Diploma Thesis

The Sport-Industry-Garden

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Content

01 INTRODUCTION

"Skiing in magnificent nature with breath-taking panorama."

That could be a slogan of winter ski areas. But if you are looking behind the scenes and considering the technical effort, you would have to characterize these areas as industrial landscapes. That`s why in my diploma thesis I use the term sports-industrial-landscapes for ski areas.

An industrial landscape is known as strongly industrialized space. It`s an economic unit which is characterized and dominated by industry. Industrial landscapes develop for example on the basis of natural resources and good infrastructure. Their structures and external appearances make them economic landscapes.

Looking at sports-industrial-landscapes you can say that the "ski-circus" acts as economic flagship of winter sport areas. They can be seen as economic units characterized by ski sports. The natural resources are in this case represented by the topography, the location and the landscape. These areas look like ski-wonderlands and are advertising sports activities in a beautiful nature.

As one example of such an area I have chosen the ski area Gröden in South Tirol with its ski slope "Saslong". I got to know this area both during summer and winter. The appearance was completely different. In winter the area can be described as a "landscape of masses" which is intensively used by tourists. Whereas in summer the area appears like an empty stage, spitted out and tormented by the winter, waiting for the "ski-circus" to return. Only occasionally you meet a hiker on the deserted ski slopes. Compared to winter the artificial character of this kind of landscape appears in summer even stronger because there is no snow magic prettifying the area like a make-up. Those extremely different pictures of one area affected me personally and made me choose this topic for my diploma thesis.

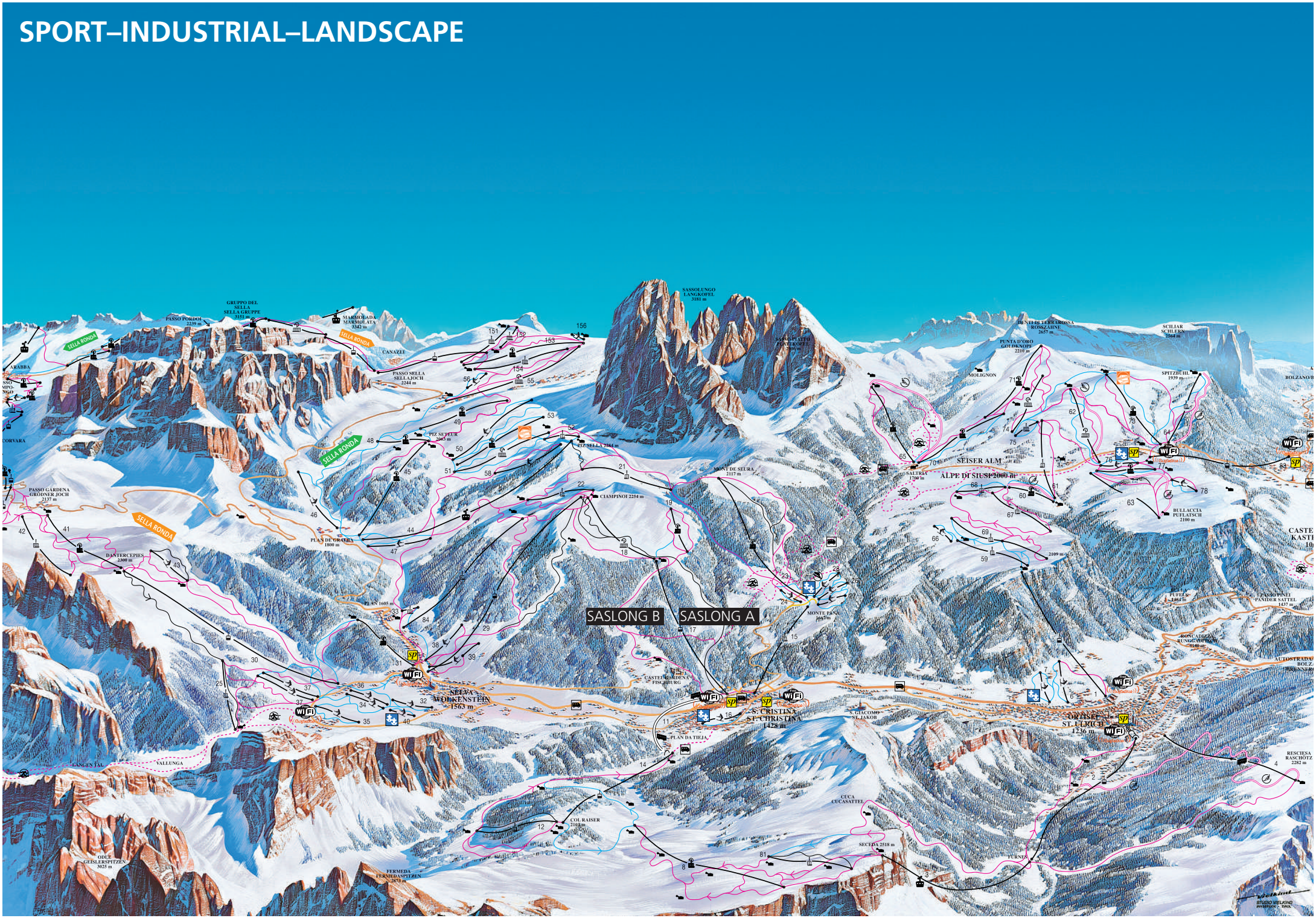
The goal of the diploma thesis is to point out the industrial aspect of a presumed natural landscape. With the help of cable cars installations it is possible to go up and down a mountain several times a day. A hiker would need probably a few days for just one way. Nowadays even physically unfit people can get up a mountain and enjoy them world without being exhausted.

