritage List. Other natural features, such as the value of biodiversity, plant succession, or glacier morphology, although represented in the pictures, were rarely elaborated in more detail in the articles.

Apart from the above-mentioned similarities to the visual representations with regard to aesthetics, the verbal representations show a different and more differentiated pattern that reflects debates on how to deal with the picture-book-like WHS. In contrast to visual representation, verbal discussion was dominated by issues concerning the region's economic development. Discussion thus focused on how to deal with the WHS's 'outstanding beauty', thereby anchoring the aesthetic images. Two conflicting lines of argumentation were identified. One associated the WHS with economic loss due to its potential to impede infrastructural expansion. Applying an economic interpretation of sustainable development was justified in the following terms: "It is our uppermost duty to keep options for [infrastructural] extension open in order to provide a secure livelihood for future generations" (*Walliser Bote*, general article, 2 April 1998; see Walliser Bote 1998b). The other line of argumentation described the WHS as having the potential to enhance economic and mainly touristic development. The WHS was presented as a means to bring more tourists to the region: "Inscription of the region in the World Heritage List would spur a big international marketing campaign that we could never pay for by ourselves" (*Walliser Bote*, general article, 26 March 1998; see Walliser Bote 1998a). The disputes in this discussion were related to a major debate regarding the level and the status of protection required for the WHS. While some people – mainly with backgrounds in conservation – emphasised the need for enhanced nature protection and saw the WHS as a means of advancing this purpose, others – mainly opponents of the WHS – associated the WHS with attempts by outsiders to deprive local inhabitants of their right to determine the development of their region on their own: "Never should we allow foreign organisations, people from Paris, Bern […] to decide what we have to do and how we do things in our mountains" (*Walliser Bote*, letter to the editor, 7 March 2000; see Walliser Bote 2000a).

A general look at the verbal representations reveals that the understanding of sustainable regional development was the most controversial aspect of the debate. Even though both the proponents and the opponents of the WHS focused on sustainability as the main objective – in terms of the care of future generations – the means of achieving this objective were highly contested (for further information, see Liechti et al, accepted).

35.5.3   Combining the visual and the verbal

While visual and verbal representations differ significantly to a large extent, their combination may have contributed to the final decision of the majority of people concerned to support the application for inscription of the Jungfrau-Aletsch-Bietschhorn region in the World Heritage List. The prominence of economic arguments and narratives about intergenerational responsibility in the verbal representations, and their combination with the aesthetic appeal of the natural environment in the visual representations, may have built a common meaningful space for one part of the population. However, other parts of the population attributed completely different meanings to the WHS; this was shown, for instance, in the discussion of protection and spatial deprivation (see above). Thus distinct meaningful spaces were created. The related contested views, prominent in the run-up to the candidature, remained an issue in negotiations after the inscription of the region in the World Heritage List in 2001. This became most prominently visible in the course of a participatory process (Figure 2) that involved the local population as well as various organisations (for more information, see Wiesmann et al 2005).

35.6   Conclusions and open questions

35.6.1   Practical considerations

As mentioned above, World Heritage Sites are considered sites of outstanding universal value from the points of view of science, aesthetics, and conservation. From the constructivist perspective taken here, WHSs are social constructions that reflect the values and power relations prevailing at the time of their implementation. Thus, the declaration raises the question of who defines what as worthy of protection, and for which reasons. WHSs have been created against the will of the people directly concerned – particularly in countries of the so-called developing world. Such heteronomy

Fig. 2
Negotiating the
World Heritage
Site. (Photo courte-
sy of *Jungfrau
Zeitung*, 2005)

is not possible in the Swiss context (Wiesmann and Liechti 2004). Here, a WHS must evolve in a participatory bottom-up process, or a potential candidature must be backed by proof of strong support among the people concerned. Hence, promoters of a WHS candidature are confronted with the question of how (at least the majority of) local people can be motivated to take part in World Heritage or sustainability initiatives. Referring only to the aforementioned 'universal values' of a scientific, aesthetic or conservationist nature is unlikely to bring success. Such values are too abstract and too meaningless for local people, as they do not have enough in common with local people's lives. Even worse: Presenting the WHS as an aesthetically staged, picture-book-like natural space could even provoke opposition, as it suggests conservation of 'outstanding values' as the only aim of a WHS – disregarding existing (sustainable) uses of the region. However, since the Budapest Declaration of 2002, WHSs have had to strike a balance between conservation and development, "so that World Heritage properties can be protected through appropriate activities contributing to the social and economic development and the quality of life of our community" (UNESCO

