



SANREM CRSP

#### ABOUT SANREM CRSP

SANREM's mission is to assist in the analysis, creation and successful application of decision support methods, institutional innovations and local capacity approaches to support participatory sustainable agriculture and natural resource planning, management and policy analysis at local, municipal, provincial and national levels.

#### ABOUT THE AUTHOR

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## SANREM CRSP RESEARCH BRIEF

Sustainable Agriculture & Natural Resource Management Collaborative Research Support Program

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### A SOCIAL CONTRACT FOR BIODIVERSITY: INSTITUTIONAL SOLUTIONS TO ENVIRONMENTAL CONSERVATION IN THE PHILIPPINES

*How to reconcile the diverse needs and claims of indigenous people, farming households, government agencies, and environmentalist groups? How to capitalize on local communities' commitment and conservation ethic for the enforcement of protective boundaries? How do tribal ancestral domain rights relate to conservation goals?*

These questions were central to the work of scientists Dennis Garrity, Victor Amoroso, Samuel Koffa, Delia Catacutan, and others who constituted the Biodiversity Consortium of the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program (SANREM CRSP). The Consortium is led by the International Center for Research in Agroforestry (ICRAF) and comprises a Philippine university, national NGOs, government agencies as well as the active participation of local communities. Their research aimed to develop the necessary elements of a workable *social contract* between buffer zone communities and other stakeholders concerned with resource protection.



Tribal leader invokes ancestral protection

#### BACKGROUND

The Philippines' biodiversity heritage is globally valued because of the very high species endemism. But despite establishment of protected areas, habitat destruction by human activity, including illegal logging, over-harvesting of forest products, and agricultural encroachment, threatens this rich patrimony. About 60% of endemic flora is already extinct and many other species are endangered.

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The Manupali watershed in northern Mindanao hosts the Mt Kitanglad Range Nature Park, one of the most important biodiversity reserves in the Philippines. The park supports the richest known vertebrate fauna (mammals and birds) in the country and is habitat for many endangered and economically important species of animals and plants. It includes 13 of the 14 species of birds endemic to the island of Mindanao, including the critically endangered Philippine eagle (*Pithecophaga jefferyi*). One genus of mammal is endemic to the Park alone, the little known *Alomyrceris paucidentata*. The park has the highest tree density ever reported in tropical forests.

### The Philippines' biodiversity heritage

# Species	% of World Total
8,500 flowering plants	10% of world total
3,800 trees	
556 birds	6% of world total

A strong conservation ethic animates local communities, especially the Talaandig indigenous people who regard the land enclosed in and surrounding the park as their ancestral domain. Their concerns are articulated in terms of the spiritual and cultural values embodied by natural elements, such as streams and forests. The belief that nature is controlled by a hierarchy of spirits whose wrath must be avoided inspires a respectful attitude towards the environment. But tensions remain between the Talaandig ancestral claims and the conservation goals of park management.

The upper reaches of the Manupali watershed include three bands of land at decreasing elevations: the *national park*, consisting of pristine forest at higher elevations (> 1,200 masl), the *buffer zone*, which is being increasingly converted to agriculture; and downslope privately owned *farmland*, planted with vegetables and corn, and fallowed fields.

Since WW2, high birth rates and in migration have greatly increased land pressure. Consequently fallow periods were shortened and the traditional swidden system gave way to intensive agriculture that calls for heavy doses of chemical inputs. The downward spiral of falling yields and degradation of resource base prompts farmers to abandon degraded land and keep moving upslope, further encroaching on forest margins. Insecurity of tenurial rights in the buffer zone limits farmers' investments in conservation measures.

## INTERSECTING STAKEHOLDER CLAIMS

There are three sets of overlapping land rights and management priorities that concern the park:

### The park administration

- managed by a Protected Area Management Board (PAMB) that includes park administrators from the Department of Environment and Natural Resources (DENR), mayors from the six municipalities surrounding the park, diverse stakeholders, and NGOs.

### The 6 surrounding municipalities

- including park and buffer areas, and play important roles in determining land use within their borders. The 1991 Local Government Units (LGU) code devolved the responsibility for developing and implementing natural resource management plans to local governments.

### The Talaandig ancestral domain

- while represented in the PAMB, the rights of Indigenous Cultural Communities (ICC) to participate in development and conservation activities within their ancestral areas are sanctioned within the framework of the 1992 National Integrated Protected Areas System.