But these possibilities are related to a tremendous technical effort. Kilometres of cables and more technical infrastructure is needed to improve the Alps by streets and chairlifts. In the past the Alps were regarded as frightening and as home of gods and daemons. Today they more and more the accessory for a kind of amusement park. This is what we could call the "ski-circus", where the artificiality of the landscape pretends to be and is sold to the people as an alpine idyll.

For making the industrial aspect of these landscapes tangible and visible, I will surround a plot of 500 x 500 meters of the existing ski slope "Saslong" with a fence. In this plot I will develop a sports-industry-garden where designed artificiality will be carried to the extreme. The juxtaposition of these two artificially formed landscapes creates a strong contrast and will make it readable.

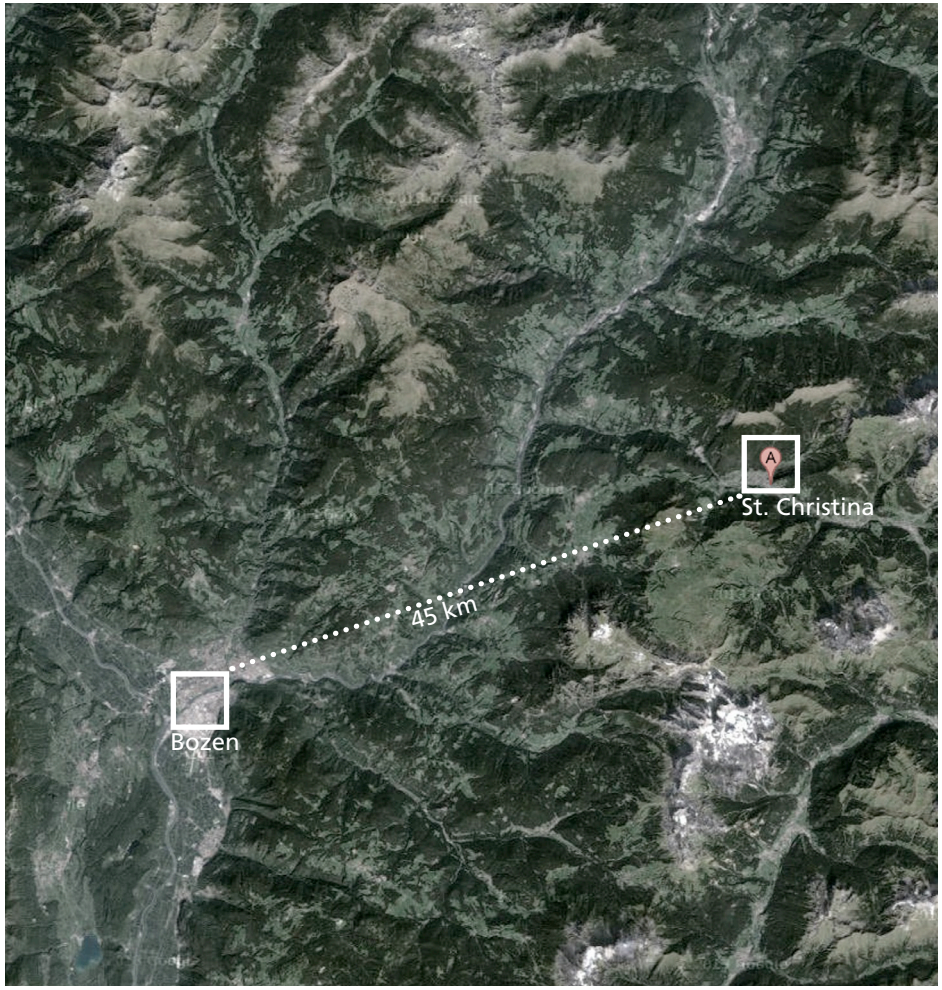
The experience of landscape is transformed through the integration of the observer into an art experience. In doing so, the landscape should not be retouched, but the interventions already made should be highlighted. Both in summer and in winter the visitor on the one hand will get confronted with an irritating landscape which disrupts the familiar scenery of the Alps. On the other hand a strong new picture will arise out of the specific design. This project should change the view on the Alps: the Alps as a stage for the play of the leisure seeking mass, with all its positive and negative aspects.