2002). Achievement of sustainable development is closely associated with the participation of all actors. One-dimensional communication that aims only to affect people emotionally (for instance, with both shocking and idealised 'picturesque' images) can lead to polarisation within a population and hence to obstruction of the participatory process. Comprehending different constructions of 'reality' and different meaningful spaces, and taking them seriously, is thus an important precondition for sustainable development (Liechti 2008).

35.6.2   Theoretical considerations

From the applied social-constructivist perspective, spatial classifications such as the labelling of a region as a WHS are not rooted in the nature of things but rather in people's socio-culturally determined interests. Thus, to put it bluntly, people's conceptions of the world tell us more about the needs, values and beliefs of those striving to make some sense of reality than about 'reality' itself (Graeser 2000, p 298). Nevertheless, in addition to a methodological problem (see below), we also want to raise a theoretical shortcoming of the purely social-constructivist perspective.

While it is certainly beyond dispute that statements about 'reality' are historically and socio-culturally constituted and thus contingent, the other side of the coin is not taken seriously enough. While, for instance, the values a region has to offer that could qualify it as a WHS are a social construction, whether a region corresponds to such values or not is obviously no pure construction. A region without glaciers cannot strive for the label of 'containing Europe's largest glacier' as the Jungfrau-Aletsch-Bietschhorn WHS did. But how can the bio-physical basis be incorporated into theories of social construction without plunging into naive realism (Escobar 1999, p 3)? How, for instance, can we deal with 'nature' from a constructivist perspective without offering support to the dangerous position that 'environmental problems' may be mere fictions (Eden 2001, p 82)? While actor-network theory (ANT) is probably the most promising approach to overcome the nature/culture (object/subject) dichotomy, in recognising the bio-physical background of constructions, ANT does not go beyond Gibson's (1986) ecological approach to perception (Latour 2005, p 72) – leaving as many open questions as Gibson did (Müller 2007, pp 19ff.). Thus, the theoretical edifice is in need of further development.

35.6.3   Methodological considerations

Even if 'reality' cannot be constructed completely arbitrarily, there still remain many ways of conceiving it. The media in particular, which claim to record 'reality', create it instead (Bourdieu 2001). Analyses of the reproduction and dissemination of representations of 'reality' thus remain an important challenge for scientific research. Further studies should take into account that dominant representations are an outcome of social power relations. The "power of constructing reality" (Bourdieu 1991, p 166) is a matter of symbolic power, i.e. the symbolic capital successfully realised by actors in specific (here, journalistic) fields. If we want to understand why a certain person or perspective is published rather than another, we have to find ways to examine an actor's position in social space and investigate his/her available social, economic and cultural capital. Furthermore, with respect to internalisation of media discourses by audiences, the relationship between media reports and people's beliefs is still elusive. While media analyses shed light on the views spread by public discourse, they cannot grasp what people actually think about an issue or, in our example, their actual motivation for participating in sustainability initiatives. Thus, in order to gain a comprehensive understanding of decision-making processes, investigations of media producers and media consumers should be added to the media analyses presented here.

Endnotes

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[3] In 2008 the site was renamed Swiss Alps Jungfrau-Aletsch UNESCO World Heritage Site. Given that this article deals with the period from 1998 to 2001, we use the name that was relevant during that time.

[4] According to UNESCO's 2005 guidelines for the implementation of the World Heritage Convention, "[o]utstanding universal value means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole" (UNESCO 2005, Art. 49; see also Art. 77).

