

## Utilization and sustainable development of mountain areas and environmental impact of possible overexploitation

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**Abstract.** Tourism is one axis of development in Greece. Mountainous areas, with altitude over 700 m, cover 53% of Greece and they are characterized by low population density and long-term unemployment. The Greeks have a dependent connection among environment, economy and society as the history illustrates. The tourism industry is most improperly maintained, or their benefits are minimal compared with the current price per visitor. The aim of the work is to estimate how tourism can utilize a mountainous area based on sustainability but there is always the possibility of overexploitation and that can cause unexpected environmental impacts. The study area is held at Samarina region, a mountainous area of Northern Pindos in Greece. Social data were collected with questionnaires and local visits for better understanding of human resources for forest authorities and other administrative information's. Forest inventory data and tourism data have been derived by previous studies. The development of a Spatial Decision Support System that can concern all the conditions that are needed in order to make an estimation of the optimal way of measuring the footprint of tourism in natural environment is really a challenge. A GIS powerful decision support tool is proposed, which can give to the sustainable planners the opportunity to choose the optimal way to develop tourism with an environmental friendly way. **Keywords:** utilization, sustainable development, tourism, mountainous area, environmental footprint.