

## 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.<sup>4</sup> 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<sup>2</sup>, corresponding to approximately 2% of the total area of Switzerland (41,293 km<sup>2</sup>), 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<sup>2</sup> 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

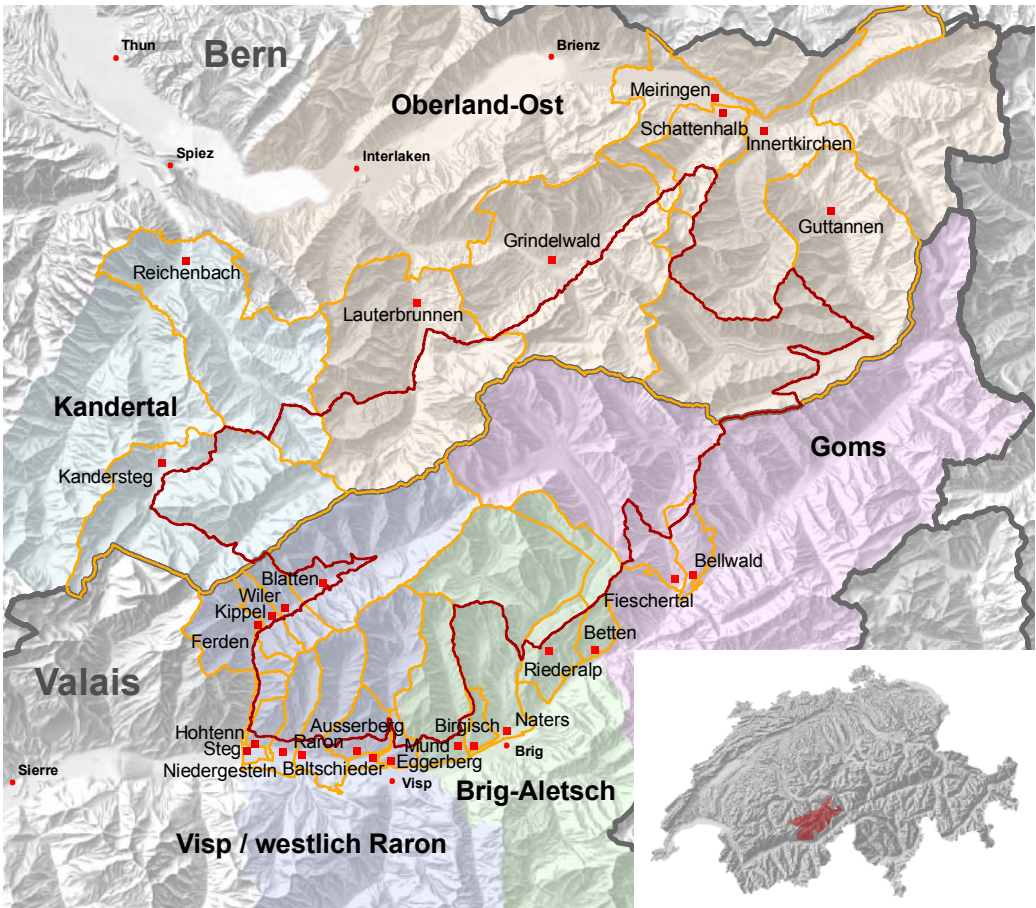
The key challenge in the Swiss Alps Jungfrau-Aletsch WH Region lies in the fact that it is neither a political or administrative nor a cultural unit, but constitutes a completely new type of space. The Swiss Alps Jungfrau-Aletsch WHS straddles the boundary between the 2 cantons of Bern and Valais, includes 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

**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

**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

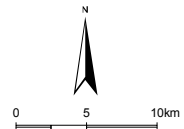


Fig. 1

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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<sup>4</sup> 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).

## References

Publications elaborated within the framework of NCCR North-South research are indicated by an asterisk (\*).