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36 Managing a World Heritage Site: Potentials and Limitations of Transdisciplinary Approaches

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Abstract

Balancing the conflicting priorities of conservation and economic development poses a challenge to management of the Swiss Alps Jungfrau-Aletsch UNESCO World Heritage Site (WHS). This is a complex societal problem that calls for a knowledge-based solution. This in turn requires a transdisciplinary research framework in which problems are defined and solved cooperatively by actors from the scientific community and the life-world. In this article we re-examine studies carried out in the region of the Swiss Alps Jungfrau-Aletsch WHS, covering three key issues prevalent in transdisciplinary settings: integration of stakeholders into participatory processes; perceptions and positions; and negotiability and implementation. In the case of the Swiss Alps Jungfrau-Aletsch WHS the transdisciplinary setting created a situation of mutual learning among stakeholders from different levels and backgrounds. However, the studies showed that the benefits of such processes of mutual learning are continuously at risk of being diminished by the power play inherent in participatory approaches.

Keywords: World Heritage Site; protected area; management; transdisciplinarity; sustainable regional development; negotiation; Switzerland.

36.1   Introduction

There is common agreement in international political and scientific discourse on nature protection that two basic factors strongly influence the success of concrete approaches: (1) linking protection approaches and goals to development issues; and (2) granting local participation in and endogenous ownership of such processes (Pimbert and Pretty 1997; Cleaver 2001; Wiesmann et al 2005). When focusing specifically on World Natural Heritage Sites, a twofold significance is relevant: on the one hand, World Natural Heritage Sites are established to preserve phenomena of nature that are extraordinary and unique at a global scale; on the other hand, they are also localised in and hence related to and significant for specific regional contexts. Therefore, preserving global values depends on local development, local action, and local actors (Wiesmann and Liechti 2004). This has implications for the management of protected areas.

The protected area of the Swiss Alps Jungfrau-Aletsch UNESCO World Heritage Site (WHS) – designated by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Committee in 2001 – concentrates on the uninhabited high-alpine zone (see Figure 1 in Sommer et al 2009, on p 536 of the present volume). This area is located in a region containing settlements and small-scale cultural landscapes. The region composed of the protected area and the surrounding settlements constitutes a world-renowned tourist attraction as well as an important economic base for the local residents (35,000 people living in the area).

It is the declared aim of the communes that have a share of land within the perimeter of the WHS to preserve not only the area designated as a WHS but the whole region in all its diversity for future generations, and to promote sustainable development of the region as an economic, living, recreational and natural space (Jungfrau-Aletsch-Bietschhorn World Heritage Association 2007). The combination of striving for both protection and economic use in the same region leads to tensions between conflicting priorities; these tensions constitute one of the greatest challenges in managing the Swiss Alps Jungfrau-Aletsch WHS. Additional challenges to management of the WHS stem from the dynamics of change in the natural and the cultural landscapes (Wiesmann et al 2007). In natural landscapes, for example, processes of change are intensified by global changes such as climate change. This is especially relevant in the case presented here, since mountain habitats are particularly vulnerable to climate change (this fact has been internationally

recognised, see UNFCCC 2007); moreover the Intergovernmental Panel on Climate Change (IPCC) denote mountain ecosystems as among the most threatened in Europe (Hill et al 2010). At the same time continuous structural change, for example in agriculture, leads to radical changes in the cultural landscape. Although both types of changes have always occurred, the rate of change has drastically increased during the last few decades. In the face of the challenges posed both by the quest to combine protection and regional development, as well as by natural and cultural landscape dynamics, a way must be found to preserve the environment with its inherent natural beauty without preventing regional development. How can such a complex situation be dealt with?

