



## 713 – Multinational and tourist groups

### Case study

### Tourism in the Maldives – the environmental impacts



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## **Abstract**

The environmental changes caused by tourists are a publicly discussed topic nowadays. Nevertheless, we still do travel in masses and therefore have a great impact on the environment. The Maldives, a growing destination, has had many issues in past years with negative environmental changes and not long ago started to implement regulations in order to diminish the growing problems, such as coral reef destruction or rise of the sea level. In comparison, Switzerland is also facing problems, but they are of a different kind. The alpine destination focuses on the nature that needs to be preserved and tries to find a solution for the melting glaciers. We wrote this paper to help the readers understand to what extent their journeys and choices of destinations have an impact upon the environment and how destinations manage the issues.

**Keywords:** Maldives, Switzerland, environmental change, impacts of tourism

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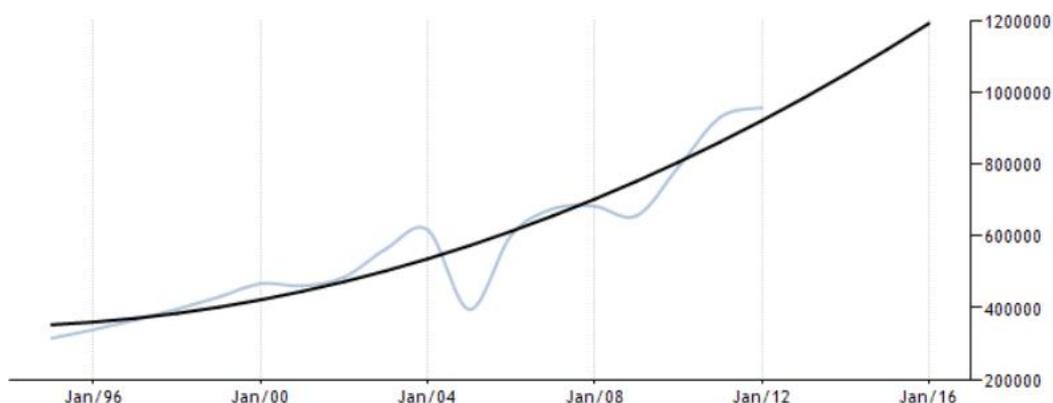
## Introduction

Any tourism activity is likely to have both positive and negative economic, socio-cultural and environmental impacts on the destination (Cooper et al, 2008). In fact, tourism needs enough space to build new infrastructures, to create new activities and to provide access to the destination. Several measures are undertaken in order to make this possible- sometimes by deforesting, diverting rivers or transforming agricultural land - which negatively affects the environment and the ecosystem. Although tourism aims to preserve the environment, human pressure is a direct link that affects the ecosystem, especially the small and fragile islands. Moreover, by contributing to and being impacted by climate change tourism leads to serious environmental issues. Therefore, the impacts must be limited and the focus should be on sustainable development.

Due to the fact that tourism is often developed in places of natural beauty, but attractive environments can be destroyed by tourist activities, there is a symbiotic relationship between the two (Page and Connell, 2006). This means that the very factor that attracts tourists (i.e. the environment) is the thing that is most likely to be spoiled by mass tourism. In the case of the Maldives the following case study will show what impacts have had a negative effect on the island destination.

## Tourism in the Maldives

In the past 40 years the Maldives have become one of the most popular tourist destinations in the Indian Ocean (Viner & Agnew, 1999). Ever since the 1980s tourism has been boosting the islands economy and it is now the main source of income (Viner & Agnew, 1999; Hall, 2010; Kundur & Murthy, 2013).



*International tourism - number of arrivals in Maldives, source: tradingeconomics.com*

It is thanks to this significant growth of importance that destinations such as the Maldives have undergone developments and now boast functioning infrastructure and communication possibilities (Hall, 2010). However, paradisiacal islands like the Maldives have been subject to numerous studies regarding their development, focusing on different issues such as the environment, socio-cultural or economic issues. The Alliance of Small Island States (AOSIS) Declaration on Climate Change (2009, p. 1) stated that the effect of humans on climate change are worse than they had forecasted and that it will continue to intensify. Tourism is often developed in places of natural beauty. But attractive environments can be damaged by tourist activities, implicating that there may be a destructive relationship between the two (Page and Connell, 2006). In terms of effects on the environment the OECD (Organisation for Economic Co-operation and Development) developed guidelines which can be used to evaluate the repercussions of tourism on the environment (Cooper et al, 2008). According to them, the following categories are likely to have a negative impact on the destination:

- Permanent environmental restructuring (e.g. construction of hotels)
- Waste product generation
- Direct environmental stress caused by tourist activities (e.g. destruction of coral reefs)
- Effects on the population dynamics (e.g. migration)

## **Environmental impacts**

Tourism affects destinations in many ways, both positively and negatively. One example could be the construction of an airport big enough to accommodate the many tourists wanting to travel to a certain destination. This can surely be seen as a positive impact of tourism as these changes also improve the life quality of the locals. However, in areas of environmental sensitivity such as the Maldives, it will become clear that it is usually the negative influences that predominate.

