

# **Sustainable planning horizons in Alpine tourism: concept paper on a case study to assess local economies' responsiveness to environmental large-scale transformations**

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## **Abstract**

This concept paper introduces an ongoing research project on coping strategies of local Alpine tourist economies against the background of major environmental transformations induced by global climate change. Special importance is paid to environmental scanning, describing the process that serves an organisation to observe its environment. Building on a literature review on climate vulnerability and adaptability, strategic and transition management, a research strategy is presented that calls for an interdisciplinary integration of different research streams to support local stakeholders with socially relevant and robust knowledge.

**Keywords:** adaptation, Alpine tourism, climate change, environmental scanning, planning horizons, strategic management

## **1 Problem outline: vulnerability and adaptability of the Alpine winter-tourism sector**

Climate change as a major environmental transformation challenges traditional economic patterns in Alpine communities. In Alpine countries like Austria the tourism sector plays a major role for the local and national value creation, holding a share of 8.8% of the direct and indirect gross-national product (GDP) in Austria in 2005 (Östat 2007). In Alpine tourism the winter sport sector represents the most important source of income (ÖHV 2008). Landscape patterns and occurrence of natural hazards, both strongly influenced by local climatic conditions, are among the factors most important to the business environments of the tourism industry (Daft et al. 1988, Kulinat 2003, Müller 2007). Climate change thus challenges the economical well-being of many Alpine communities. The climatic vulnerability of a local economical system basically depends on two factors: exposure to changing local climatic conditions and sensitivity to these changes, resulting from the economical dependency on particular climatic conditions (cf. IPCC 2001). Due to the strong recreational focus of Alpine communities and the fact, that Alpine regions suffer from a two- to threefold exposition to climate change compared to the global average (OECD 2007), Alpine communities can be considered to be particularly vulnerable (cf. Breiling 1993). A recent study of the Austrian Hotelier Association (ÖHV) has revealed

that more than 65% of the Austrian winter tourism communities can be characterised as being very or fairly vulnerable to climate change (ÖHV 2008).

Against the background of the critical challenges imposed by climate change, in particular Alpine winter tourism communities will have to undertake adaptive measures to assure their local sustainable development. Hence, the adaptability of local economical systems becomes a critical factor for societal well-being in Alpine regions. The adaptability of a social system last but not least depends on the “recognition of the necessity to adapt, knowledge about available options, the capacity to assess them, and the ability to implement the most suitable ones” (IPCC 2001). The access to environmental information and capabilities to process it play a decisive role for the sustainability of individual businesses and a local economical system as a whole (Staber & Sydow 2002). This particularly holds true in the context of volatile environmental conditions, that impose the requirement of broader scanning and interpretation of environmental information, referring both to the time frame and the number of environmental factors that are taken under consideration (Yasai-Ardekani & Nystrom 1996). Given the fact that climate change can be considered a fairly novel challenge to Alpine regions, it becomes evident that the strategic planning horizons of organisations still reflect traditional climatic patterns (snow reliability, distribution of extreme events like droughts). Against the background of continuous environmental change strategic management theory suggests that adaptability also describes the ability of organisations to “reconfigure themselves quickly in changing environments” (Staber & Sydow 2002). In order to sustain local economic well-being, it remains a crucial task to reconcile the planning horizons within the Alpine winter-tourism sector with the temporal and sectoral scope of the environmental transformation, critical to its agents.

## 2 Research interest

The research project is conducted within the Doctoral School Sustainable Development at BOKU University, Vienna that aims at providing societal relevant and robust knowledge to real-world problems. By establishing active research-stakeholder partnerships during the research-process, the projects of the doctoral school strive to spring social change, supported by a scientific knowledge production. In particular the project presented in this paper seeks to:

- identify existing and future challenges for strategic management imposed by environmental large-scale transformations,
- explore the role of environmental scanning schemes and strategic planning horizons for an proactive, integrative adaptation management,
- provide impulses for a sustainable transition management of local economies by stimulating local agents to revisit existing strategic planning schemes.