36.2   Transdisciplinarity and participation

Preserving ecology without preventing regional development is a complex societal problem that calls for a knowledge-based solution. This requires integrating knowledge from various scientific disciplines as well as from other societal fields. This involves transdisciplinary research, which is defined as "research that includes cooperation within the scientific community and a debate between research and the society at large" (Wiesmann et al 2008). Transdisciplinarity takes account of the fact that knowledge exists and is produced in societal fields other than science. This implies transgression of boundaries, not only between various scientific disciplines but also between science and other societal fields. Furthermore, "transdisciplinarity implies that the precise nature of a problem to be addressed and solved is not predetermined and needs to be defined cooperatively by actors from science and the life-world" (ibid.). We are thus dealing with different forms of knowledge in transdisciplinary research: systems knowledge, which stems from describing, analysing and interpreting complex empirical processes; target knowledge, aimed at determining goals for better dealing with problems; and transformation knowledge, which examines how existing practices can be changed. Non-scientific forms of knowledge are included by taking account of interrelations between the various forms of knowledge. One way of integrating knowledge from societal fields other than science is by participation. For a long time, participation by local stakeholders and hence local knowledge was not integrated into management of protected areas. Today, it is internationally acknowledged that local participation is an important asset in successful management of protected areas, and there is a vast amount of literature dealing with the question of participation by

local populations in relation to protected area management and/or sustainable development (e.g. Brechin and West 1990; McNeely 1995; Price 1996; Geiser 2001; Papageorgiou and Vogiatzakis 2006; Fletcher et al 2007; Sneddon and Fox 2007; Wallner et al 2007; Stoll-Kleemann and Welp 2008).

But even though there is general agreement that public participation is an important principle and goal for achieving ecologically sustainable and socially just environmental governance (Sneddon and Fox 2007), participation is an exceedingly difficult objective to define and implement (Cooke and Kothari 2001). Pimbert and Pretty (1997) distinguished at least seven different types of participation on the basis of the degree of involvement. Webler and Tuler (2000) interpret participation as a means to facilitate processes of deliberation between different stakeholders who – based on the principles of fairness and empathy – collectively use and broaden public spaces, aiming at structural and personal transformations with a view towards more sustainable forms of development. Furthermore, participation is "a concept and process intimately connected to the political and economic dynamics of the particular geographical and historical contexts within which it is being applied" (Sneddon and Fox 2007).

As outlined above, in the case of the Swiss Alps Jungfrau-Aletsch WHS, the challenge was to find a way to preserve the environment without preventing regional development. Since this was a situation where a knowledge-based solution was sought for a complex societal problem, there was a need for transdisciplinary research. This was met by initiating a multi-stakeholder participatory process in order to negotiate concrete objectives and actions for the WHS. Through this process it was possible to detect important aspects and grounds for dispute regarding the WHS, and thereby obtain important inputs regarding management of the WHS. This participatory process – which was part of the planning process for the future of the region – was accompanied by an interdisciplinary research project on sustainable regional development (Wiesmann and Liechti 2004; Wiesmann et al 2005, 2007; Wallner et al 2008; Liechti et al, accepted) and on social learning processes (Rist et al 2004). The boundaries between different kinds of scientific disciplines and between science in general and societal fields other than science were transgressed by having people from various scientific fields and from the region under consideration discuss the issue of protection and conservation at the same table. Furthermore, the problem to be addressed was defined cooperatively by actors from science and the life-world, integrating and producing different kinds of knowledge.

The discussions preceding the WHS nomination process, as well as the multi-stakeholder participatory process itself have been analysed in various studies (Aerni 2005; Wiesmann et al 2005; Wallner et al 2008; Liechti et al, accepted). In this article, the findings of these studies are re-examined against the background of transdisciplinary research. The aim is to detect key issues prevalent in transdisciplinary research settings and to address potentials and limitations of transdisciplinary approaches. The methods used in the studies included semi-structured interviews with participants in the participatory process, standardised questionnaires filled in by participants in the participatory process, and analysis of newspaper articles published in the run-up to the formalised democratic votes on candidature in the communes involved.

