

The role of indigenous knowledge in sustainable biodiversity management: Can local people help conservationists locate rare species?

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INTRODUCTION

One of the problems in biodiversity conservation in many developing countries is the lack of system for monitoring biodiversity. In addition, classic survey on biodiversity often involves taxonomists which requires complicated methods and depends on donor support and does not optimize existed local knowledge. Current trend indicates that indigenous communities are encouraged to play role in the process of natural resources management. Such participation from grass root offers benefits and promising legitimate for conservation.

OBJECTIVE

This study aims to provide an example how data on where rare species occurs in tropical forested landscape can be presented efficiently in terms of time and budget. It seeks possibilities to integrate indigenous knowledge in rapid survey to achieve a more comprehensive biodiversity management in protected area.

METHODS AND MATERIALS

Study area included 7 villages in Malinau watershed in East Kalimantan, the Indonesian part of Borneo.

Personal interview and focus group discussion (FGD) in November 2007 and January 2008.

Involving in total 52 key informants (hunters and eaglewood gatherers) from 3 different major ethnic groups and from different age (young < 35 yrs old or elder group ≥ 35 yrs old).

Pictures of 8 rare species: meat flower (*Rafflesia* sp.), black orchid (*Coelogyne pandurata*), sun bear (*Helarctos malayanus*), orang utan (*Pongo pygmaeus*), proboscis monkey (*Nasalis larvatus*), tarsier (*Tarsius bancanus*), slow loris (*Nycticebus coucang*), and clouded leopard (*Neofelis nebulosa*) were brought as samples of threatened/rare species to the respondents.

Sketch map for respondents to show where those species occurred.

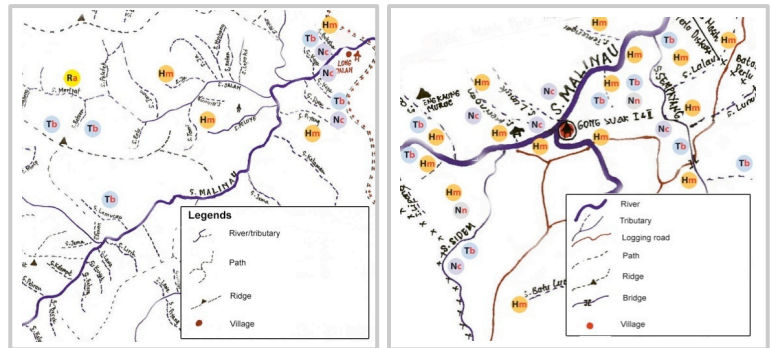


Figure 1. Portion of sketch maps showing location where some rare species present in 2 study villages

Note:

Hm: *Helarctos malayanus*
Nc: *Nycticebus coucang*

Nn: *Neofelis nebulosa*
Tb: *Tarsius bancanus*

Ra: *Rafflesia* sp.

RESULTS

People found 6 of 8 the rare species either directly or indirectly in various habitat such as river, fallow, horticulture field and forest ranging from low land up to hill forest.

Indirect ways to recognize animal presence in the wild were through their voice, nest trees, foot prints and scratch on bark, fruiting trees, or the existence of a salt spring where many animals came to meet their need of mineral.

The encounter time were during daylight when people were working in their field or fallow as well as when hunting at night.

All respondents considered clouded leopard and meat flower as the rarest species. Black orchid and orang utan were absent in the study area.

Local people were expert in recognizing thousands species of plants and animals including their uses and where they occurred. Such indigenous knowledge might play role as a source of information to develop strategies for conservation and sustainable use of biodiversity in protected area. It might also provide ecological data for species requiring long term in situ study.



Figure 2. Local people are the experts of "what occurs where" in forested landscape

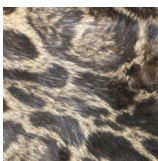


Figure 3. The leather of clouded leopard

IMPLICATIONS

Collaboration and dialogue should be initiated between natural resources management agencies and existing local system.

Supporting equipment such as Global Positioning System (GPS) was needed and local people could be trained and supervised to use it in the field so that basic geo-referenced data can be provided.

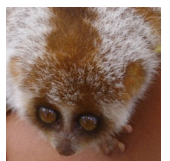


Figure 4. The face of slow loris