- \* Aerni I. 2005. *Positionen im Aushandlungsprozess nachhaltiger Entwicklung. Partizipation im Weltnaturerbe Jungfrau-Aletsch-Bietschhorn* [MSc thesis]. Bern, Switzerland: University of Bern. Also available at: <http://www.north-south.unibe.ch/content.php/publication/id/2031>; accessed on 21 August 2009.
- \* Aerni I, Wallner A, Wiesmann U. 2007. Regionalentwicklung – Heterogener Wirtschafts- und Lebensraum. In: Wallner A, Bäschlin E, Grosjean M, Labhart T, Schüpbach U, Wiesmann U, editors. *Welt der Alpen – Erbe der Welt. Die UNESCO Welterbe-Region Jungfrau-Aletsch-Bietschhorn*. Bern, Switzerland: Haupt, pp 185–197.
- Bass S. 2007. *A New Era in Sustainable Development*. IIED Briefing. London, UK: International Institute for Environment and Development (IIED). Also available at: <http://www.iied.org/pubs/pdfs/11071IIED.pdf>; accessed on 19 August 2009.
- Hammer T. 2001. Biosphärenreservate und regionale (Natur-) Parke – Neue Konzepte für die nachhaltige Regional- und Kulturlandschaftsentwicklung? *GAIA* 10(4):279–285.
- \* Hoppler J, Strässle D. 2007. *Planungsinstrumente und -prozesse rund um das Weltnaturerbegebiet Jungfrau-Aletsch-Bietschhorn* [MSc thesis]. Bern, Switzerland: University of Bern. Also available at: <http://www.north-south.unibe.ch/content.php/publication/id/2034>; accessed on 20 August 2009.
- \* Hoppler J, Wallner A, Wiesmann U. 2008. *Governmental Complexity in the Swiss Alps: Planning Structures Relevant to a World Natural Heritage Site*. NCCR North-South Dialogue No. 18. Bern, Switzerland: Swiss National Centre of Competence in Research (NCCR) North-South.
- Jungfrau-Aletsch-Bietschhorn World Heritage Association. 2005a. Charter of Konkordiaplatz (Amended by Additional Communes). *Swiss Alps Jungfrau-Aletsch World Heritage*. [http://www.jungfraualetsch.ch/fileadmin/webdav/homepage\\_dokumente/Vision\\_Charta/Charta/Charter\\_Additional\\_Communes.pdf](http://www.jungfraualetsch.ch/fileadmin/webdav/homepage_dokumente/Vision_Charta/Charta/Charter_Additional_Communes.pdf); accessed on 27 July 2009.
- \* Jungfrau-Aletsch-Bietschhorn World Heritage Association. 2005b. *Management Plan for the Jungfrau-Aletsch-Bietschhorn World Heritage Site*. Naters and Interlaken, Switzerland: Jungfrau-Aletsch-Bietschhorn World Heritage Association. Summary available at: [http://www.jungfraualetsch.ch/fileadmin/webdav/homepage\\_dokumente/Managementplan\\_Summary\\_engl.pdf](http://www.jungfraualetsch.ch/fileadmin/webdav/homepage_dokumente/Managementplan_Summary_engl.pdf); accessed on 27 July 2009.
- Kates R, Parris T, Leiserowitz A. 2005. What is sustainable development? Goals, indicators, values, and practice. *Environment: Science and Policy for Sustainable Development* 47(3):8–21. Also available at: <http://www.environmentmagazine.org/Editorials/Kates-apr05-full.html>; accessed on 19 August 2009.
- Leiserowitz A, Kates R, Parris T. 2005. Do global attitudes and behaviours support sustainable development? *Environment* 47(9):22–38.
- \* Liechti K. 2008. *Negotiating Sustainable Regional Development: The Relevance of Meaningful Spaces in Times of Change* [PhD dissertation]. Bern, Switzerland: University of Bern.
- Thierstein A. 2000. Regionalpolitik in der Schweiz: Der lange Marsch vom Berg in die Stadt. *IDT-Blickpunkte* 2:15–16.
- UNESCO [United Nations Educational, Scientific and Cultural Organisation]. 1972. *Convention Concerning the Protection of the World Cultural and Natural Heritage*. Paris, France: UNESCO. Also available at: <http://whc.unesco.org/en/conventiontext/>; accessed on 27 July 2009.
- UNESCO [United Nations Educational, Scientific and Cultural Organisation]. 2002. *26COM 9 – Budapest Declaration on World Heritage*. Paris, France: UNESCO. Also available at: <http://whc.unesco.org/en/budapestdeclaration/>; accessed on 19 August 2009.
- United Nations. 1992. *Agenda 21*. UN Department of Economic and Social Affairs. Division for Sustainable Development. <http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm>; accessed on 27 July 2009.

