

## Multifunctionality in the Alps

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# Multifunctionality in the Alps

Jörg Wyder

## Challenges and the Potential for Conflict over Development

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*The Alps extend across the territory of 7 countries in Central Europe. But what do they actually represent? Do they constitute the major barrier between north and south? Are they a reservoir of future European resources? Are they an all-purpose Disneyland for anyone seeking recreation, fun, or*

*simply a quick thrill? Should they be seen as a habitat and a cultural landscape or a global model for sustainable development? Depending on the personal point of view of the observer or of the people who inhabit the Alps, they may be all or only one of these things.*



**FIGURE 1** Long-settled alpine villages such as Mesocco in the Grisons reflect local cultural development and are also a point of attraction for the tourism industry. (Photo courtesy of SAB)

### Balancing cycles of development

All actors in the Alps are aware of the need to act in accordance with the principles of sustainability in the long run. Economic, ecological, and social cycles must exist in harmony and not interfere with each other. While activity that promotes sustainability cannot be defined according to a mathematical formula, it can grow out of negotiation in which all parties carefully seek the center of gravity in the triangle of sustainable development (economic, social, and environmental sustainability).

Sustainable activity is based on concessions and limitations, such as refusal to exploit the full potential of tourism or intensive agricultural production, restrictions on resettlement of predators in regions where agriculture is important, or

refraining from posting notices in all local alpine languages on public buildings or in official publications. Even though the latter is important in terms of preserving the local culture, it is not economically feasible.

Herein lies the greatest difficulty in implementing sustainability: Maintenance of the status quo is the first priority for every actor. Only after long processes of negotiation does it become apparent that an interdisciplinary approach with a focus on sustainability also offers opportunities. These include local markets with competitive prices, tourism that does not impose burdens on the local population, biosphere or landscape protection that allows for economic activity, and strong cultural identity that also reflects openness to the wider world.

### Defining the Alps

To determine the perimeter of the Alps, Bätzing employs a number of parameters that can be qualified. Agricultural aspects and parameters established by the Alpine Convention need to be considered as well as definitions provided by working groups (regional governmental conferences). Yet all qualifications of this sort are insufficient in some respects and exhibit a general lack of comprehensible logic. Bätzing has taken a plausible approach that defines the Alps as an area 181,498 km<sup>2</sup> in size, divided into 5814 communes inhabited by 11.01 million people (*Kleines Alpenlexikon*, Munich, 1997).

**FIGURE 2** Protective forests in the Alps serve crucial environmental functions, but they are not always immune to the forces of nature (eg, as in the case of Goms in the Valais, shown here). (Photo courtesy of SAB)



Local and regional processes thus become complete. It is too often forgotten that local and regional markets in the Alps have great potential, that the alpine ecosystem is unique, and that different ethnic groups perform major cultural services in the Alps (Figure 1).

### **Agriculture and forestry: Many services at little cost**

The highest permanent settlements in the Alps are located at 2000 m asl or higher and are inhabited by alpine farmers. Farmers and foresters are responsible for the unique cultural landscape of the Alps; they protect villages and towns as well as transport infrastructure from erosion and floods through natural methods of cultivation applied to meadows and forests (Figure 2). Products such as milk, meat, and wood are sold in a liberalized market along with identical products from Sweden, the United States, or Brazil. The latter are produced much more cheaply than products in the Swiss Alps due to lower labor costs, less demanding ecosystems, and insufficient consideration for ecological and social aspects of production.

Agriculture in the Alps could not survive without government subsidies, even if all marketing opportunities were fully exploited (Figure 3). The art of modern agriculture consists of determining the

type and amount of subsidy needed so that agriculture (as well as forest management) can fulfill multiple functions. There is no one fixed and definable multifunctional responsibility for the Alps; each local region has different priorities and conditions. National agricultural policies, as well as the common agricultural policy pursued by the EU, will have to incorporate regional models in the future so that farmers and foresters will be consistently able to act according to the principles of sustainability. This requires efficient use of resources.

