

# The Use of GIS in Sustainable Tourism Planning – a case study from Katla Geopark, Iceland

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## Introduction

Worldwide tourism planners and policy makers are becoming more inclined to recognize and promote the importance of local knowledge, especially its relevance to issues of sustainable management. The importance of integrating local knowledge into regional tourism planning is recognised as critical for sustainable tourism management. Local knowledge reflects the diverse range of opinions of particular places in the community as well as different values, emotions and perceptions of a place that are of vital importance for sustainability of a place, both for the local community and tourism development. Sustainable management is furthermore only achievable if all stakeholders and interest groups are involved in the planning process. Therefore integrating their perception into the planning process is of vital importance. To be able to promote sustainable tourism it is likewise important to map the locals' knowledge and understanding the concept of sustainability. This study aims to assess the potential of integrating local perception into sustainable tourism planning. This integration is to be achieved through the uses of Geographic Information Systems (GIS) through a participatory mapping exercise. The specific aims are to: i) assess local perception and understanding of the concept of sustainable tourism; ii) examine a participatory mapping exercise to achieve local knowledge as regard perception of tourism development and future tourism planning within Katla Geopark; and to iii) identify potential sites that could be attractive for tourism development within Katla geopark as regard the local tourism operators' perception.

## Methodology

Katla Geopark is Iceland's first and so far the only geopark. It was accepted to the European Geoparks Network and jointly to the Global Geoparks Network in September 2011. It covers 9542 km<sup>2</sup>, or about 9,3 % of the total area of Iceland, and is made up of three municipalities with total population around 2700 (Figure 1). To assess the locals' understanding of the concept of sustainable tourism an internet based survey was sent out to all tourism operators within Katla Geopark. The survey was pre-tested by five operators and adjusted to their comments. As a first step to achieve local knowledge as regard perception of tourism development and future tourism planning within Katla Geopark interview were taken to local tourist operators. Ten operators were selected from each of the three municipalities, or a total of thirty interviewers that are 37% of all tourist operators in Katla Geopark. The interviews were taken in all cases at the operator's home in May and June 2012. The first part of the interview focuses on the locals' operators' perception

as regard the economic, social and environmental impact of tourism, threats of tourism and expectation to tourism development in the geopark. In the second part of the interview the interviewers were asked to draw up on enlarged satellite image of Katla geopark areas that they consider the most important for the geopark, areas that they would like to see increased tourism service and infrastructure and areas that they consider need to be protected or to have limited tourism access. They were further asked to write down three issues that they like best about the geopark, three issues that they don't like and three issues that they would like to see become a reality in the future due to the advent of Katla geopark. Geographical information systems will be used to spatially analyze the collected data and identify potential sites for future tourism sustainable development.

## Initial results

This project is being carried out in summer 2012 and first results will be introduced at the conference. Initial results as regard the locals' operators understanding of the concept of sustainable tourism reveal that only 14% find the concept familiar and believe they understand the concept. Nearly 65% are somewhat familiar and 21% do not understand the concept. Majority (60%) believe that natural resource protection and tourism can be compatible. Nearly 60% do not notice any demand for sustainable tourism in and around Katla geopark, but halve of them believe that a demand for sustainable tourism could be developed in the geopark.



Figure 1. Location of Katla Geopark ([www.katlageopark.is](http://www.katlageopark.is))