36.3   The case of the Swiss Alps Jungfrau-Aletsch World Heritage Site

In Switzerland, labels for protected areas are only granted if the communes, regions and cantons concerned contribute financially to the establishment and management of the proposed protected area (Swiss Regulation for Parks of National Importance). In other words, acceptance and support from the local population is a basic prerequisite for the designation of a protected area. This support is not always existent, as was clearly demonstrated in 2000 when part of the local population rejected extension of the Swiss National Park (Müller 2001; Frei 2002). According to a common strategy in Switzerland, the planned extension of the Swiss National Park was put to the vote in a formalised democratic decision-making process in the communes concerned. While one commune supported the extension, another voted against it and thereby caused the entire project to fail. At about the same time, formalised decision-making with respect to protected areas took place in two other regions in Switzerland: in the Entlebuch, regarding its declaration as a UNESCO Biosphere Reserve, and in the Jungfrau-Aletsch area, regarding its inscription on the UNESCO World Heritage List. In both cases, the populations of the communes concerned expressed their support of the project ideas after lengthy and intense discourse, by voting in favour of the project in question in a formal process of democratic decision-making. This fulfilled the requirement of local acceptance and support of a protected area prior to its designation. Both sites were accepted by the respective UNESCO committees in 2001, and the Swiss Alps Jungfrau-Aletsch WHS was extended in 2007.
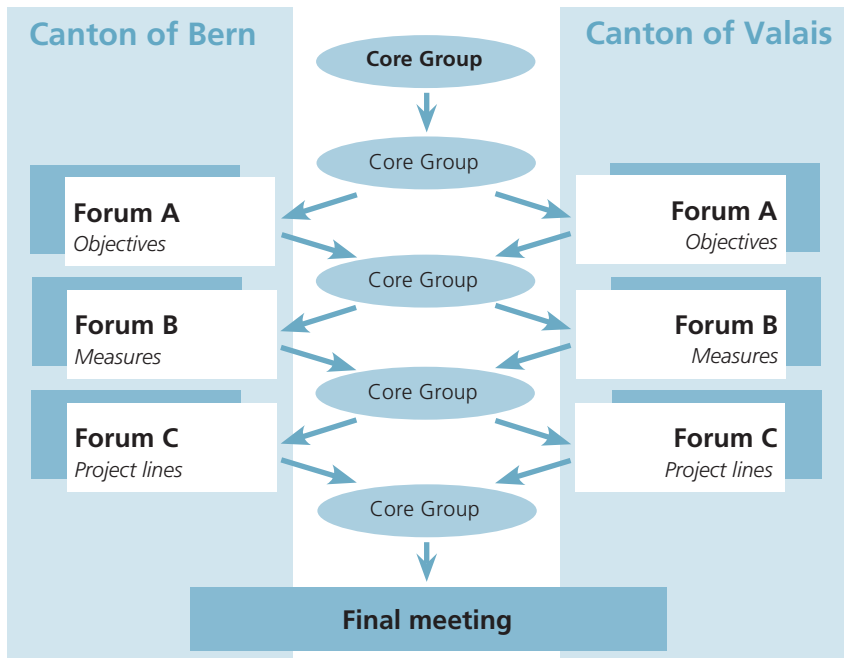
Canton of Bern

Canton of Valais

Core Group

Core Group

Forum A
Objectives

Forum A
Objectives

Core Group

Forum B
Measures

Forum B
Measures

Core Group

Forum C
Project lines

Forum C
Project lines

Core Group

Final meeting

Fig. 1
Phases of the multi-stakeholder participatory process conducted in 2004 to negotiate the Swiss Alps Jung-frau-Aletsch World Heritage Site.

In each canton, two discussion groups met simultaneously: one dealing with questions regarding agriculture, forestry, tourism and trade, and one dealing with questions regarding education, sensitisation, and natural and cultural values. These groups each met in three rounds (Forums A–C), with a core group consisting of the Swiss Alps Jungfrau-Aletsch World Heritage Site Management Centre, facilitators and researchers taking intermediate steps between the rounds.

