

## ***Bridging the gap – Process of agenda setting for biodiversity research in the Philippines<sup>1</sup>***

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The flora and fauna Biodiversity in the Philippine forests, wetlands and marine ecosystems are considered one of the richest in the world. The Philippines has become a high priority country for conservation concern, due to the enormous biological importance of the archipelago, which bridges two major biogeographic regions and supports an astonishingly wide variety of animal and plant species.

However, the rate of loss of biodiversity in the Philippines is higher than anywhere else. The loss in terrestrial ecosystems is caused by habitat destruction through excessive logging, sometimes clearing and burning, agricultural encroachment, human settlements, draining and filling of wetlands, and environmental pollution.

Biodiversity loss is fuelled by large scale schemes to convert natural areas for agriculture, mining and other purposes. Population pressure, poverty and livelihood opportunities exerted through poaching, hunting and collection of valuable plants, further contribute to over-exploitation and to non-sustainable use of the country's biodiversity. Final but not least, extreme weather conditions, heavy rains and typhoons, accelerate the erosion process.

The past fifty years of corrupt forest management and large-scale logging operations has left the forest in a critical condition. Deforestation has dramatically changed hydrological regimes in the hills, causing high levels of soil erosion and land degradation, and have led to serious salination of water tables. Just a century ago, nearly all of the Philippines was covered by forests, now only one fourth of the area is under forest cover.

In the coastal ecosystem, mangroves, freshwater swamp forests, peat swamp forests, coral reefs, and sea grass beds, are the rich nursery ground for a variety of many coastal and marine fish resources. These have been lost at a dramatic high speed over the last decades as a result of wood logging, conversion to

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1 Partly based on: "Philippine-Netherlands Biodiversity Research for Development Programme in Mindanao - Focus on Mount Malindang", SEARCA/RAWOO, Los Banos/The Hague, october 1999.

aqua- culture, illegal fishing practices, and urban industrial pollution. Only one third of the original mangrove area is still intact. More than half of the coral reefs of the Philippines are in an advanced state of destruction because of dynamiting and cyanide use.

Many plant species have been found relevant to agriculture in the Philippines, because of food values, or medicinal/herbal and ornamental values. However, wide-spread introduction of genetically uniform varieties of crops have replaced many of the local varieties, many of which have been rapidly disappearing.

Besides being rich in biodiversity, the Philippines is also culturally 'rich'. Numerous tribal communities are scattered around the country, and although social and economic integration has begun, these communities widely continue to manage their own resources and environment in a culturally balanced way, using indigenous knowledge systems to conserve and manage forest, lowland and coastal ecosystems.

Territory and ancestral domains of indigenous people have been traditionally encroached by migrant settlers, infrastructure projects and local trans-national corporations. Commercial mining has contributed to forest destruction and degradation, adversely affecting sustainable small-scale mining practices.

The 'open access nature' of coastal waters have resulted in depletion of fishing grounds making Philippines fisherman the poorest in the nation. All these have contributed to continuing deterioration of the traditional habitat of indigenous people, their culture and particularly their indigenous resource management. Nevertheless, much of the wealth of knowledge has survived in the collective memory of indigenous people and communities<sup>2</sup>.

Mount Malindang of Mindanao, Philippines, provides a prototype of the systemic nature and elements of the threats and responses to biodiversity in the Philippines. People are already living in high elevations and farming on steep slopes. Logging has denuded significant portions of formerly thickly forested lands. Political and economic power holders, the military and armed insurgent groups move within the range, trying to obtain as much stronghold on the land as they possibly can. The need for

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2 R. Guzman, M.P. Lammerink, J. Smolders, "We know little of what we pretend to preserve - Biodiversity and Sustainable Development in the Philippines", RAWOO, The Hague, 1996

integrated solutions to conserve Mount Malindang is quite evident.

The *Biodiversity Research for Development Programme in Mindanao*<sup>3</sup> (BRP) is a research programme on biodiversity undertaken jointly by Philippine and Dutch researchers in an area of the Mount Malindang range. The programme is committed to undertake and promote collaborative, participatory and interdisciplinary research that will enable sustainable use of biological resources, and effective decision-making on biodiversity conservation, to improve livelihood and cultural opportunities.

The programme responds to the need for better understanding of biodiversity, especially at the ecosystem level, where interaction with the human system produces impact that is felt most, by larger groups of human populations. Knowledge is expanded not for knowledge's sake alone, but primarily to benefit the human communities and biodiversity together. The results of the research programme are meant to influence how the resource users and their socio-economic and cultural institutions use and sustain biodiversity resources, thus influencing policies, educational and development programmes.

