Multiple Carrying Capacities from a management-oriented perspective to operationalize sustainable tourism in protected areas

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ABSTRACT

This article describes how the concept of Tourism Carrying Capacity (TCC) has shifted from a unidimensional approach to incorporating environmental, social and political aspects. This shift is demonstrated by a study of a large, internationally popular protected area used by trekkers, the Mt. Everest Region, where qualitative data collected from visitors was combined with environmental modeling using a participatory framework. Tourist satisfaction showed positive margins for further tourist industry expansion, but current environmental conditions limit growth and further development. Space and time dimensions were also considered. We observed that the limits on growth and further development can be manipulated, with a certain degree of flexibility, through investments and regulatory measures. We hypothesized that TCC can play an important role in the management of protected areas only if it is viewed as a systematic, strategic policy tool within a planning process rather than as a unique, intrinsic number that is not modifiable. We conclude that to translate the strategy into action using standard measures, further investigation is needed to balance the various TCC components as a part of a decision-making framework that includes the integration of different cultural approaches and policy needs.

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1. Introduction

As emphasized by the World Tourism Organization (WTO), tourism operations in protected areas need to be carefully planned, managed and monitored to ensure their long-term sustainability (WTO, 2005). Otherwise, such operations will have negative consequences, and tourism will contribute to the further deterioration of these areas. While the negative effects of tourism are of significant concern, many protected areas have promoted tourism development to improve their economic conditions, particularly to generating revenue to finance other social and economic development activities and to provide direct income and employment opportunities for local people (Nepal, 2002, 2005; WTO, 2005).

The debate on the limits of growth is not new; it has existed since the 1930s in the case of the tourism sector (Saveriades, 2000). Starting as early as the 1960s, outdoor recreation research used the concept of Tourism Carrying Capacity (TCC) to address the resource and social effects of visitor use (Wagar, 1964; Manning et al., 1999; Lawson et al., 2003). The concept has been adopted by researchers and managers in the context of tourism and environmental sciences to address financial resources and avoid negative social impacts (Manning et al., 1996). It mainly includes ecological and social parameters, such as environmental quality and visitor experience, respectively, and is conventionally defined as “the maximum number of visitors which an area can sustain without unacceptable deterioration of the physical environment and without considerably diminishing user satisfaction” (Mathieson and Wall, 1982; Prato, 2001). Clearly, the basic element of this concept is the need to establish a limit on tourist activity that reflects the concerns and priorities of local managers and planners (Coccossis and Mexa, 2004).

By the early 1990s, the concept of TCC was largely replaced by the idea of sustainable tourism, but many of the challenges outlined for this new concept are similar to past issues concerning TCC in terms of definition of objectives, practices, utility and diversity of types (Navarro Jurado et al., 2012). Both ideas emphasize the need to limit tourism growth and determine which changes to the