In 1993, tribes organized a surveillance force of tribal guardians to defend forest margins against further degradation and illegal lumbering. In 1994, Talaandig leaders submitted a claim over 40,000ha (park and buffer areas) to a DENR-chaired Special Task Force on Ancestral Domain. But action was delayed for 2 years because the PAMB would not endorse the claim. Instead, the PAMB favored recognizing ancestral rights on the basis of municipality borders rather than as a unified claim. The situation remains unresolved but the SANREM Biodiversity Consortium is focusing research efforts to understand how overlapping jurisdictions can be reconciled to assist the concerned entities in making science-based decisions.

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*The harmonization of conflicting lines of responsibility and authority over land is a precondition for sustainable natural resource management.*

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## SCIENCE-BASED NRM PLANNING

### **The Natural Resource Management and Development Plan**

From its early stages SANREM researchers have provided technical assistance to local level environmental planning. In 1996 this role was sanctioned in a Memorandum of Understanding with the LGU. The LGU committed human and financial resources to the design and execution of a municipal Natural Resource Management and Development Plan. This unprecedented initiative constitutes a significant shift from conventional top-down planning towards decentralized, participatory, science-based environmental management. The Plan, completed in 1998, has been upheld as a national model for natural resource management planning based on local demand, voluntary action, and multiple stakeholders' involvement.

### **Ravine habitat management**

An example of research assisting the planning process concerned the numerous steep ravines that emanate from the mountain range. These valleys harbor diverse natural communities and can be valuable in radiating strands of biodiversity into the landscape. Based on its agro-forestry research, ICRAF developed a methodology to survey and map the ravines' vegetative communities and a strategy to enhance their biological integrity. As a result, ravine habitat management was incorporated into the plan. A manual on the approach is currently being produced for other municipalities.

### **The Landcare movement**

The ravines define interfluves (land between two streams) that are natural areas for resource management and monitoring of the buffer zone and park boundaries. Inspired by the Australian LANDCARE movement, ICRAF has sought to harness the motivation and capacities of communities situated in these critical areas. Since 1998, over 60 farmers groups with more than 1,000 members, have formed in villages near the park boundary. With financial support by the LGU, the groups have established nurseries for timber and fruit trees and vegetative buffer strips on 300 farms. They have also planted thousands of trees along riparian buffer zone of polluted rivers. The initiative sets an example of effective partnering of community groups and local government.

## RECOMMENDATIONS

### **Reconciling overlapping land jurisdictions**

The harmonization of conflicting lines of responsibility and authority over land is a precondition for sustainable natural resource management. Institutional mechanisms for mediating contradictory claims should be developed.

### **Empowering indigenous communities**

Cultural conservation should be part of the overall approach to preserving diversity. Indigenous spiritual values and commitment to conservation can motivate effective community surveillance. Contractual agreements should be devised to enlist indigenous groups to guarantee protection of forest margins in exchange for development programs.



SANREM scientist discusses watershed management with LGU officials.



Dr. Garrity explains the advantages of agroforestry to community members

### **Promoting a conservation ethic**

Success depends on support and mobilization of communities surrounding protected areas. A rich biodiversity heritage should be upheld as a motive for pride and protection efforts should capitalize on the expanding conservation ethic among citizens and local government.

### **Learning from indigenous practices**

Traditional practices restricted swidden size, protected keystone tree species, and established wildlife safe havens indicating a motivation to safeguard environmental integrity. They can provide models for a buffer zone management approach that balances natural resource extraction and forest conservation.

### **Linking conservation and development**

Conservation must integrate the livelihood needs of affected communities. Compensation can occur by means of development activities or agricultural inputs and technology. But initiatives to increase income or productivity must support rather than undermine the sustainability of resource use.

### **Sustainable buffer zone management**

Institutional solutions to biodiversity conservation should be complemented with development of innovations that are suited to local biophysical and socioeconomic conditions and likely to

increase agricultural productivity. Measures to contain population growth and to generate employment opportunities should also be explored.

### **Establishing negotiation guidelines**

Clear guidelines for how consultations with local communities are to be conducted should be developed. In particular, there is a need to come to a consensus in determining when 'informed consent' by communities has been genuinely obtained.

### **Conducting research to inform policy**

As LGU assume more responsibility for planning and implementing natural resource management plans, research has an increasing role to play in directing policy making and resource allocation. Scientists should learn about and address the information needs of environmental managers and feed back their findings into the decision making process.

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This brief draws from articles by Dennis Garrity et al. in: *Seeking Sustainability: challenges of agricultural development and environmental management in a Philippine watershed*. Edited by I. Coxhead and G. Buenavista. PCARRD, Los Banos, Laguna, 2001. PDF versions of individual articles can be downloaded from:

<http://www.aae.wisc.edu/sanrem-sea>

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