



Testing Ecotourism Principles in Nicaragua. The cases of the Nature Reserves Mombacho Volcano and Datanlí – El Diablo.

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Akademisk avhandling som för vinnande av agronomie doktorsexamen kommer att offentligt försvaras i sal J, undervisningshuset, Ultuna, 15 den juni 2010 klockan 10.00.

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Distribution:
SLU, Department of Urban and Rural
Development, Box 7012, 75007 Uppsala,
Sweden

Uppsala 2010
ISSN 1652-6880
ISBN 978-91-576-7450-0

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Abstract

The purpose of this study is to determine if ecotourism principles are being applied in Nicaragua. The cases studied were the Nature Reserves Mombacho Volcano (NRMV) and Datanlí–El Diablo (NRDE). The research questions addressed were the following:

1. Are the tourism activities contributing to conserving the protected areas and their biodiversity?
2. Is ecotourism promoting awareness in visitors and local people?
3. Are the local communities benefiting from these activities and, if so, how relevant is their participation?

Changes in plant cover, plant species, and medium and large-size mammals were studied along walking trails to determine if tourists had impacted richness, abundance and diversity of these parameters. Data relating to vegetation cover and composition were collected at sites along the trails and comparative pristine (undisturbed) locations in the NRMV in 2005 and 2007. For the large and medium-sized mammals a total of 48 censuses were carried out, 24 at each site. Two methods were used: fixed wide transects and the camera tracker trap technique.

A method for determination of the recreational carrying capacity (RCC) of hiking trails in protected areas was tested. To collect the social information individual structured and semi-structured interviews and focus groups were used. The objective of using different tools was to avoid bias by combining quantitative and qualitative interview techniques

The results indicate that there is a significant reduction of vegetation cover along the trails, mostly in a band adjacent to the trails. For tree species richness there were no significant differences between the control and trail-sides, whereas for the understorey species there were significant differences between these comparisons. This indicates an ecological impact on the understorey species composition and richness due to trail use.

In the case of large and medium-sized mammals only a pilot study was completed. It indicates that there are no statistically significant differences between hiking trails within a nature reserve. However, the ordination analyses indicate a difference in the species composition between hiking trails in the most visited reserve.

The results of the Social Carrying Capacity (SCC) indicate that the main constraints for all trails were the spatial and accessibility limiting factors. In broad terms the RCC methodology is a tool for determination of the required physical conditions and management capacities for tourist management.

This study demonstrates that the farmers in the two nature reserve communities are engaged in the protection of the reserves because they are aware of environmental concerns and recognize that their own welfare can be affected.

Keywords: ecotourism principles, plant species diversity, large and medium-size mammals, stakeholder participation, local benefits, recreational carrying capacity, nature reserves, Mombacho Volcano, Datanlí–El Diablo.

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