

Module 713: Multinational and tourist groups

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Mini case study: Ski industry and climate change



Figure 1 : Lack of snow in Switzerland during winter season 2010/2011

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Table of contents

List of figures	ii
Introduction.....	1
1. Results for Australia	2
2. Results for Canada.....	2
3. Synthesis of the three studies	2
4. Relevance of those three studies for tourism in Switzerland	4
Sources	5

List of figures

Figure 1 : Lack of snow in Switzerland during winter season 2010/2011	0
Figure 2: Adaptation measures towards climate change for ski resorts.....	3

Introduction

During the past years climate change has become a threat for the planet and has a consequent impact on tourism, especially on winter tourism. The rise of temperatures and the lack of snow will make the winter sport more difficult. Ski resorts should take adaptations measures to respond to this issue.

This case study compares three peer-reviewed journals written on the issue of climate change in mountainous areas and adaptation measures in two different countries: Canada and Australia. Of course, the impact of climate change differs from country to country, or more precisely, from ski resort to ski resort.

We will first have a look at the results for each country, followed by a synthesis on the results of those three peer-reviewed articles. This work will end with recommendations for the winter tourism in Switzerland regarding climate change.

1. Results for Australia

According to a study on climate change for Australian ski resorts by Pickering and Buckley (2010, p.430), natural snow cover will not be sufficient for 65% of resorts by 2020, forcing them to stop skiing activities. Ski resorts compensate the lack of snow by installing more and more snow guns. This increases water and energy consumption and in Australia, water consumption is especially a problem because some of the regions of this country suffer from droughts (Pickering et al, p.433). Another outcome for Australia (Pickering et al, p.436) is that ski operation would be concentrated on the highest areas of today's ski fields. According to another study on Australian ski resorts by Bürki, Elsasser & Abegg (2003, p.5), lower resorts would have to close down because of a lack of snow, whereas resorts at higher altitude would always spend more on snow making and environmental problems are expected to increase.

2. Results for Canada

A study on climate change in Canada (Bürki, Elsasser & Abegg, 2003, p.5) showed that different ski resorts already have a high level of artificial snowmaking. In this country for various ski resorts the strategy is to maximize the operational days to make more profit (Scott, McBoyle, Mills & Wall, 2011, p.160). However, there is an example of one ski resort that closes in mid-week because the number of visitors is not sufficient to counterbalance operating costs (Scott et al, p.160). In Canada, snowmaking is especially important at the beginning of the ski season to have good skiing conditions during Christmas and New Year, and also at the end of the season for the Spring Break (Scott et al, p.163).

3. Synthesis of the three studies

Climate change is a challenge for the tourism industry in mountainous areas, mainly because of less snow coverage. Already now but more in the future, ski resorts will have more pressure and adapting to this issue will involve more costs.

The three studies agreed on the fact that climate change in mountain areas will have as a consequence less snow, more extreme events such as landslides, less glaciers and warmer temperatures (Bürki, Elsasser & Abegg, 2003, p.8).

Snow reliability is not the only requirement for a cableway company to be profitable, for example, weather conditions also play an important role (Bürki, Elsasser & Abegg, 2003, p.1). It is also essential to say that we cannot predict what will be exact impacts of global warming in the future and various scenarios are created.

All ski resorts compensate the lack of snow by installing snow guns because snowmaking reduces the vulnerability of the ski industry. Of course, this represents an important cost for all ski resorts and it is necessary to have adequate infrastructure. Moreover, snowmaking is more a short-term solution and ski resorts should also think of other strategies, such as 4-season tourism or even focus only summer tourism for the long-term, especially for ski resorts located at lower altitudes.

All three studies found out that ski passes will also be affected by the investment made on snow guns in Australia and Canada.

Studies talked about the role of tourism representatives regarding the issue of climate change because they need to react to the consequences of climate change. Another important aspect is the collaboration between ski industry stakeholders and climate change impact researchers to better adapt to the issue of climate change.

On the graph below we can see various adaptation strategies that are possible in mountain areas regarding climate change.

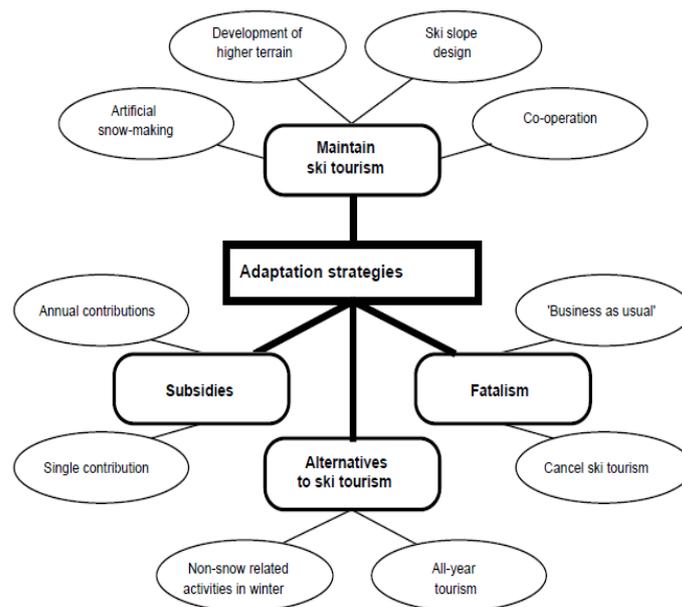


Figure 2: Adaptation measures towards climate change for ski resorts (Bürki, Elsasser & Abegg, 2003, p.7)

4. Relevance of those three studies for tourism in Switzerland

Climate change has also a big impact on the winter tourism in Switzerland. Since 1970, the temperatures have increased of more than 1°C in Switzerland until now (Begert, Schlegel & Kirchhofer, 2005) and it is likely to continue in the future.

Switzerland should continue investing in snowmaking facilities but also invest in other measures so that they can guarantee good snow conditions for their customers. However, ski resorts in our country should also consider the trade-off between installing more snow guns and the consumption of water and energy: those snowmaking machines are expensive and ski resorts should at the same time think of the consequences for the environment.

Some of the lower ski resorts (for example the ones located in the Jura or in the Préalpes) should consider in the long run stopping ski activities and find alternatives to ski tourism like summer activities. Consequently, ski resorts located at a higher altitude will certainly see an increase in demand as other ski resorts would have closed down.

In Switzerland, tourism representatives, stakeholders of ski industry and researchers should work together to better predict the future impact of climate change and always find strategies while considering feasibility, costs and environment in the long-term.

Sources

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