The following core-questions frame the research process:

1. How does a local economical system, like a winter-tourism community, react on change of global environmental factors?

2. Do existing strategic planning horizons of local decision makers allow coping with environmental large-scale transformations in a proactive manner?
3. Which requirements do the identified reaction patterns raise for a sustainable transition management of the local economical system?
4. By what methods and organisational designs can a transdisciplinary research project contribute to a sustainable transition management of the local economical system?

### 3 State of research

#### 3.1 Climate vulnerability in Alpine tourism communities

In recent years, a couple of studies have revealed the particular exposition of Alpine regions to the effects of global climate change due to specific local climatic conditions (Breiling 1993, Breiling & Charamza 1999, Bürki et al. 2003, Beniston 2005, OECD 2007). For Switzerland and Austria research studies have assessed the economical sensitivity to change in climatic patterns (e.g. Elsasser & Bürki 2002, Müller 2007, ÖHV 2008). These studies indicate that in decades to come the tourist potential of Alpine regions will decline, largely due to significantly decreasing winter sport offers. The losses can only partially be compensated by technological improvements, that conserve traditional environmental conditions (snow making and snow conserving facilities), and new tourist offers (e.g. in summer tourism) (ibid). Not surprisingly the awareness about climate impacts in Alpine regions is growing. Past studies (e.g. Bürki et al. 2003) as well as explorative interviews with tourism representatives conducted within this research project reveal the ambiguity of perspectives on climate change within Alpine communities. They range from very precautionary attitudes to total neglect. It remains a crucial research task, yet to be accomplished, to focus on the social aspects of climate vulnerability and adaptability. A recent study by the Austrian Program for Climate Research (AustroClim) in a first attempt identified nearly 300 projects (research and implementation) that are currently dealing with climate change adaptation in Austria, with a share of around 12% related to the tourism sector (Haberl et al. 2008). In general such projects tend to deal with exposure and economical sensitivity to climate change. This project goes further and addresses the question of how to integrate this knowledge in local economical structures to foster proactive transition processes.

#### 3.2 Environmental scanning and adaptability

Empirical analyses show a variety of schemes that serve organisations to collect and assess information about their environments (Fahey et al. 1981, Yasai-Ardekani & Nystrom 1996). Important distinctive criteria of environmental scanning schemes refer to the degree of institutionalisation and the frequency in which the scanning procedure is performed (ibid). Further criteria comprise the scanning scope, meaning the number of different environmental factors that a system monitors, and the

allocation of responsibility for environmental scanning within the organisation's structure (Yasai-Ardekani & Nystrom 1996). Comparisons between different environmental scanning schemes show a positive correlation between the extent of scanning and company performance, suggesting competitive advantages of those companies with sophisticated scanning schemes (Daft et al. 1988). In general organisations appear to react to changing environmental conditions by amplifying their scanning behavior (Yasai-Ardekani & Nystrom 1996). Yet, Yasai-Ardekani & Nystrom found that this only holds true for changes within the immediate organisational "task environment", whereas transformations of the indirectly perceived "general environment" have not been particularly addressed by an altered scanning scheme (ibid). For this project, this poses the interesting question which local organisations perceive a direct relation to local climatic patterns, as it could be hypothesised that they hold a key position for the adaptability of the whole system.

In their study the two authors also collected empirical data showing that larger companies tend to establish more sophisticated environmental scanning schemes compared to small organisations (Yasai-Ardekani & Nystrom 1996). This result indicates that the limited information collection and processing capacity might be a potential weak point of small companies that account for the majority of businesses in the Alpine tourism sector (Bätzing 2002). With environmental scanning, being "the first link in the chain of perceptions and actions that permit an organisation to adapt to its environment" (Daft et al. 1988), this suggests that collaborative approaches to fulfil this task might be an important measure to raise the overall adaptive capacity of an Alpine community.

