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Assessing the suitability of community-based management for the Nyungwe Forest Reserve, Rwanda

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Abstract

This study assesses the perceptions of representatives from three stakeholder groups—local communities, a government agency, and an environmental organization—towards the suitability of community-based management (CBM) approach to the Nyungwe Forest Reserve (NFR), Rwanda. A strengths, weaknesses, opportunities, and threats (SWOT) technique in combination with an analytic hierarchy process (AHP) was used to achieve the task. Results show that representatives of local communities perceive positive aspects of CBM outweigh its negative aspects. However, representatives of a government agency and a nongovernmental organization anticipate that weaknesses associated with CBM approach outweigh its strengths. Our analyses show that stakeholder groups view CBM differently, suggesting a need for better understanding about this approach. Implementation of CBM in small scales first along with outreach activities might bring stakeholders together and will ensure conservation and rural community stability.

Keywords: Biodiversity conservation; Community-based management; Community development; Protected area; Rwanda; Nyungwe Forest; SWOT-AHP

1. Introduction

The continuous loss of biodiversity in tropical forests has led to the creation of protected areas in many developing countries. However, conventional management strategies such as ‘fences and fines

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approach' that prohibit local access to protected areas have escalated conflicts between local communities and management authorities in the tropics (Wells et al., 1992). These conflicts are more pronounced in places where communities are heavily dependent on protected areas for their subsistence needs. Community-based management (CBM), which explicitly recognizes the basic needs of local people in and around the protected areas, is thought to alleviate the conflicts related to biodiversity conservation (Western and Wright, 1994; Gibson and Marks, 1995).[1] Following Uphoff (1998), we consider CBM as a way of engaging local people in resource management by incorporating their ideas, experiences, values, and capabilities and sharing the benefits of management. This approach is expected to increase local access to protected areas, sense of ownership among locals, and income to local communities through benefit sharing arrangement. Although factors such as the lack of resources for law enforcement, growing support for decentralized decision making, and increased recognition to customary rights of local communities are providing impetus for CBM (Lewis and Carter, 1993; Gibson and Marks, 1995; Murombedzi, 1998; Salafsky and Wollenberg, 2000), there is skepticism among resource managers about its potential in achieving conservation goals (Wells et al., 1992; Barrett and Arcese, 1995; Gibson and Marks, 1995; Hackel, 1998; Kellert et al., 2000; Songorwa et al., 2000).

Involving stakeholders in planning and management is a necessary condition for sustainable conservation of protected areas. However, factors such as the nature of resource under consideration, socioeconomic and cultural milieu of the area, opportunities to generate employment and economic activities, community capacity to undertake management responsibilities, and policy and institutional uncertainties would influence stakeholders' perceptions about CBM and their involvement. If the resource under consideration is sensitive and likely to be threatened and if local communities have limited skills and experience to deal with resource conservation, for example, government agencies in-charge of that protected area would be hesitant to engage in CBM. Furthermore, environmental agencies may not embrace CBM if they perceive that the resource under consideration will become endangered or extinct due to shortcomings associated with CBM implementation. Therefore, identification and assessment of factors influencing stakeholders' perceptions about the suitability of CBM are critical before it is implemented.

This study assesses the potential of CBM approach to the Nyungwe Forest Reserve (NFR), Rwanda as perceived by representatives of three stakeholder groups—local communities, a government agency, and an environmental organization. We apply strengths, weaknesses, opportunities, and threats (SWOT) in combination with analytic hierarchy process (AHP) to achieve this task. While SWOT analysis uses a diagnostic approach to identify key factors determining the success or failure of an approach or a plan (Weihrich, 1982; Kotler, 1994; Smith, 1999), AHP measures the relative importance of factors from stakeholders' view (Saaty, 1977, 1982, 1993; Zahedi, 1986; Wind, 1987). These approaches have been widely used to assess factors influencing forest management planning (Mendoza and Sprouse, 1989; Kuusipalo and Kangas, 1994; Kurttila et al. (2000) and Ananda and Herath, 2003), biodiversity protection (Kangas and Kuusipalo, 1993), management of national parks (Peterson et al., 1994; Schmoldt et al., 1994), and buffer zone management of a nature reserve (Li et al., 1999).

2. SWOT-AHP method

SWOT is a convenient way of conducting a situation analysis or a diagnostic analysis of factors influencing a particular decision. In conventional SWOT analysis, the magnitude of factors is not quantified to determine the effect of each factor on the proposed plan or strategy. One can overcome this problem by using the AHP method, which assigns relative priority to each factor through pair-wise comparison (Zahedi, 1986; Wind, 1987; Saaty, 1993). Furthermore, this analysis can be conducted even with a small sample of individuals or groups who are knowledgeable with the issue under investigation (see Kurttila et al., 2000; Ananda and Herath,

[1] In the literature, CBM is also referred to community-based natural resource management (CBNRM), community wildlife/range management (CWM), and integrated conservation and development programs (ICDP).