

Challenges of the mountains in Valais

CLIMATE CHANGE

Facts

Overall, the Valais has a semi-continental climate of southern character. It is hot and dry upstream of Martigny, wetter and heterogeneous downstream in the side valleys. In the "foehn" (strong wind from the South) valleys and valleys exposed to strong sunlight, temperatures are higher than the Swiss average. In Valais, we see typical weather conditions, with large amounts of precipitation on mountaintops and small amounts in the neighboring valleys. In winter, there is almost always snow, except in the valleys at low altitude. In the internal valleys of Valais sunshine is relatively high throughout the year.

In the future, climate projections (according to A1B scenario of Météo Suisse) are:

- Temperatures will probably rise from 1.4 up to 3.8 ° C by 2060. In the Alpine valleys in summer mean values similar to those of the summer heatwave of 2003 are to be expected.
- Changes for precipitations are highly uncertain and often weak. A reduction in summer from 5 to 10% is probable.
- Summer days (average temperature > 25°C): Today 40 per year, in 2060 70 per year.
- Frost days: Today 90 per year, in 2060 50 per year.
- Length of the growing season: extension of two months by 2060.

Challenges

Climate change is impacting the environment and society of Valais by different phenomena:

- The melting of glaciers and permafrost (at the current melting speed, all the glaciers in Valais will have disappeared by 2100): impacts on the landscape, problems of access to mountains, water resource scarcity.
- The increase of extreme events and natural hazards (floods, mudflows, frequent landslides) with their consequences on infrastructures.
- The lack of snow in winter: short-term opportunity for the highest ski resorts in altitude and interesting opportunities for summer tourism but risk for low-lying ski resorts.
- The urban heat islands with their consequences on quality of life and health in the cities.

References

- Climate and climate change, generality
<http://www.meteosuisse.admin.ch>
- Natural hazards
<http://www.bafu.admin.ch/naturgefahren/15218/index.html?lang=fr>
<http://www.dangers-naturels.ch>

WATER MANAGEMENT

Facts

Switzerland, particularly the alpine region of Valais, is considered the water tower of Europe. In Valais, thanks to the presence of numerous glaciers, rivers and lakes, water resources are important.

Nevertheless, climate change involves some evolutions that could alter this favorable situation (melting of the glaciers, dryer summers). Moreover, industrial and domestic uses generate a high consumption which is necessary to regulate to insure the availability and quality of the resource in the long term.

Water is also an important source of wealth in Valais in its energy function. The Canton of Valais generates nearly 30% of electricity from hydropower in Switzerland. It thus has a proven expertise in the field of hydroelectric power. The hydroelectric infrastructures, in particular the dams constitute an impressive part of the landscape in the alpine valleys.

Two specific elements are still worth mentioning when thinking of the links between Valais and water:

- The "bisses": In Valais, the climate, dry in summer, urged the inhabitants to find solutions to bring the water from the glaciers to pastures and cultures. The "bisses" are open pit channels of gentle slope. They were built, sometimes with a lot of courage, in places very difficult to access. They are punctuated with ingenious systems of distribution of waters between the farmers. Today part of the "bisses" is still used for the irrigation, but during the last decades they were especially rebuilt as touristic attractions.
- The "Rhône": This major river rises in the Rhône Glacier at the very top of Valais and throws itself into the Mediterranean Sea in Marseille. Up to half of the 19th century, the river crosses free in the plain and the farmers cultivate the lands which are close to it. Then huge interventions confined the Rhône between two longitudinal dikes. The purpose was to gain lands for the human activities and live in safety. If the safety was largely improved it is not absolute: in case of very heavy rainfall overflowing remains possible and dikes weakened in time. The third correction of the Rhône is now under study. It is a major challenge and project for the region.

Challenges

In order to strive for a coordinated management of this multifunctional resource and to preserve its quality, the Canton of Valais has adopted since 2014 a water management strategy that allows to protect water, to protect the population from natural hazards related to water and to use water as a resource. The main challenges are:

- The management of water and its quality: increasing danger of shortage during droughts in particular in touristic resorts during the high season; difficulty to handle and clean the new pollutants such as micropollutants; management of pollutions due to industries in the second half of 20th century; risk of insufficient dilution of cleaned water in the rivers in case of reduced streamflow; need of investment to improve and maintain the water treatment infrastructures.
- The water management for agriculture and tourism: increasing needs of irrigation (more drought and evaporation) and importance to maintain the "bisses" network; increasing needs for artificial snowing in the touristic resorts.
- The preservation of lakes and rivers as habitats: increasing pollution by micropollutants; overuse of natural mountain lakes for artificial snowing with impacts on flora and fauna.
- The protection against water-related natural hazards: increasing risks of flood and avalanche due to climate change (more frequent extreme events).
- The use and development of renewable energy: reduction of electricity production due to the reduction of available water.

