

Balancing Livelihood and Conservation in a Biodiversity Hotspot

The need to eat, have shelter and clothing is continuously endangering our delicate coexistence with the environment. Greed and indifference have further made the link become so lopsided such that the environment is at the losing end. Man has readily abandoned their roles as protectors and managers of natural resources just to survive.

Such is the case in Mt. Malindang, Misamis Occidental, Philippines. The people's continuous disregard for its forests, watersheds, and coastal areas can rapidly transform the Mt. Malindang landscape into the last frontier for the flora and fauna species endemic only to the Philippines.

Undertaking Biodiversity Research for Development

To explore the actual biodiversity status of the Mt. Malindang landscape, among other priorities, The Netherlands and the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) implemented the Biodiversity Research Programme (BRP) for Development from 2000 to 2006. BRP aimed at involving and linking stakeholders, and building their capacities in making use of research results to address their problems and development needs.

BRP studies revealed an estimated 18,000 people living in Mt. Malindang's buffer zones, and about 900 more

have settled in its core protected area. Most of the residents were Subanun, the original settlers in Mt. Malindang, whose livelihood largely depended on subsistence and shifting cultivation farming. They have since retreated to the uplands of Mt. Malindang with the in-migration and settlement of people from the nearby provinces in the lowland and coastal areas.

The studies also affirmed Mt. Malindang as a biodiversity hotspot and priority conservation site with the increased presence of endangered and critically threatened endemic flora and fauna species. This is indeed proof of how people are depending on Mt. Malindang's resources for their basic needs and most importantly their livelihood.

Trees were continuously being cut for timber and firewood. Nontimber forest products were continuously being extracted, while wildlife were being hunted to supplement household income. Quarrying, cutting of immature rattan, improper resin tapping of Almaciga trees, expansion of agricultural and vegetable farms, application of chemical pesticides, destructive fishing, and other practices further destroy habitats and endanger Mt. Malindang's resources.

With the coexistence of man and resources becoming more delicate, is it really possible to balance livelihood and biodiversity conservation in

Mt. Malindang?

The Potentials of Ecotourism

If properly implemented, ecotourism can demonstrate the effective balance between livelihood and biodiversity conservation. Mt. Malindang presents various potential ecotourism areas, particularly Lake Duminagat.

Lake Duminagat is a crater lake that has a rare ecosystem and its own biodiversity. It is sacred to the Subanun as they use the water for healing. Developing Lake Duminagat into an ecotourism site can pave the way for alternative sources of livelihood for the Subanun and other settlers. This would decrease the exploitation of forest and coastal resources, and most importantly, conserve biodiversity.

However, ecotourism development will require the collective efforts of all stakeholders in the Mt. Malindang landscape. Critical of these efforts are policies that will help realize the potentials of ecotourism in Lake Duminagat. These policies need to focus on the following:

1. Research

- Ecotourism development and management in other protected areas that have similar conditions as Mt. Malindang, and Lake Duminagat in particular;
- Sustainable agricultural practices,

farming systems, and other livelihood opportunities that would provide for the needs of the people, while lessening their dependence on forest biodiversity resources; and

- Support technologies to these agricultural practices, farming systems and livelihood opportunities.

2. Education

- Information, education and communication (IEC) on ecotourism development and management not only among communities but also for local government units;
- Awareness campaigns, IEC, cross-farm visits, and other strategies for people to learn and adopt sustainable farming practices, farming systems, and livelihood projects; and
- Continuing education of residents, particularly those who belong to people's organizations, on organizational management (e.g., leadership, conflict resolution, cooperative management, etc.) and livelihood development and management (e.g., record keeping/ bookkeeping, etc.).

3. Empowerment

- Means of utilizing people's organizations, with the assistance of religious groups, local government units, government line agencies, and other sources of development assistance to facilitate ecotourism development and management, and the development, promotion and adoption of livelihood opportunities;
- Means of involving women and/or establish women organizations, and the youth to help protect and



manage natural resources through ecotourism and/or initiate livelihood undertakings;

- Strategies to intensify volunteerism and involvement of people's organizations, women, and the youth in the ecotourism development and management of Lake Duminagat; and
- Strategies to form and capacitate multisectoral groups, which consist of volunteers from the community, local government units, government agencies, and other stakeholders, to help protect and conserve biodiversity in Lake Duminagat.



4. Linkages

- Strategies to improve access to credit facilities and financial assistance, infrastructure, and sources of technical assistance;
- Strategies to link people's organizations in Mt. Malindang, particularly in Barangay Lake Duminagat, to other organizations that are maintaining successful ecotourism sites;

- Strategies to establish and/or improve and maintain linkages with the stakeholders of Mt. Malindang, particularly the local government units, the Protected Area Management Board, and government line agencies; and
- Strategies to involve the private sector and/or encourage private investments in the ecotourism development and management of Lake Duminagat while maintaining biodiversity conservation.

BRP studies have showed the rarity of Lake Duminagat as an ecosystem, and its potentials to balance livelihood and biodiversity conservation. These potentials could be realized by implementing the abovementioned policy recommendations in combination with research for development. (Nicomedes D. Briones and Leah P. Arboleda)