The programme is the product of a series of studies, consultations, workshops and other activities designed to focus the research programme and involve the researchers and stakeholders in its formulation. The first step was the development of a National Biodiversity Research Agenda, which provided the directions and general content of the programme based on research needs and questions that are important for biodiversity conservation efforts in the Philippines. Through the National Biodiversity Research Agenda, a multi-stakeholder group of researchers, government and non-government organizations affirmed the guiding concepts and further defined the qualities that makes the research programme relevant to sustainable development in the country.

In the Philippines Mindanao was chosen because, relative to the other two regions of Luzon and Visayas, very little has been done and supported for biodiversity conservation research. Furthermore, the focus on a particular research site in Mindanao, the Mount Malindang Range and the communities in its environs, enables the Philippine and Dutch partners to engage in this

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**3** The programme has been given impetus and financial support by the Netherlands Minister for Development Cooperation, through the Netherlands Development Assistance Research Council (RAWOO).

innovative research endeavour. Participatory and interdisciplinary research in a biodiversity-rich but vulnerable area will produce knowledge and methods that will hopefully be useful to local people and their institutions. At the same time, these people and institutions are supported in building their own capacities and linking with external resources for their development.

With the Dutch partners, it was further decided to pursue a pre-implementation phase in order to identify a more specific research site and priorities and to formulate a relevant research agenda, based on the situation in the chosen research site. Subsequent workshops with key persons from Mindanao-based institutions and researchers were held, which further focused the programme through: a recommended research site within the Mount Malindang Range; a framework and roles of partners; and a pre-implementation plan.

### **Guiding concepts of Biodiversity Research Programme in Mount Malindang**

*Location-derived and development-oriented:* The research agenda, priorities and methods are obtained from the needs of the people in the area where it is being undertaken. People identify problems and potential solutions, which are meaningful for their own development. In this way, the relevance and usefulness of research is established from the beginning.

*Promoting multi-stakeholder participation:* It involves not only the research community, but most importantly, the local communities and stakeholders, including local governments and non-government organizations. Constant interaction and feedback among the stakeholders make research more responsive to local development needs. Their participation enhances the mechanisms for the research to input into policies, programmes and day-to-day practices that will conserve biodiversity resources.

*Systems-oriented and interdisciplinary:* The conceptual framework of the research is holistic, i.e., it examines and aims to understand the interaction of different elements of the system. To do this, research brings together the natural and socio-economic/cultural components and their interactions, which affect biodiversity. Researchers of various disciplines in the natural and social sciences and those experiences in cross-cutting or multi-disciplinary studies come together in this approach.

*Using an integrated ecosystems or landscape approach:* Interactions of elements within an ecosystem are fundamental to studying biodiversity. However, the interactions among the elements of contiguous ecosystems are equally important to provide a holistic and integrated analysis. Materials, energy and people flow through adjoining ecosystems with positive or negative effects on these. A landscape approach can use methods of analysis associated to the watershed or catchment area that spans the uplands, lowlands and coastal/marine ecosystems. Political-administrative units cover landscapes, so that they, in particular, will benefit from this broader and integrated analytical approach for making better decisions.

The Pre-Implementation Phase, occurring from January to December 1999, is a research, training and planning phase before the full programme implementation. A training workshop on participatory research was initially held for the researchers on February 1999 in Musuan, Bukidnon. In this way a pool of Mindanao-based researchers became involved in the programme.

The problem analysis in the region was divided among three ecosystem-based teams for upland, lowland and coastal ecosystems. A Stakeholder Analysis Team was also formed with some members coming from the ecosystem research teams. The teams conducted a situation and problem analysis in the area making use of Participatory Rural Appraisal (PRA) methods in March to June 1999.

This allowed for a better description of the identified research site merging the observations of external data-gatherers with the experiences and perceptions of the subjects of the research - the people in the communities of Mount Malindang and its environs.

Post-PRA workshops among the researchers who were involved in the problem analysis and key Philippine and Dutch partners were held to identify biodiversity research problems and opportunities as well as more specific researchable areas. A culminating workshop among the Philippine and Dutch researchers and key partners was held in Tagbilaran, Bohol in August 1999 to agree on the programme's vision, mission, goals and strategies. The Bohol Visioning Workshop also created coherence in the proposed researchable areas by substantiating the landscape-level and cross-cutting themes; and firmly grounding all the researchable areas in the situations and interactions described.

The research programme which is finally formulated and will be implemented and tested the coming years in Mount Malindang will provide a framework, strategies and methods for similar programmes in other valuable but threatened biodiversity areas in the Philippines. [The main intent of Biodiversity Research Programme is to initiate a research programme in Mount Malindang Range and its environs and use this experience as a basis for better research and sustainable development efforts in other biodiversity hotspots in the Philippines.](#)