SPORT–INDUSTRIAL–LANDSCAPE



02 LOCALIZATION

Skiweltcup slope Saslong
Italy – Southtyrol – Bolzano – Val Gardena – St. Christina

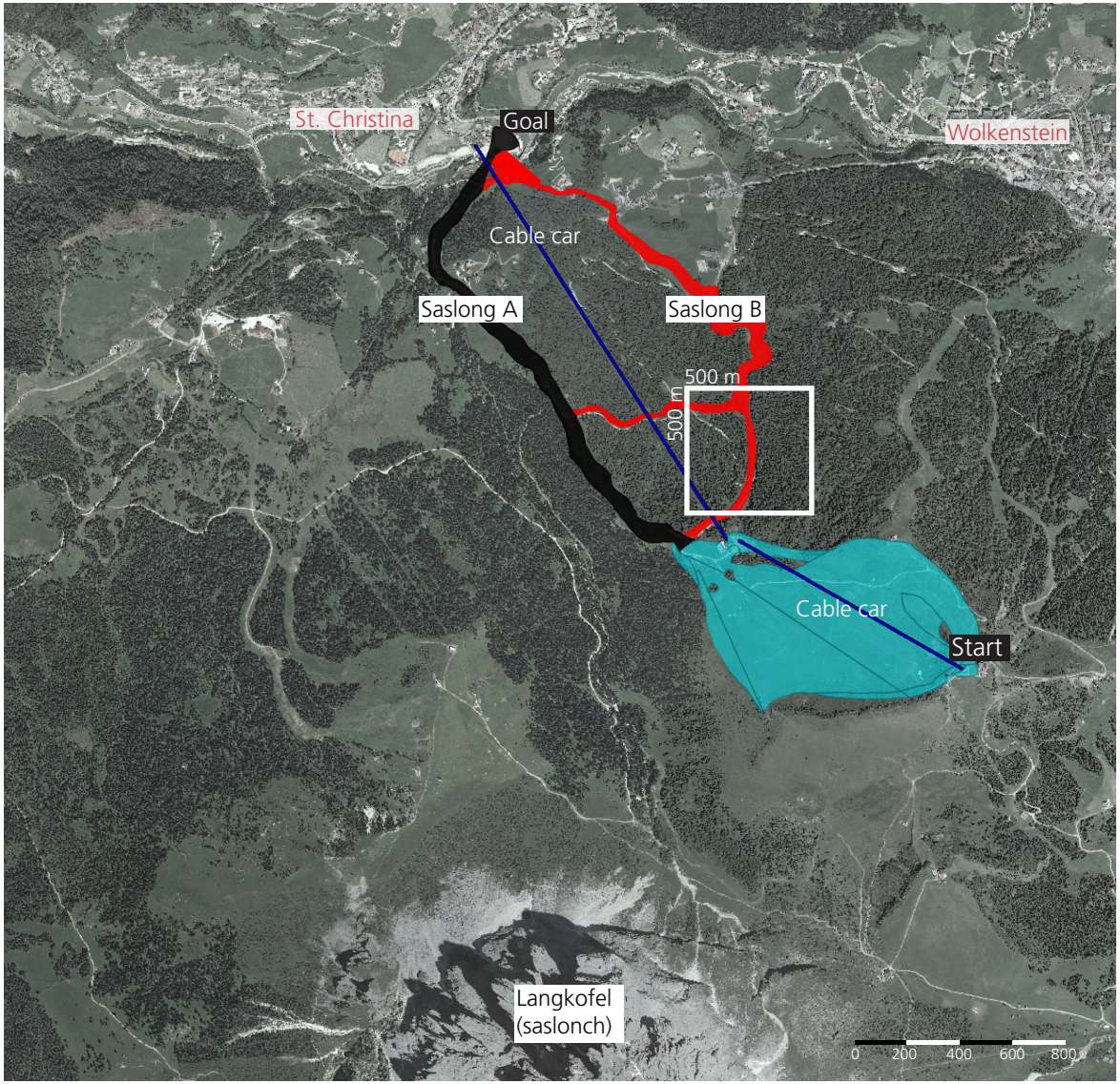


03 PLANNING AREA

The “Saslong” is a ski slope in the Gröden valley in South Tyrol. The name from the ski slope originates from the 3000 m high mountain called “Saslonch” (Langkofel).

The Ski slope Saslong crosses different types of vegetation: alpine grassland, forest and agricultural areas. The start is at 2.249 m altitude, while the goal in St. Christina lies on 1.410 meters. The maximum slope is 56,9%, the minimum slope is 11,2%.

The Saslong can be divided into two ski slopes, A and B. Slope A is marked as a black (extremly difficult), and B as a red run (medium difficult).



04 SITE ANALYSIS

04.1 The emergence of the ski slope Saslong

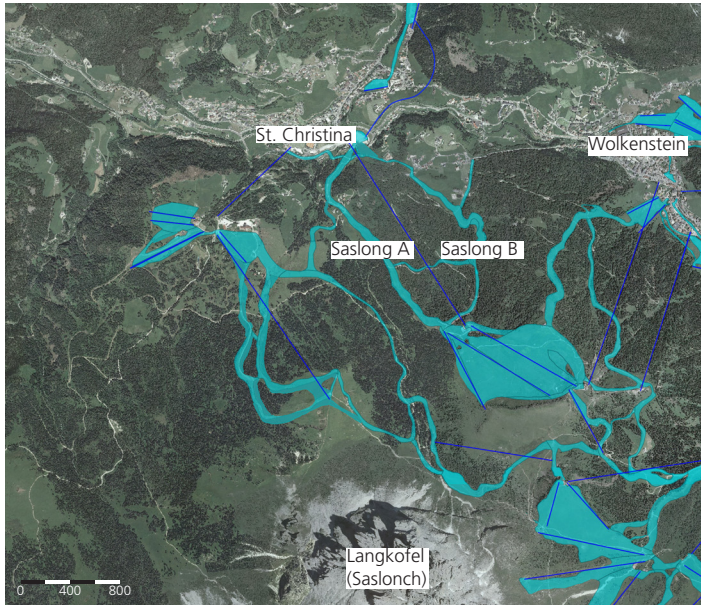