### 3.3 Sustainable transition and adaptation management

Against the background of global change projections, and particularly regarding climate change, a growing number of studies deal with the question, how adaptive capacities of societal systems can be established or improved (e.g. Wheaton & Maciver 1999, IPCC 2001, Arvai et al. 2006). The issues addressed in the discourse on adaptive management, hold strong parallels to the concept of transition management, which was originally developed in the 1970s and 80s in management science. Transition Management strives for applying "well-planned method[s] for handling large-scale change" (Ackerman 1982) to enable organisations to adapt to an environment in constant flux. The conceptual and methodological findings from the scientific debate on managing transitions might now prove valuable for developing societal coping strategies to climate change impacts.

With respect to the methodological design of this project, the application of different scenario approaches in the field of sustainable transition management suggests that using scenarios might offer fruitful methodological contributions to a proactive adaptation in the context of global change (Wiek et al. 2006). From a conceptual perspective the experiences of a sustainable transition management science emphasise the importance of an active involvement of different stakeholder groups into the management process. Wiek et al. suggest a transdisciplinary scenario elaboration and assessment by means of a mutual learning process between scientists and

practitioners to ensure the quality and the legitimisation of the results through a comprehensive integration of knowledge and values (ibid).

## 4 Research strategy

The research project is conducted as a case study, defined by Yin (2003): A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident. (Yin 2003).

Referring to Yin (2003), the case study method used here is characterised as an embedded, single-case design. The case-community is chosen by applying the following four criteria: (1) high degree of vulnerability towards climate change, based on the vulnerability study of the Austrian Hotelier Association (ÖHV 2008, cf. Problem Outline); (2) Availability of data (local economical indicators, local climatic data); (3) Existing contacts to case agents; and (4) Willingness to cooperate.

A single case is chosen, as it allows devoting all resources for an in-depth analysis of the societal structures that constitute weaknesses as well as potential starting points of a proactive transition management. The case study is characterised by an embedded design (in contrast to a holistic design), as it consists of different subunits of analysis (organisations, individual agents) that contribute to an integrative picture of the whole case (cf. Yin 2003). This design allows consulting diverse sources and provides direct links to the real-world context of the system agents in contrast to a mere global (holistic) perspective on the case (ibid).

### 4.1 Research steps

The following five steps frame the research process. They will not be addressed in a strict linear way, as the process includes iterations that should contribute to a circular learning process.

1. **Case selection and description**, including a vulnerability assessment and documentation of the case community.
2. **Identification of the strategic planning horizons** of case agents, based on present and past decision processes (environmental factors taken into account, time frame in which their dynamic is taken into consideration).
3. **Analysis of options and restrictions** determining the individual constitution of strategic planning horizons, with particular reference on environmental scanning procedures.
4. **Identification of individual and institutional starting points for a sustainable transition management** of the local economy.
5. **Designing and conducting scenario workshops** in collaboration with case agents to stimulate the amplification of strategic planning horizons and initiate joint action.

## 4.2 Data collection and interpretation

The collection and interpretation of data will be based on qualitative social research methods, particularly guided by the Grounded Theory approach (Strauss & Corbin 1996). A qualitative design is chosen as the research questions should guide the research process in order

- to reveal potential impact factors, as not all potential factors can be anticipated before entering the field,
- to understand the relationships between the impact factors, not merely detecting them,
- to find out about the reasons behind the social processes driving these relationships, that might provide starting points to stimulate social change (cf. Lamnek 1996).

Complementing social research methods including problem-focused interviews, participant observation and the interpretation of informal real-life conversations, data will be collected.

## 5 Conclusions

The research project presented in this paper is centred on a real-world problem situation: the challenges that a global phenomenon like climate change poses on the strategic planning within a local system. To provide social robust knowledge that can support decision makers in contributing to a sustainable development of their communities, different streams of scientific discourse have to be integrated. This interdisciplinary knowledge integration, yet indispensable, represents one of the major challenges of this research project. A second challenge already has been mentioned in the section on sustainable transition and adaptation management: transdisciplinarity. If this project is to meet its objectives to inspire social change, the integration of local knowledge and objectives in the process of target formulation, data collection and assessment plays a vital role for the creation of ownership and acceptance among the societal agents.

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