However, having a site declared as a World Heritage Site, a Biosphere Reserve, or any other form of protected area does not end the process of participation. In the case of the Swiss Alps Jungfrau-Aletsch WHS, local people's expectations were high after the votes in the communes and formal declaration of the WHS. However, the high level of acceptance was based on diverse and sometimes conflicting expectations. While some stakeholders expected increased conservation efforts, others expected increased attention to be given to cultural landscapes. Expectations regarding immediate economic gains based on the World Heritage label dominated the reasoning of various stakeholder groups as well. The original democratic approval of the Swiss Alps Jungfrau-Aletsch WHS did not solve persisting conflicts related to balancing conservation and development (Wiesmann et al 2005). Therefore, the scientific advisory group of the WHS Management Centre suggested implementing a multi-stakeholder participatory process (Figure 1) in order to

concretise the WHS by negotiating and prioritising overall goals, specific objectives, necessary measures and concrete projects for the region. Contradictions between acceptance and expectations were thus to be overcome, and the management would be able to work on the basis of broad acceptance. One of the main challenges in this process was the fact that the region in which the Swiss Alps Jungfrau-Aletsch WHS is situated is characterised by a high level of complexity. In terms of administrative units, the WHS comprises parts of two cantons, of 26 communes, and of 5 mountain planning regions. What we call the Jungfrau-Aletsch World Heritage Region is neither a political nor an economic, social or cultural unit. Nevertheless, the fact that 26 communes have part of their territory within the perimeter of the WHS forces them to negotiate goals and measures pertaining to the WHS.

36.4   Transdisciplinarity in practice

There are several stumbling blocks in the practice of transdisciplinarity. The following are the most common and persistent ones: participation, integration, values, management, education, and evaluation (Wiesmann et al 2008). These issues can hamper transdisciplinary research. Analysis of the above-mentioned studies related to the Swiss Alps Jungfrau-Aletsch WHS revealed three key issues that are crucial when trying to find a local pathway to sustainable regional development and nature conservation: integration of stakeholders into participatory processes, perceptions and positions, and negotiability and implementation. These three key issues reflect some of the stumbling blocks mentioned above.

36.4.1   Integration of stakeholders into participatory processes

Aerni (2005) interviewed 21 participants in the multi-stakeholder participatory process in which concretisation of the Swiss Alps Jungfrau-Aletsch WHS was negotiated. The selected participants were interviewed at the beginning as well as at the end of the participatory process, enabling Aerni to analyse the changes in people's perceptions regarding the project as a whole as well as regarding the participatory process as a part of the whole project.

An important issue mentioned in these interviews relates to the selection and integration of stakeholders. Participants in the process were selected in various ways: some were directly approached by the WHS Management Centre and invited to participate, while others joined the process based on calls placed

in regional newspapers. This guaranteed that all of the 35,000 people living in the region had a chance to join the process. Most interviewees approved of this selection process with regard to broad involvement of the population.

However, interviewees mentioned that it had been extremely difficult to integrate people who felt less concerned by the WHS, as well as people who were not very well linked or organised in social networks and who were not able to formulate a common interest regarding the WHS. One interviewee stated that more farmers should have participated in the process rather than only representatives of farmers' organisations. This statement clearly shows how difficult it is to define who speaks for whom and about which issue: if a representative of a farmers' organisation speaks on behalf of the farmers, do the farmers truly feel represented? Yet the process was open to everybody and not just to representatives of organisations. No matter how open a process is, it is impossible to avoid people criticising it for not being open enough. In some cases, criticism might be passed on the process by people who were asked to actively participate but declined to do so.

Opening the process not only to inhabitants of the region but also to organisations with a stake in the region – such as nature conservation groups – revealed a basic conflict between the local inhabitants' views of sustainable regional development and outsiders' visions of protection (Wiesmann et al 2005). This was due to the fact that nature conservation groups had a greater number of representatives from outside than from inside the region because they build on well-established national networks. External and local stakeholders have different views of an area regarding the needs for protection and for development; therefore, the positions of nature conservation representatives conflicted in many aspects with those of local stakeholder categories.

With regard to transdisciplinary research, these results show that sufficient consideration has to be given to the role each stakeholder participating in the process plays in his or her own stakeholder group. By fostering mutual learning, it might be possible to integrate people criticising the process at a later point. Furthermore, it must be acknowledged that stakeholders range from the local level to the regional and even sub-regional and national levels, and that the great majority of these are stakeholders from societal fields other than science, whose perceptions of nature and economic development can differ among each other even more than the perceptions of stakeholders from various scientific disciplines.

