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Analysis of local perspectives on sustainable forest management: an Indonesian case study☆

Herry Purnomo[a,c], Guillermo A. Mendoza[b,*], Ravi Prabhu[c]

[a]*Faculty of Forestry, Bogor Agricultural University, Bogor, Indonesia*
[b]*Department of Natural Resources and Environmental Sciences, 1102 Sth Goodwin Av., W-503 Turner H, University of Illinois, Urbana, IL 61801, USA*
[c]*Center for International Forestry Research, Bogor, Indonesia*

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Abstract

Despite widespread acceptance of sustainability as the ultimate goal of forest management, perspectives about its meaning, significance, and relevant indicators may still differ. This paper examines local perspectives on sustainability, and evaluates their similarities and differences. A systematic procedure based on criteria of proximity, pre-existing rights, dependency, knowledge of forest management, forestry spirit, daily activity, and legal rights was used to identify a small group of relevant stakeholders representing different groups, institutions, and organizations. Using participatory action research (PAR), stakeholders were asked to identify relevant indicators of sustainable forest management. The indicators identified by each stakeholder were then compared to a consolidated list assembled by field facilitators with respect to whether relevant indicators are present or not. Based on the resulting presence/absence matrix, a statistical tool called the simple matching coefficient was used to estimate the similarity measures among the stakeholders' perspectives. In addition, cluster analysis was used to classify groups of stakeholders depending on their similarities to each other. Finally, hypotheses related to the 'closeness' of perspectives among local communities, non-governmental organizations, a timber company, and government organizations, as revealed by their selection of indicators, were tested. Results show that: (a) local communities have different perceptions in terms of what they consider to be important indicators compared to the NGOs, (b) there are significantly different perceptions between the government and the timber companies, and (c) there are also different perceptions between urban and field-based personnel of the same organization.

Keywords: Sustainability; Criteria and indicators; Participatory action research; Cluster analysis

1. Introduction

Over the last decade, sustainability of forest resources and ecosystems has become a worldwide concern. Consequently, many national and international initiatives have been launched to promote sustainable forest management. Among these, the most comprehensive and far reaching has been the development of criteria and indicators (C and I) for sustainable forest management. C and I are tools which can be used to collect and organise information in a manner that is useful in conceptualising, evaluating, communicating and implementing sustainable forest management (Mendoza and Prabhu, 2000a,b; Ducey and Larson, 1999; Prabhu et al., 1996). The term 'sustainable forest management' has become a widely used term in forest policy, and has also served as a primary guiding principle in community-based forest management (Ferguson, 1996; Maser, 1994). Despite different interpretations about its meaning and the lack of a universally accepted definition, sustainability has been viewed as an ideal condition to strive toward.

Along with the concept of sustainability, participatory management has also become a widely accepted

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* Corresponding author. Tel.: +1 217 333 9347; fax: +1 217 244 3219.
E-mail address: gamendoz@uiuc.edu (G.A. Mendoza).

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management philosophy, particularly for community-managed resources. Experience has shown that successful community-based forest management entails effective collaborative decision-making, which in turn depends on understanding and communication (Mendoza and Prabhu, 2001; Varma et al., 2000; Purnomo et al., 2003). Unfortunately, there are many impediments to effective communication. A major, yet often overlooked, impediment is the fact that forest stakeholders may interpret events and situations quite differently from one another. This diversity of perspectives, coupled with the tendency for people to believe that their own perspectives are the most legitimate, can result in divergent problem definitions, misunderstandings, and the eventual breakdown of the decision-making process.

Previous studies have shown that it is vitally important to explore how different stakeholders understand or conceptualise appropriate forest management. For instance, Kearney et al. (1999) have reported that differences in stakeholders' conceptualisations or perspectives on appropriate forest management may have contributed to the controversy in the Pacific Northwest forests of the United States. Results from their study indicated the existence of a wide range of concerns among stakeholders including issues related to the process of forest management. Pokorny et al. (2004) also examined local stakeholders' participation in the development of criteria and indicators of sustainable forest management in Brazil. One of their findings was that differences in the evaluation of indicators stem largely from the different stakeholders' understanding or perspectives about the 'verifiers' of each indicator.

Using statistical and other analytical methods, this paper examines the perspectives of local communities and other stakeholders on sustainable forest management. Based on these methods, the paper makes inferences about their similarity or divergence. Such analyses can be useful in exploring common areas of interests and perspectives among different stakeholders.

2. Methodology and design of study

The study presented in this paper focuses on analyzing local perspectives about forest sustainability using criteria and indicators. Essentially, stakeholders' views were elicited on what indicators they consider to be the most important for sustainable forest management and this was used as a proxy for their perspectives on sustainability. Determining people's perspectives or mental models of sustainability is important because they drive complicated multi-party processes of decision-making related to natural resources. This situation is often exacerbated by the fact that some groups claim to be acting on behalf of others, or at least in their best interests. Development practitioners, for instance, often find before them a tangled web of competing interests, conflicting perceptions and claims for representation. To pursue this analysis of local perspectives, a case study was initiated in 1999 involving a community forest in Indonesia. Further visits and subsequent interactions with stakeholders were conducted in 2000 and 2001 to update information on their perspectives on forest sustainability.

2.1. Defining stakeholders

One of the most important aspects of social research is the identification of the relevant group of stakeholders or participants who will be actively involved in providing input. This is particularly true in most forest management situations because of the typically large number of interest groups, users, organizations, and other institutions involved. In this study, identification of relevant stakeholders was done using the 'Who Counts?' method developed by Colfer et al. (1999). The method seeks to identify the most important stakeholders connected to the forest based on dimensions of proximity, pre-existing rights, dependency, knowledge of forest management (indigenous knowledge), forestry spirit (e.g. culture), daily activity on site (intensity of activity), and legal rights. 'Scores' are assigned by the researchers or facilitators to each group of stakeholders with respect to the seven dimensions. The simple scoring system is based on a scale that ranges between one and five (1 = high, 2 = relatively high, 3 = medium, 4 = relatively low, and 5 = low). The scores for each stakeholder are calculated and serve as the basis for deciding whether a stakeholder is included as a participant. What the method provides is a simple means for ranking stakeholders according to their importance for the forest, or their dependence on it. This ensures that important stakeholders are not left out when only a sub-set can be included in the study.

The cut off point for defining 'who counts' is determined using the means of scores on the seven dimensions and the experience and resources of the users of the method, with feedback from those whose importance is being assessed. Thus, the cut-off point can vary depending on the context. Like any other method, the procedure has some weaknesses, particularly its apparent subjectivity. It also has some strengths and desirable features that suit the stakeholder analysis required in the study. For instance, it offers some flexibility in terms of the set of criteria for stakeholder inclusion that can be used. It accommodates and makes use of prior knowledge about the forest and the stakeholders, and it is amenable to a participatory process in the identification of stakeholders. Moreover, while the scoring is subjective, the process itself is objective and, more importantly, it is transparent to all stakeholders. Furthermore, each stakeholder or interest group has a voice in the identification of the final list of stakeholders; that is, *who counts* (key stakeholders) in forest management.