In May 1967, the FIS (International Ski Federation) had been awarded in Beirut for the World Championship in 1970 at the Gardena valley in the Dolomites. Advanced infrastructure, multi-purpose buildings and all the race tracks had to be built. Gröden needed a downhill course, because none of the existing slopes had the appropriate height difference of 800 meters. Max Schenk, member of the Gröden ski club, was commissioned to design the new runway. The drawing provided a straight line.

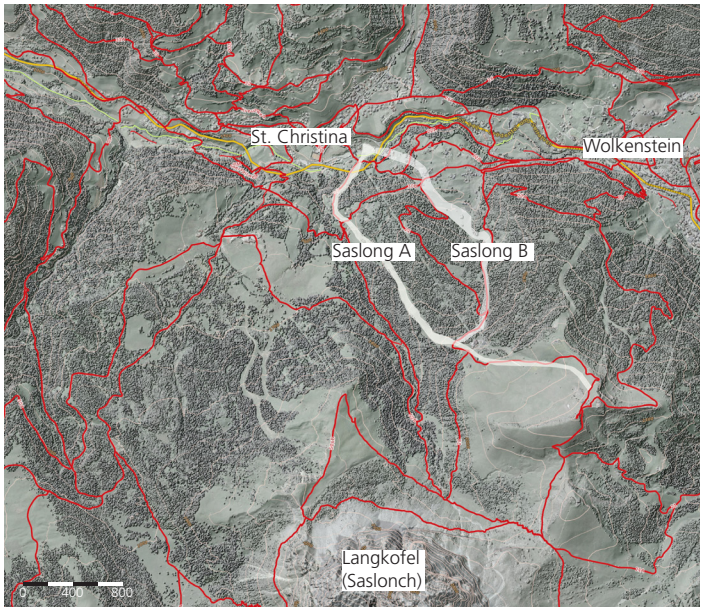
Before the construction of the runway was tackled, technical decisions had to be confirmed from the policies. South Tyrol under Governor Silvius Magnago gave the confirmation including the placement of the goal in Sankt Christina. Due to that decision the village Wolkenstein feared the future of tourism because they wanted the goal nearer to their village center. Today, nobody talks about it because ultimately the whole region is benefited enormously.