### **Tourism: Growth at any price?**

The Alps are the world's most important tourist region: With approximately 500 million overnight stays annually, they account for one quarter of the world's tourist trade (Bätzing). Tourism is the most important global growth market and the most significant economic sector in the European Alps. It is not immune to the pressures of growth. As in all other economic sectors, investment in tourism is focused fully on expansion.

Tourism per se cannot be sustainable since it is linked with mobility. While Europeans took 1 annual holiday 20 years ago, today they take 3 holidays per year. In 20 years, this number may rise to 5.

The growth of tourism must not result in environmental degradation. Certain

transnational measures will be necessary in the Alps in order to manage the development of tourism. These include support for environmentally friendly public transportation, increasing the cost of private transport (through energy taxes, road pricing, etc), car-free tourist destinations, land-use planning to exclude certain regions from tourism, raising the awareness of tourists or providing incentives for extending the length of their stay, and determining the carrying capacity of tourism in the most important tourist regions.

While overnight stays by tourists in Switzerland grew almost sixfold in 30 years, the number of people employed in the tourist industry increased by about 60%. Rising costs will exert continuing pressure to achieve better results with a smaller workforce, as the labor-intensive (and hence expensive) hotel industry competes with inexpensive (but energy-intensive) tourism based on daily excursions.

To some extent, this trend is even more pronounced in alpine agriculture, where production has quadrupled in the last 40 years while the number of people engaged in agriculture has declined.

### Goods transport: Using roads as warehouses

The just-in-time strategy employed by European businesses, income disparities between south and north, advances in production in the transport industry, and uncompensated costs for goods transport are responsible for continual increases in the volume of north–south goods transport through the Alps. At the same time, the collapse of the socialist system in Eastern Europe has resulted in greater east–west transport. The consequences are air pollution, noise, accidents, and a decline in the quality of life along major transportation routes in the Alps.

While transport operations will always be a source of environmental degradation, attempts must be made to shift the transport of goods (and people) from road to rail. If the volume of goods continues to rise heavily, newly created rail capacity will be necessary in order to meet new

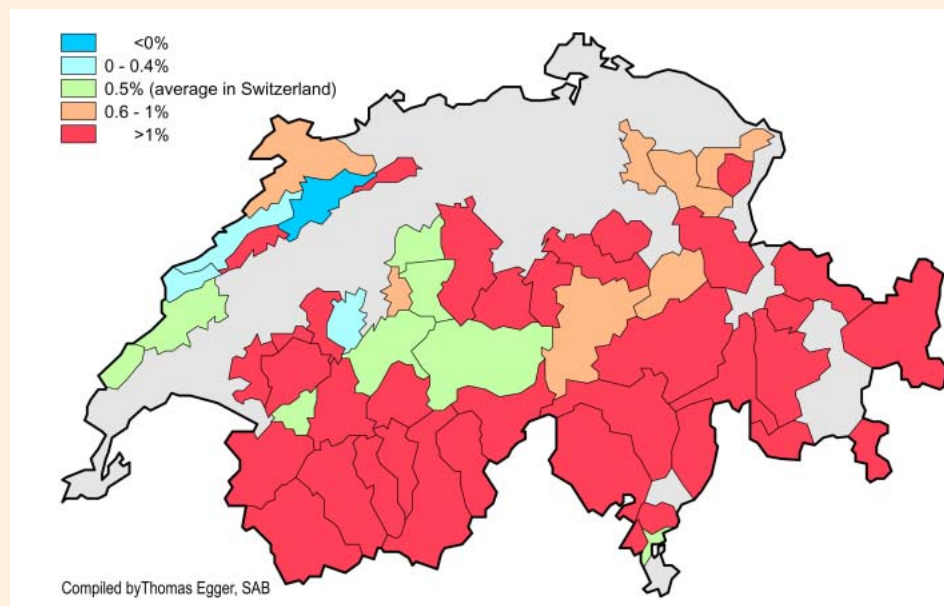
demand. The growth of transalpine goods transport can only be controlled if international agreement is reached on political measures that make road and rail transport uneconomical and if there are fewer incentives to exploit minimal differences in cost between northern and southern Europe by transporting goods. In specific terms, this means making energy and transportation so expensive that the value added by transport is less than the costs (including externalized costs).

