

## 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.

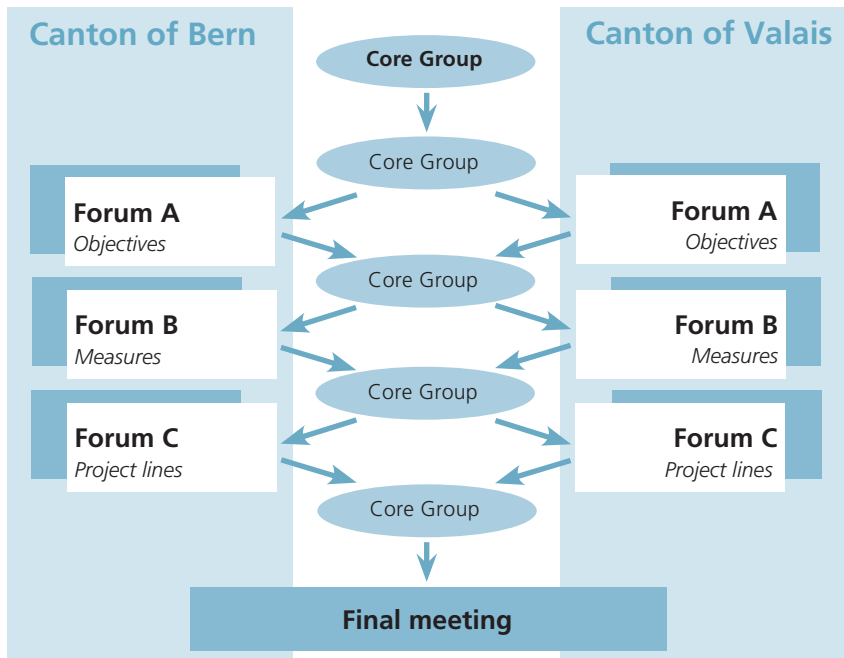


Fig. 1 Phases of the multi-stakeholder participatory process conducted in 2004 to negotiate the Swiss Alps Jungfrau-Aletsch World Heritage Site.

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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