The largest intervention in the construction of the runway was the deforestation between Sochers Ciaslat meadows and on the final slope. In Ciaslat, 26 water sources were collected and carried off, including the small "Lech de Ciaslat" ("Ciaslat Lake"). A court, which remained without drinking water had to be supplied with a new line. There were no objections from environmentalists at that time. At that time environmental protection has not been a topic. Ski slopes and lifts planed today are an issue for environmental testing. It has to be completed with a report which describes and evaluates the estimated consequences for the environment and gives possible alternatives. Georeferenced environmental databases provide the data for the evaluation of expected impacts.

During the construction of the Saslong each felled tree was planted at a different location. The cost of building the Saslong amounted to 110 million lire and were taken entirely out of the total budget for Ski Championships.

04.2 Improvement of the area in the winter and summer





The maps show on the one hand the network of skislopes and on the other hand the network of hiking trails. The exploitation of the mountain area during summer and winter is pictured.

The network of skislopes illustrates beside the slopes the ski lifts which guide to the submontane of the Langkofel (Saslonch). There is barely a barrier, that couldn´t be conquered with the assistance of technology. The slopes determine the appea rance of the landscape, not the other way round. The forest loses as well its compact unity. A multitude of dark and light blue coloured lines and regions suggest a technical complexity. The skislopes are like veins covering the area. They generate an amorphous form. Over this layer straight and dark-blue signed skilifts are located. Mechanical movement meets human motion. Start and objective are defined sizes. Different vegetation areas can be crossed in very short time by the skiers with a high speed: Grasland, wood areas and agricultural areas. The Langkofel arises as a fixed size over the whole area.

As it is shown on the map, the hiking trails span a vast net over the whole area. Skislopes are usually only crossed. The B-Line of the Saslong can be used during summer as a hiking trail. The whole landscape is covered and exploited with hiking trails. While the beginning of the trail is during the win ter on the mountain, it is during summer the other way round. The up and down movements differ with the passing of the seasons. At the first sight the hiking trails appear like a chaotic network. Only with a closer look a sophisticated system can be detected. The topography allows a play of visual axes: Visual links open up, while others get covered. In this way a dramaturgy occurs for the hiker.

04.3 Problems | Facts

VEGETATION

Big-scale deforestation of ecological important montane forest for ski-touristic development
Importance of the montane forest:

- Profound root penetration of the soil – positive hydrological situation
- Accerlerated infiltration rates caused by the ecosystem montane forest. The fewer the root mass the bigger the surface runoff
- In case of intense rainfall extreme floods won't occur as fast, because surface runoff is reduced.
- Low rates of erosion
- Positive effect for prevention of avalanches

GRADING SLOPES

- Top humus layer of the soil and thus the vegetation are destroyed
- Compaction of the soil – reduction of the storage capacity of the soil (about the half). This increased risk of erosion (mud and debris flows)
- Grading the mountain sides in the summer, so they can be easily prepared skiing in winter less plant growth - reduction of biodiversity - the plants dissapear, some species (for exampe some insects like butterfly)
- Strong compaction of the snow: heat insulation capability of the snow will be reduced. Easy formation of massive icesheets at the soil surface be cause of the lack of oxygen beneath the snow

PREPARATION OF SKI-SLOPES

- Snow surface gets compacted and evenly distributed
- Heat conductivity changes because of the compaction which leads to a later snowmelt
- Later snowmelt causes displacement of species.
- Increasing amount of plants adapted to humidity at the cost of plants adapted to a dry environment
- The use of heavy machines often leads to icing of the snow surface which can lead to a lack of oxygen for the plants underneath – very sensitive grasses could choke
- Agricultural profit cuts on ski-slopes lay between 15 and 25%, also possible up to 70%

Left: Sesleria varia grassland (Seslerietum) over undisturbed soil (rendzina). Right: After complete grading. Only a sparse pioneer vegetation can establish due to the loss of topsoil with indigenous vegetation.

