

## **SUSTAINABLE TOURISM AND HYDROELECTRIC PROJECTS: CONTRADICTIONS IN PATAGONIA, CHILE**

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Chile and Argentina share the vast territory of Patagonia, at the southern tip of the American continents. Among many other attributes, Patagonia has high environmental quality due to its large quantity of freshwater resources in ice fields (numerous glaciers), lakes, rivers, fjords and canals, all of which result from past glacial activity. Patagonia is positioned in the social imaginary as an emerging tourist destination associated with a majestic expanse of unexplored landscapes. These qualities give Patagonia enormous potential for developing nature and adventure tourism, ecotourism, rural tourism and scientific tourism. Nonetheless, these modalities may undergo profound changes with the implementation of major hydroelectric projects in the Aysén region (Chile), which if they proceed would damage the image of this territory as a area pristine, remote and unexplored natural area. What will happen to emerging tourist destinations such as Patagonia, which have placed their bets on various types of nature-based tourism, such as ecotourism, if projects are carried out that involve major human intervention in the natural environment?

This article takes into account the risks associated with the development of Chilean Patagonia as a natural tourist space if other economic activities are implemented that use the same natural resources as the tourism initiative (e.g., the rivers) and impact other tourist attractions in the region, such as the «carretera Austral» (Southern Highway), a scenic part of the Pan-American Highway that constitutes the main land route for transportation in the Aysén region. The hypothesis is that the prospect of sustainable tourism in Chilean Patagonia is diminished by the probable implementation of large hydroelectric plants in that territory, which would damage the pristine natural image of Patagonia and weaken its competitiveness as a tourist destination.

The analytical framework is based on the geography of tourism, a field that integrates social and environmental aspects and conceives of tourism first and foremost as a territorial phenomenon carried out in particular «places» (Vera et al., 2011). The research methods used are qualitative, based on a dialectical analysis of two points of view: the positive and negative impacts of the major Aysén hydroelectric project. Technical documents related

to the project in question will be analyzed, along with the tourism dynamics of the territory and a brief selection of news items related to the territorial conflict generated by the project's probable execution.

The Aysén hydroelectric project consists of the construction of five hydroelectric plants in Chilean Patagonia: three in the Pascua River and two in the Baker River. The five reservoirs that are planned would flood 5910 ha, of which 1990 are within the natural river beds. The electricity to be generated would be transported by a 2270 km transmission line connecting Patagonia with Santiago de Chile. The construction is expected to take 11.5 years and has not yet begun; the useful life of the project can be considered indefinite (PHA, 2008a; PHA, 2008b; Jaramillo and Sapiains, 2008; Torres, 2008).

The project's environmental impact study identified a negative impact on the region's tourism if the power plants are built, because the tourism offerings are associated with a territorial marketing image that is characterized by the predominance of the natural landscape, and therefore tourism development has been based on natural resources and the landscape, low levels of human intervention, and favorable for the exploration of the natural environment. The negative impact on the region's image is categorized as long-term (at least 12 years) and is considered «irreversible» (PHA, 2008a).

The project would also affect the tourism activities that take place at internationally known tourist attractions such as the Baker River, and the activities that take place there: sport fishing, river trips, and rural accommodations. Similarly, during the construction phase of the project, there will be a considerable increase in vehicle traffic on the famous Southern Highway (carretera Austral), as well as noise pollution from the heavy machinery and blasting explosives (PHA, 2008a), which would undoubtedly turn away the tourists who travel this scenic highway each year, whether by car or on bicycles.

On the other hand, the flow of people related to the project would clearly lead to greater commercial and economic activity in the local communities in general and for tourism-related businesses in particular. A large part of the current force of tourists would be occupied by the project's workforce (laborers, executives, engineers, advisors, etc.). Therefore, the economic impact for tourism-related businesses during the project's construction phase could perhaps be better than during any normal tourism period. In turn, as a result of building the power plants the general access to the territory will be improved because of improvements to some of the region's roads (carretera Austral) and ports (Yungay and Río Bravo) (PHA, 2010).