36.4.2   Perceptions and positions

In most cases, negotiations regarding protected areas are negotiations on how to protect areas without interfering with regional development. This is due to the fact that protected areas are usually surrounded by areas that form the economic and living space for local communities. The position we take regarding nature protection is influenced by our perception of nature; therefore, negotiating protected areas implies talking about perceptions of nature and landscapes. In the case of the Swiss Alps Jungfrau-Aletsch WHS, different perceptions of nature and landscape were found to be an underlying current in the multi-stakeholder participatory process (Wiesmann et al 2005). Three main visions could be differentiated: a vision of pristine nature, including aspects of wilderness and a wide range of conservation issues; a vision of nature related to humankind and manifested as a cultural landscape; and a vision dominated by the utility of nature, focusing on economically relevant natural resources.

Liechti et al (accepted) analysed the prevalent conceptions of nature in more detail and identified eight constructions of nature. These different constructions of nature stood alone, appeared in combination, or opposed each other. Despite the underlying controversies, common agreement on the future of the region was found because it was possible to build on common values such as the aesthetic appeal of the region and intergenerational responsibility for the region. Furthermore, the people who had initiated the discussion on a WHS in the region played a guiding role in this process: "Due to their different professional backgrounds and their comprehensive view of nature, they were able to approach different actors on the basis of their individual values" (ibid.). These protagonists included people from the region as well as from outside, and from the local/regional as well as the national levels. Discussions on the possibility of a candidature of the area as a WHS had actually started in the 1970s but had to be dropped more than once due to the conflicting interests of the parties involved.

With respect to transdisciplinary research, these results show that different and especially conflicting perceptions influence negotiations and therefore have to be addressed by creating an atmosphere of mutual learning (Wiesmann et al 2008). In the case presented here, facilitating a situation of mutual learning was essential for developing broad ownership of the problems at hand and thereby detecting common values hidden behind differing perceptions.

36.4.3   Negotiability and implementation

Establishing protected areas usually implies the appointment of new management bodies. In most cases, these management bodies are not a political entity and therefore usually have no political mandate. Nevertheless, they play an important role in negotiations. They can initiate processes such as participatory processes. In the case of the Swiss Alps Jungfrau-Aletsch WHS, it was the WHS Management Centre (i.e. the administration of the WHS) that initiated the multi-stakeholder participatory process and was responsible for continuation of the initiatives that emerged from this process. It can thus be said that management bodies have the ability to negotiate. But this does not automatically imply that everything is negotiable. In the area of the Swiss Alps Jungfrau-Aletsch WHS, many persisting conflicts among stakeholder groups stem from the fact that there are existing legal norms which cannot be negotiated by the stakeholders involved because they are defined by the state government. Nevertheless, these legal norms are often very important to the local population and are therefore always mentioned in negotiations. For example, existing legal norms in the region of the Swiss Alps Jungfrau-Aletsch WHS assure a high level of protection of the natural landscape, while at the same time high direct payments to compensate farmers for ecological services assure a relatively high level of biodiversity conservation. This framework of existing legal norms means that ecological standards represent a kind of 'non-negotiable' feature in the participatory process (Wallner et al 2008).

Once a process of negotiation is concluded, it is time to think about implementation. In the case of the Swiss Alps Jungfrau-Aletsch WHS, the multi-stakeholder participatory process did not end with the definition of objectives and measures. Continuation of the process was secured by involving some participants in the development of concrete project proposals based on the jointly defined objectives and measures. The process of developing the projects, having them evaluated by the Swiss Alps Jungfrau-Aletsch WHS Foundation Board and securing funding for implementation was time-consuming. While a small group of people worked intensively, the general public could barely detect concrete signs of action. A considerable time-lag between the participatory process and the visibility of continuous results bears a risk of losing recently established ownership and responsibility (Wallner and Wiesmann 2009). This in turn can lead to uncertainties concerning the outcomes of the process, and can result in the newly created management body being seen as responsible for the 'right' development in

the area. This attitude makes it easier for local stakeholders to cope in case things do not develop in the direction they had anticipated: they can blame the failure of a project on the management body and accuse it of not having worked in the anticipated direction instead of taking responsibility for the process themselves.