References

- Water strategy in Valais (in French)
<https://www.vs.ch/fr/web/sefh/strategie-forces-hydrauliques?inheritRedirect=true>
- What is a "bisse"? Short video
<https://vimeo.com/42964305>

FOOD SECURITY

Facts

In Switzerland three missions are devolved to agriculture: the food security of the population, the preservation of natural resources and the maintenance of the rural landscape, and the decentralized occupation of the territory. It is called multifunctional agriculture. The agricultural policy acknowledges the non-market services of agriculture, in particular by the allocation of direct payments to the farmers (independent from the production).

To insure the food security of her population Switzerland imports 40 % of the consumed food. Its agriculture is rather productive, but the surface of arable land is restricted because of the density of population and the topography.

In Valais, agriculture produces many products. The Rhone valley is an important agricultural area for food production (vineyards, orchards, vegetables, and fruits). Mountain regions welcome on their pasture herds of cows, sheep, goats and allow the manufacture of cheese and meat production.

The Valais agriculture contributes also to the creation and maintenance of varied landscapes and a quality environment. The link between agriculture and biodiversity is essential. For example numerous species, races and varieties cannot survive without maintenance of the natural space (the flowery dry meadows, for example, are invaded by the forest if they are not regularly pinched).

Three-quarters of farms in Valais are a secondary activity. In spite of its weak economic weight, agriculture and its related traditions occupies a strong place in the identity of the inhabitants. Several traditions were recently proposed to be part of the intangible cultural heritage of Switzerland (UNESCO Convention):

- The "consortages": It is about a common management of the work (construction and maintenance of the "bisses", paths, high mountain pastures, and baker's ovens) and the common goods (water, forests, high mountain pastures). One of the objectives is the search for a balance between the preservation of scarce resources and their exploitation. "Consortages" also strengthen the solidarity between the members who each have rights and duties. This way of managing the common property dates the Middle Ages and showed its ability. Today, the "consortages" of high mountain pastures often rent their lands. In spite of the disappearance of the traditional agriculture, "consortages" still fill an important function on the legal, economic, ecological and social side.
- The traditional breeding and the fights of "Queens": The traditional breeding includes several races of cows, sheep and goats. The cow of Hérens is one of the most symbolic animals of the region. The fights of "Queens" on the high mountain pastures, in summer, aim at determining the hierarchy between cows and which cow will be "the chief" of the herd. Today fights are also organized in the plain and become social events.
- The picking and the culture of wild and medicinal plants: Picking was part of daily life for most of the families in Valais until the middle of the 20th century (for food, medicinal, cosmetic, decorative, playful and handicraft uses). If the individual practice of picking widely got lost, today the culture of medicinal plants is a niche market rapidly expanding for Valais agriculture.
- Culture of rye and the rye bread: The culture of rye and its transformation in bread constituted one of the foundations of the self-sufficiency in the mountain villages of Valais. In some villages, even today, the big baker's oven of the village is warmed once a year. This activity is rather considered as a social and friendly event.
- The "raclette" as a social practice: The hard cheese produced in high mountain pastures is consumed, in particular, in the shape of a "raclette", melted cheese served with potatoes. It is THE traditional dish of village feasts, as well as family and friends meals.

The preservation of varied landscapes and a quality environment, as well as alive agricultural traditions, benefit directly to the tourism. Recently, agritourism is developing with the opening of farms and cultivation areas to visitors.

Challenges

Because of the small size of the farms, the high costs of work and the high environmental requirements, the Swiss agriculture is not competitive on the international markets. It is even truer for the mountain agriculture.

Thus, the survival of the agricultural sector and the continuation of its various functions widely rely on a strong agricultural policy at national and regional level. These policies act to increase the competitiveness of the sector and the farmers' income (innovation, high quality products with a strong identity, dynamic marketing, training, and synergies with the tourism sector). They also act, in parallel, on the preservation of the ecological and social functions of agriculture (financial contributions for cultivated landscapes, biodiversity, and environment-friendly productions).

Nevertheless, the number of farms in Valais and Switzerland does not stop falling (-30 % during the last decade), putting in danger the missions devolved to the agriculture.

Given to population growth, the conservation of sufficient agricultural soil of quality has also become a key goal today for future generations.

At the moment three different political initiatives, coming from the population and related to food security, local production, but also fair-trade, are under public debate.

References

- At the federal level : Agricultural Policy / Food Security / Agriculture and biodiversity / Direct payments (in French and German)
<http://www.blw.admin.ch/themen/00005/index.html?lang=fr>
- At the regional level : Agricultural Policy (in French and German)
<https://www.vs.ch/web/sca/politique-agricole>
- Intangible Cultural Heritage, list for Canton Valais (in French and German)
<https://www.vs.ch/web/culture/patrimoine-culturel-immateriel?inheritRedirect=true>

MIGRATION

Facts

Valais is as much a territory of emigration as immigration.