Due to the increasing number of tourists more and more coastal resorts are being built, leading to the removal of trees and other vegetation to make room for new complexes (Kundur & Murthy, 2013; Cooper et al, 2008). Often exotic species are imported to make the resort gardens more enticing. The problem hereby is that these imports might force out local vegetation and prevent it from growing.

Another problem that islands usually have, is that their relatively small population is doubled by the number of tourists during high season leading to strain on the environment and in the long term even the destruction of natural resources (Hall, 2010).

The Maldives are made up of many small islands which do not lie very high above sea level. Climate change (partly caused by tourism) negatively affects the coral reefs that are located in the area as they get bleached by the sun which - in turn - results in their destruction (Viner & Agnew, 1999). If the temperature of the sea gets too hot then the coral reefs expand thus making sea levels rise. It is for this reason that climate change may have a large impact on the Maldives because if sea levels rise further, island destinations may be destroyed due to coastal erosion and flooding (Viner & Agnew, 1999; Hall, 2010). Furthermore, a rise in sea level could cause salt water to contaminate the islands during storms and eventually make them uninhabitable (Viner & Agnew, 1999).

Coral reefs are also in immediate danger because tourists who go swimming, snorkelling or diving may accidentally damage the coral or even take it deliberately as a souvenir (Kundur & Murthy, 2013; Page and Connell, 2006).



*A destroyed coral reef*

It is the Maldives' white beaches, turquoise water and coral formations that attract so many tourists each year (Kundur & Murthy, 2013; Hall, 2010) but as mentioned before, it is these very resources that might be spoilt or altered by the tourists who came to admire them in the first place (Viner & Agnew, 1999; Hall, 2010).

This is the dilemma of destinations such as the Maldives: on the one hand they are heavily reliant on tourism for their economy but on the other hand too many tourists will put extra pressure on the environment (Cooper et al, 2008) and gradually lead to the destruction of the islands beauty, leaving the inhabitants with nothing (Hall, 2010; Page & Connell, 2006).

Pollution of the beaches and water, littering and most especially the picking of corals negatively affect the Maldives as a destination and may eventually lead to the decline of tourism due to the lack of attractiveness (Kundur & Murthy, 2013).

Hall (2010) notes that islands particularly struggle with waste disposal, conservation of biodiversity and the environmental impacts of tourism. Although there are regulations concerning sewage disposal in place, some resorts still pump their waste water into the sea too close to the islands which leads not only to environmental but also to health issues (Kundur & Murthy, 2013).

In terms of counteracting the negative environmental impacts of tourism the Maldives have already taken effective steps towards sustainability. One example is the use of rainwater instead of groundwater for drinking. Moreover, salt water is used for flushing toilets and showers make use of desalinated sea water. All these measures help prevent water shortage (Kundur & Murthy, 2013).

According to Kundur & Murthy (2013) solid waste does not have a major negative impact upon the Maldives at the moment but for aesthetical reasons there are special management practices in place to solve the problem. A landfill site has been created on one of the islands to overcome the issue of having large amounts of solid waste on a relatively small area. However, it remains to be seen whether this can really be a sensible long-term solution.

Tourism in the Maldives will only be able to continue if the islands natural beauty is maintained. In order to do so, the government has already put in place several laws, policies and management plans to protect their environment. This is the reason why negative effects on the islands have been held to a minimum and – for now – the Maldives continue to be a popular tourist destination (Kundur & Murthy, 2013).

### **Application to Swiss tourism**

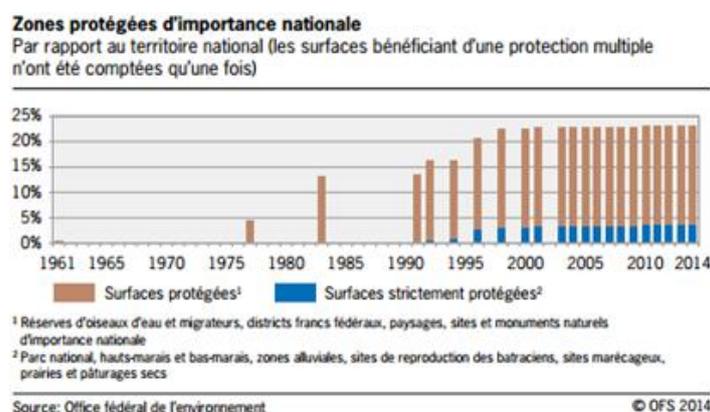
Like the Maldives, the Swiss economy is highly reliant on tourism. It is the fourth most important export industry in the country after the chemical industry, machine industry and watchmaking industry. Tourism is one of the main work providers, as it employed 146'259 people in 2012 (STF, 2013, p.4).