04.3 Problems | Facts

USE OF SKI-SLOPES

Few snow – cutting off vegetation by steel edges of skis

SNOW CANNON

- Earthworks (conduction and pumping station, water reservoir)
- High consumption of water and energy
- Noise annoyance – disturb wild animals (evening hour)
- Effects on vegetation and ground in the snow area
- Water supply: chemistry of water (content of mineral substances), limnology and hydrology (the quantity of residual water on tapped streams and reservoir)
- Water drain: increased meltwater, moisture penetration contiguous hillsides)
- Impact on adjacent forest ecosystems

ARTIFICIAL SNOW

- Soil compaction
- Reduction biodiversity
- Increase of meltwater - promotes erosion risk
- Artificial snow has a higher density than natural snow, which means less oxygen gets to the ground - leads to vegetation damage

ARTIFICIAL SNOW AND SLOPE PREPARATION

In the spring residue of the vegetation (herbage) and loss of biodiversity

WATER

$1m^3$ water can produce $2.0–2.2m^3$ of snow. At the start of season $1200–1300m^3$ water is neede to produce a 30cm thick snow pack per ha. The same amount is needed for the rest of the season to maintain this snow pack. An average need of $2500m^3$ water per ha and season is estimated. The ski–area "Gröden" counts slopes in a size of 752 ha. 559 ha get covered with artificial snow. That is equivalent to a demand of 1.4 million m^3 of water. To cover this demand artificial water reservoirs were constructed.

INFRASTRUCTURE

- Construction of access–roads, hotels, bed&breakfast
- High traffic, especially on weekends – emission of toxic substances and noise

HUMANS

Season in areas for ski-tourism usually lasts 4 months. In this time the „ski-carousel" is on 24/7. After the season, from one day to the other, everything is silent. The valley seems died out. For a time span of 4 months several people (guest-workers) are employed that get sent back when season is over.
Farmers that own pieces of land which is skied on get compensation for their loss of harvest by the operators of the ski-slopes. In summer sometimes ski-slopes are used for pastural economy (cows, sheep), more often for haying.

05 THE SPORT-INDUSTRIAL-GARDEN

My intention of the diploma thesis is to show the industrial aspect of a reputed natural landscape. Of the image of skiing there was not really a slight change in the last decades. With the onset of winter thousands of people travel, to to near and far ski resorts to have fun and relax during sporting activities in this pretended nature.

In my first research of the thesis, I showed that the Alps more and more become a staffage for the intensely recreational used mass landscape the Alps are constructed. The forest gets cleared, the soil is moved to build slopes, water and energy is needed to run all the technical supplies for perfect recreational winter vacation. All of these aspects lead to the image of an artificial landscape, the image of a so called Sport-Industrial-Landscape.

My approach is to make this kind of landscape tangible and perceptible in form of a Sport-Industry-Garden. An area of 500 x 500 meter in the existing Saslong ski slope is prescind and framed. The area is framed like a garden with a fence. The design in this area - this garden - I will only use seemingly natural elements like the vegetation, the topography and the rocks, things that produce the cliché image of the skiers. Those materials will be transformed and ordered in a way so they will lose their natural and idyllic character. It is a display which looks completely artificial and shows the real character of this Landscape.

The idyllic wilderness of a romantic picture will be interrupted with straight geometrically planted trees, which refere to the linear plantation for paper production in northern Italy. The layout of the trees creates spaces with different qualities, atriums, passages appear. For the planting I choose the larch. This tree changes the foliage with the seasons. The area will be in a continuous change and shows a different image each season. In autums the needls of the larch are turning golden yellow and stick out of the surrounding of green conifers. So is it the bleak in the winter.

The topography of the ski slope forms a rigid geometrical pettern. The effect is a change between plateaus and planes. The altered area correlats with the surrounding with view axes and brings the act of GRADING (the destroying part by building a slope) to its most extreme point. The interplay of plateaus and runs givs the garden rhythm.

Apart of the vegetation and the topography I will also use rocks. Dolomite rocks will be cut in cubes and laid out in one line, each100 meters apart. These offern orientation within this geometrically formed garden. The cubes are variable in size and in appearance.

TARGETS

In this project my targets for the shooting are skiers, hikers and art lovers.

CONSTRUCTION

of the garden, is split into three phases:
Phase N°1: 1st year – the area will be decided and marked
Phase N°2: 2nd year – clearing the area from the vegetation, info sign about the Sport-Industry-Garden
Phase N°3: 3rd year – building, forming and framing the garden

LIST OF SOURCES

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