Emigration:

- Little accessible, the Valais has long been a poor region and a land of emigration, its people trying to leave for more lenient horizons to find work and a better life. From the beginning of the 19th century the inhabitants of Valais get into exile, especially in South America (Brazil and Argentina) and in North Africa. Between 1850 and 1914, about 20 % of the population of Valais emigrated.
- During the 20th century, and in spite of its economic development, Valais knows a considerable departure of its highest educated population: lack of attractive working places and possibilities of evolution, differences of mentality and income with the other regions.

Immigration:

- In the first part of the 20th century, Valais becomes industrialized, with the launch of numerous large-scale infrastructures projects (drilling of the tunnels of Simplon and Lötschberg, construction of dams) and the installation of enterprises such as Lonza, Ciba or Alusuisse. At the same time, the tourism develops very quickly from the 50s, slowing down the exodus of the populations from the alpine valleys.
- To the 60s the Italians are the most numerous to come to work in Valais. Today "Italianità" appears in Valais intangible cultural heritage because the Italians brought and bring an essential contribution to the life of the region: catholic missions, Italian summer camps, clubs of football, theater companies, building contractors become sports or cultural sponsors, film-makers, humorists, writers, scientists. Families with typical transalpine names (Gianadda, Rabaglia, Darioli, Bessero or Giovanola) contributed to forge the canton.
- The oil crisis of 1973 causes a real break in the economic situation. Numerous immigrant workers leave the country. It is necessary to wait for the 80s to observe a recovery. In Valais winter tourism grows as a key sector of the economy and occupies an important part of foreign workforce.
- At the same time, from the 1990s, asylum applications multiply. The origins of the refugees evolve little by little from the Balkans towards Africa or Asia.
- At the end of 2013, foreigners' proportion in Valais amounted to approximately 20%. The Portuguese are the most numerous, followed by the Italians, the French people, the Germans and the Serbs. At the end of 2014, a little less of 2'000 refugee claimants were present in the canton, which is less than 1 % of the total population.

Another aspect of the migration in Valais today is linked to tourism. The winter sports, in particular, attract very numerous hosts and thus important flows and big differences of population in the mountain villages between December and April. These hosts come for a day or a weekend (numerous Swiss are owners of secondary homes in touristic resorts), or for holidays.

Transhumance or "remuage": this peculiarity, known essentially in the Val d'Anniviers, deserves to be mentioned. To the 50s, the inhabitants of this valley organized their life according to the works to be realized along a year from the plain to the high mountain pastures. In winter, they rose in the high altitude villages to allow the cows to eat the dry grass collected in summer. In the spring, they lowered in plain to take care of vineyards and fields. Then they went back up gradually in the valley to make hay and lead the herds up to high mountain pastures. At the beginning of the autumn they came down again in plain to harvest the grapes, before going back up for the "désalpe". In every stage, the entire village moved and families took all their properties with them. Certain districts of Sierre, as Tservetta and Glarey, are known even today as districts "anniviards".

Challenges

At the moment, a third of the Swiss population is directly, or by one of his two parents, stemming from the migration. Furthermore, in all regions, efforts are granted to favour the integration of the foreign people. Nevertheless, the current period is characterized by an increasing fear towards the foreigners. It was observed in particular on 9th February 2014, when the Swiss accepted the initiative "against massive immigration" which asks for a return of foreigners' annual quotas. Valais does not make an exception to this trend.

In Valais the sector of the tourism developed by favoring the construction of second homes rather than hotels. It implies several challenges in term of migration in the alpine valleys:

- In touristic resorts second homes often represent a large part of the available housing. They are essentially occupied during the winter and summer holidays. During these periods the population of the villages increases considerably, implying a strong pressure on infrastructures and on the environment. On the other hand, during the rest of the year these villages are almost empty and dead.
- During the past 30 years, the inhabitants have sold numerous plots of land for these constructions and the ground became rare and expensive in the touristic places. Today, in the most well-known resorts, the young native people do not have the means to settle down and to start a family; they have to settle down lower in valleys, strengthening the aspect "ghost village" of touristic resorts during the off-season.
- In 2012, the Swiss population accepted the initiative "to stop the invasive construction of second homes". The initiative limited the part of second homes to 20 % in every municipality. For Valais it means a sudden stop in the building sector and the fundamental questioning of the touristic model developed these last 30 years. How will this revolution impact on the employment in the alpine valleys? Do we go towards a new wave of emigration? The question remains open.

References

- 200 years of migration in Valais (in French)
<http://lepont2015.ch/200-ans-de-migrations/>
- Migration in Valais – Testimonies (in French)
<http://lepont2015.ch/temoignages/>
- Population in Valais – Statistics (in French and German)
<http://www.hls-dhs-dss.ch/textes/f/F7396.php>
- Votation of 9. February 2014 on "Massive immigration" – Debate (in French)
http://www.letemps.ch/debats_immigration/
- The "remuage" – Video in French
<http://xml.memovs.ch/f0017-0030-004.xml>
- Les moeurs et coutumes du Val d'Anniviers – Le remuage (in French)
<https://doc.rero.ch/record/6820/files/I-N177-1935-007.pdf>