- United Nations. 2004. *Johannesburg Declaration on Sustainable Development: From Our Origins to the Future*. UN Department of Economic and Social Affairs. Division for Sustainable Development. [http://www.un.org/esa/sustdev/documents/WSSD\\_POI\\_PD/English/POI\\_PD.htm](http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POI_PD.htm); accessed on 27 July 2009.
- United Nations. 2006. *Johannesburg Summit 2002*. UN Department of Economic and Social Affairs. Division for Sustainable Development. [http://www.un.org/jsummit/html/basic\\_info/basicinfo.html](http://www.un.org/jsummit/html/basic_info/basicinfo.html); accessed on 21 August 2009.
- \* Wallner A, Rist S, Liechti K, Wiesmann U. 2008. Protection: A means for sustainable development? The case of the Jungfrau-Aletsch-Bietschhorn World Heritage Site in Switzerland. In: Galvin M, Haller T, editors. *People, Protected Areas and Global Change: Participatory Conservation in Latin America, Africa, Asia and Europe*. Perspectives of the Swiss National Centre of Competence in Research (NCCR) North-South, University of Bern, Vol. 3. Bern, Switzerland: Geographica Bernensia, pp 471–504.
- WCED [World Commission on Environment and Development]. 1987. *Our Common Future*. Oxford, UK: Oxford University Press. Also available at: <http://www.un-documents.net/wced-ocf.htm>; accessed on 19 August 2009.
- Wiesmann U. 1998. *Sustainable Regional Development in Rural Africa: Conceptual Framework and Case Studies from Kenya*. African Studies No. 14. Bern, Switzerland: Geographica Bernensia.
- Wiesmann U. 2003. *Grindelwald: Probleme und Optionen nachhaltiger Entwicklung in einer touristischen Berggemeinde*. Excursion Guide for the 54<sup>th</sup> German Geographers' Day held in Bern, Switzerland, on 28 September 2003. Bern, Switzerland: Geographica Bernensia.
- \* Wiesmann U, Liechti K. 2004. The contributions of World Natural Heritage Sites to sustainable regional development – Two case studies from the North and the South. *Revue de géographie alpine – Journal of Alpine Research* 92(3):84–94.
- \* Wiesmann U, Liechti K, Rist S. 2005. Between conservation and development: Concretizing the first World Natural Heritage Site in the Alps through participatory processes. *Mountain Research and Development* 25(2):128–138. doi:10.1659/0276-4741(2005)025[0128:BCAD]2.0.CO;2.
- Wiesmann U, Messerli P. 2007. Wege aus den konzeptionellen Fallen der Nachhaltigkeit – Beiträge der Geographie. In: Swiss Academy of Humanities and Social Sciences, editor. *Nachhaltigkeitsforschung – Perspektiven der Sozial- und Geisteswissenschaften*. Bern, Switzerland: Swiss Academy of Humanities and Social Sciences, pp 123–142.
- \* Wiesmann U, Aerni I, Ruppen B, Wallner A. 2007a. Tourismus – Schlüssel zur nachhaltigen Entwicklung. In: Wallner A, Bäschlin E, Grosjean M, Labhart T, Schüpbach U, Wiesmann U, editors. *Welt der Alpen – Erbe der Welt. Die UNESCO Welterbe-Region Jungfrau-Aletsch-Bietschhorn*. Bern, Switzerland: Haupt, pp 221–239.
- \* Wiesmann U, Wallner A, Schüpbach U, Ruppen B. 2007b. Management – Zwischen Schutz und Nutzung. In: Wallner A, Bäschlin E, Grosjean M, Labhart T, Schüpbach U, Wiesmann U, editors. *Welt der Alpen – Erbe der Welt. Die UNESCO Welterbe-Region Jungfrau-Aletsch-Bietschhorn*. Bern, Switzerland: Haupt, pp 271–284.