A review of the literature on sustainable tourism and tourism competitiveness, together with the Aysén hydroelectric project's impacts on the tourism sector, we conclude that the prospects for sustainable tourism in Chilean Patagonia will be reduced because of the likely introduction of large hydroelectric plants in that territory. They will attack the very basis of the natural resources that constitute the attraction for international tourists, and therefore the natural image the destination projects, thereby weakening the region's competitiveness.

If Chile were to decide to strengthen the nature-based model of tourism in Patagonia, which has been inspired by the region's exceptional natural resources and the image of so much territorio inhospitable but awe-inspiring, pristine and unexplored, the Aysén hydroelectric project would be harmful to the tourism sector. It would diminish the uniqueness

of the territory, reduce the quality of the landscape and change the region's image in the global market, where there is increasing competition between environmental tourism destinations.

During almost 12 years, the tourism-related consequences of the construction phase of the Aysén hydroelectric project will be quite negative, affecting the tourism activities that take place in the area, such as sport fishing or trips along the Southern Highway (carretera Austral), and therefore the stream of tourists who arrive to the area directly influenced by the project. Of course, the situation would be different once the project reaches the operational phase. Presumably there will no longer be constant truck traffic or heavy machinery always in use. There would also be better roads and ports. In this sense, while the Aysén hydroelectric project remains in operation the territory's competitiveness in tourism opportunities might improve because of infrastructure improvements that allow tourist access and use of new and existing resources. Nonetheless, this possibility is countered by the argument that the infrastructure left behind (roads and ports) could also be used for productive activities such as mining and salmon farming, other sectors that could cause disputes with the tourism industry in Patagonia over the use of resources, due to the environmental and landscape impact generated by these kinds of activities.

Unfortunately, the Aysén hydroelectric project site is located in a place with high environmental and tourism value: between two ice fields, to the north and south (Campo de Hielo Norte and Campo de Hielo Sur), two national parks (one of which is also a Biosphere Reserve), two national reserves, and seven internationally acclaimed tourist attractions. As a result, this large hydroelectric project has an opportunity cost that has not been fully evaluated: the benefits that will be lost by not preserving this area of Patagonia. Preservation could be assumed to be a competitive advantage for the territory, a development opportunity for example, through the declaration of the North and South Ice Fields as a World Heritage Site, in a country that does not yet have any space with this designation. The Bernardo O'Higgins National Park, which includes the Southern Ice Field, has been on UNESCO'S tentative World Heritage Site list since 1994. Although the declaration of a natural heritage site does not in and of itself guarantee the development of sustainable tourism, it would give Chilean Patagonia greater recognition at the world level and would be more congruent with the type of tourism that exists in this zone (i.e., tourism associated with the natural environment) and the natural image it projects.

Using strategies for sustainable development, his approach could build an alliance between preservation and tourism, without forgetting that poorly planned tourism also has the ability to damage the environment, especially in zones with high ecological value. In effect, tourism can be poisonous for a territory if it is undertaken as massive, uncontrolled exploitation of the resources. In this sense, in order for the process of developing tourism in Patagonia to be sustainable, according to Hunter (1997), it is probably necessary to envision tourism offerings with environmental criteria in mind (Sustainable Development through «Environment-Led Tourism») and it is also very possible that even in many parts of Patagonia there will be a need to control the flow of tourists (with «neotenuous tourism» strategies), maintaining the destination in the introduction or exploration phases described by Butler (1980).

Using the information analyzed to date, we can show that with large hydroelectric plants the general model of territorial development is placed somewhere between weak and very weak in terms of sustainability; an anthropocentric and utilitarian view of natural and cultural resources is predominant. Despite recognizing the impacts and attempting to minimize them, this vision continues to prioritize economic profitability over environmental preservation or social equality. In this sense, the Aysén hydroelectric project requires reflection not only about the future prospects for sustainable tourism in Chilean Patagonia, but also about the true possibilities for sustainability that exist under a neoliberal model of development, because that is how these types of projects are justified.