Another similarity between Switzerland and the Maldives is the reason why tourists visit these countries, namely for their landscapes and the nature-related activities. "Switzerland's geographical location is unique, with the Alpine range, several large lakes, the Jura, and

many other natural assets. The climate favours winter sports, but also summer tourism with regions such as Ticino and Lake Geneva enjoying very mild climates.” (OECD, 2000, p. 3).

Swiss tourism needs the nature and beautiful landscapes to attract tourists but tourism has a negative impact on the environment. The first negative effect is the fact that tourism permanently changes the landscape with constructions. In fact, the infrastructures for tourists like holiday accommodation, sports’ establishments like golf courses, ski lifts and ski slopes are big consumers of land. According to a study, a golf course uses 50 hectares, a hotel bed around 30 square meters and a secondary home bed around 150 square meters (OFS, 2010, p.21). Furthermore, tourism produces a lot of waste, “according to a general rule, a tourist produces between 2 and 5 litres of waste per day” (OFS, 2010, p.22). The problem of previous years is that the tourist flow is increasing, as well as their waste and many destinations do not have an appropriate waste collection centre for so many people (OFS, 2010, p.22). Finally, the last issue that tourism causes to the environment is the strain caused by tourist activities. In Switzerland, many activities that are not made in particular establishments like mountain biking, off-piste skiing, climbing, rafting and snowshoe walking are destroying plant species and animal homes (OFS, 2010, p.22).

Regarding these issues, the government has implemented some sort of conservation of sensible areas. Additionally, tourism can contribute to its preservation by increasing the public appreciation and awareness of the environmental issues that occur. In this case, by protecting the environment, tourism is acting in its own interest. In Switzerland, the government has taken various measures over the years to improve the situation (see the bar chart below).



*Protected areas of national importance, Swiss Federal Office of Environment 2014*

Laws were set up by the government on landscaping as well as on country planning (LAT). The main goal of these laws is to protect the natural resources, to build and maintain a

quality of settlement and to assure the protection of the country (Autorités fédérales de la Confédération suisse, 2014). Another example is the law for hiking trails: this law obliges destinations to provide hiking trails and to keep them in good condition. Moreover, it forces tourists to stay on these tracks. This law is in place to protect the mountains' ecosystem and to assure the hikers' security as well.

But one of the most worrying issues in Switzerland today is not the negative impact of tourism on the environment but climate change's impacts on the environment and tourism destinations. Tourism has a contradictory position regarding this topic because it is partly responsible for global warming due to the "Greenhouse Gas emissions from leisure-related transport and high energy consumption in the accommodation and activity sectors" (Matasci C., Altamirano-Cabrera J.-C., 2011, p.1) but at the same time also suffers from the consequences. In Switzerland, tourism feels the effects of global warming especially in the Alps. The tourism industry and several ecologists are researching two main problems. The first one being the mountain glaciers' melting, which has the consequence of a higher snow avalanche risk. The second one is the increase in temperatures, which leads to decreasing snowfall on low altitude ski resorts (OFEV, 2013, p.). In Switzerland, scientists have already thought of solutions to reduce the mountains glaciers' melting, such as covering them with white sheets (Matasci C., Altamirano-Cabrera J.-C., 2011, p.12). But it has not been tried yet and will maybe never happen. Artificial snow is the current solution adopted by ski resorts to deal with the lack of snow, while waiting for another solution.

## **Conclusion**

Tourism has a particularly high influence on any environmental damage. Whether it is the increasing global warming, littering or the destruction of untouched nature, tourism contributes to it. Whether it is in the Maldives or in Switzerland, both were not properly prepared for the masses of tourists and therefore, damage has been done. In any case, the examples show that there are ways to minimise the negative impacts. In the case of the Maldives, the municipality is trying to promote sustainability, but lacks the ability to fully commit. Protecting the coral reefs by raising awareness is a good example for a successful call for action. On the other hand, the garbage island is a sign that the perfect solution has not yet been found and therefore an indicator that the Maldives can actually not accommodate the masses of tourists in a sustainable way yet. In comparison, the case of

Switzerland shows how different the environmental impacts can be depending on the geography of a country. Here, the focus lies more on the preservation of nature and the actions against decreasing snow fall. As for the preservation of nature, Switzerland has implemented laws, secured certain areas and also focuses on public awareness. But for the lack of snow no sustainable solution has been found yet. Switzerland as a small country cannot diminish the global warming as such, but it can try to contribute something by being a role model. Examples of such are eco-friendly cars or even destinations where non electrical vehicles are strictly forbidden.

The comparison of the two examples leads to the conclusion that no perfect solution has been found yet in order to diminish all negative impacts on the environment caused by tourism. In any case, being aware of the environmental issues of the destinations is a step in the right direction and shows that there is a solution to the problems.

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