With regard to transdisciplinary research, this shows the importance of recalling that "transdisciplinary research is basically bound to socio-political contexts, giving rise to uncertainties concerning the validity of outcomes beyond these contexts" (Wiesmann et al 2008).

36.5   Mutual learning and power play

Management in the area of the Swiss Alps Jungfrau-Aletsch WHS would be a much simpler task if it concentrated only on the area actually declared as a World Heritage Site. But since the uniqueness of this region also lies in the contrast between the high-alpine natural landscape and the traditional cultural landscapes that adjoin the perimeter and are primarily shaped by centuries of agricultural use and culture, it does not make sense to draw the management boundary congruent to the WHS perimeter. The involved communes testified to their willingness to promote conservation of the natural landscape and at the same time promote sustainable development of the whole region as an economic, living, recreational and natural space. For the WHS management this means, as stated at the outset, that it is confronted with the complex situation of finding a way to preserve ecological stability and variability in addition to the inherent natural beauty of the area without preventing sustainable regional development.

Looking at the process launched in the area of the Swiss Alps Jungfrau-Aletsch WHS in order to discuss, in a first step, the issue of establishing a World Heritage Site in the area and then, in a second step, to negotiate objectives and activities to reach these objectives, we find a management situation that can be called 'management as mutual learning' (Stoll-Kleemann and Welp 2008). This management style characterises a situation that promotes the

> ideal condition for communication, where activities of different
> sectors are coordinated and participation is regarded as a central
> element right from the start of planning processes (problem for-

> *mulation). Expert knowledge presented in an understandable manner results in well-informed citizens who can take an active role in the participatory process. Thus the entire planning system is more transparent, accountable, and legitimate.* (ibid., p 164)

Such a management situation represents a transdisciplinary research setting: the problems are defined in cooperation among actors from the scientific community and society, and knowledge from societal fields other than science is integrated into the process. In the case of the Swiss Alps Jungfrau-Aletsch WHS, mutual learning was facilitated at different levels. First of all, mutual learning has taken place between the different local stakeholder groups. Secondly, mutual learning during the negotiations on objectives for the WHS made it possible to overcome differing opinions among stakeholders from the local, regional and national levels. And thirdly, the participatory process offered an opportunity for mutual learning between society and science. This extensive situation of mutual learning made it possible for all involved stakeholders to detect common values despite conflicting interests. This is a decisive step in strengthening local people's sense of ownership and thereby also enhancing their responsibility for the region. From this point of view, we can conclude that transdisciplinary approaches bear a great potential in relation to management of protected areas.

However, upon a closer look at the three issues discussed in this article – integration of stakeholders into participatory processes, perceptions and positions, and negotiability and implementation – it becomes apparent that there remains one aspect which can limit the success of transdisciplinary approaches in protected area management. This aspect is power play. Power play becomes evident in the following situations:

– When discussing who should (have) participate(d). Examples: The results of a participatory process are questioned by people who did not participate (who declined active participation even though they had the chance to participate); or the results are questioned by people who did participate but think that they should have had a greater say due to their political position in society.

– When differing perceptions dominate. Example: The aesthetic appeal of and intergenerational responsibility for the region were found to be common values that could diminish underlying controversies. What happens when no such common values can be found?

– When 'non-negotiable' features are put at the centre of negotiations. Example: The argument of not being able to discuss all aspects dealing with regional development because some of these aspects are beyond the influence of the region itself can be used to question decisions taken at the regional level.

– When assessing the success of implementation. Example: The newly created management body constitutes a new player in the region. On the one hand, this management body can be blamed if development does not go in the anticipated direction. On the other hand, it can be viewed as a player dominating the direction of negotiations and thereby interfering with traditional decision-making.

Power play is another key issue in management of protected areas (Wallner et al 2007). The situation of mutual learning created by applying transdisciplinary approaches is continuously challenged by underlying power play.

Endnotes

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