### Water for Europe

The Central European Alps are a major freshwater reserve. High rates of precipitation, clearly defined seasons, and huge glaciers ensure that rivers originating in the Alps conduct water throughout the year. Water of a quality good enough to drink is becoming scarce even in Europe. In the future, every attempt must be made to guarantee the quality of alpine water and avoid using it as a vehicle for transport of waste materials.

Global warming poses a long-term threat to water reserves in the Alps. Glacial retreat (melting) not only reduces reserves of fresh water but also threatens the seasonal water balance. Flooding and low water volume in rivers and lakes occur in close proximity. Climate protection and reduction of greenhouse gases are measures that will also help to protect Europe's water reserves.

**FIGURE 3** Average annual population growth in regions targeted for special investment, 1990–1995. Population in most mountainous regions of Switzerland is increasing more rapidly than the average for the rest of the country. (Source: Bundesamt für Statistik; compiled by Thomas Egger, SAB)





**FIGURE 4** The Monte Lema aerial cableway in the Canton of Ticino, Switzerland, in the southern part of the Alps. Tourism is a major source of jobs and has prevented out-migration, especially in poorer alpine regions. (Photo courtesy of SAB)

services under the pressures brought about by a liberalized economy. Without such services, the Alps will once again become an area of out-migration, as they were in the years following the Second World War.

### The Alpine Convention and sustainability

Sustainable development in the Alps is a goal of the Alpine Convention, of which 8 alpine countries and the EU are signatories. The main aim of member countries is to preserve the status quo while trying to improve on it where possible. One example is the protocol on traffic. Alpine countries directly affected by traffic are fundamentally interested in agreeing on a reduction of transalpine transport of goods, while Germany and Italy—the countries at the margins of the Alps—hope to make efficient and inexpensive use of traffic routes.

In its 10 years of existence, the Alpine Convention has not yet become an instrument for making new alpine policy, although it has helped raise a certain awareness among political actors. The Alpine Convention must be understood as a process. In the long term, it can help promote agreement on policies concerned with the Alps. By contrast with other international agreements such as the Biodiversity Convention, the Alpine Convention deals with all aspects of the lives of people in alpine countries and attempts to establish a balance within the triangle of sustainable development. This raises the question of what specific action the individual should take at each step. The process of implementing the Convention involves not only people who live in and are interested in the Alps but all of Europe as well.

Thanks to great differences in altitude, alpine watercourses have the potential to produce energy. Hydroelectricity is more than an economic factor in alpine countries; it also helps to ensure Europe's supply of energy and cover daily or seasonal demand during peak periods of consumption. Moreover, hydropower is a CO<sub>2</sub>-neutral renewable source of energy.

### The Alps as a human habitat

Human habitation of the Alps is possible due to the availability of jobs, good living conditions, and a high quality of life. One hundred years ago, great numbers of people migrated from the Alps, as it was impossible for everyone to earn a livelihood from the land. Today the carrying capacity of the Alps is markedly greater: A diverse economy has generated jobs and income, while agriculture represents only a small portion of real net output (Figure 4).

The people who inhabit the Alps now have much easier access to education, good medical care, and well-paid jobs. Efficient public services and the development of good transport infrastructure have made the Alps a more attractive place to live. Alpine countries currently face the task of maintaining a high level of

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### The Alpine Convention

The Alpine Convention has been signed by France, Italy, Monaco, Switzerland, Austria, Liechtenstein, Germany, Slovenia, and the European Union. The idea of an international convention to protect the Alps was first launched in the 1980s by the International Commission for the Protection of the Alps (CIPRA; see also the Notes and Media sections in this issue). Many aspects of sustainable development have been incorporated into the Convention as the result of years of negotiations.