SAMUT-SARI
The quarterly newsletter of the Philippines-Netherlands Biodiversity Research Programme for Development in Mindanao
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BRP hosts biodiversity symposium

Sixty-eight participants attended the one-day symposium on "*The Role of Biodiversity in the Well-Being of the People*" on 5 June 2004 at the Function Hall, Provincial Capitol Compound, Oroquieta City.

Organized by the Biodiversity Research Programme (BRP), in coordination with the Mt. Malindang Range Natural Park - Protected Area Office (MMRNP-PAO), the symposium aimed to enhance the awareness of the different stakeholders of Mt. Malindang about the nature, status and importance of biodiversity. This activity was one of the highlights of the province-wide celebration of Mt. Malindang Week 2004, held on 31 May to 5 June 2004.

Dr. Renato D. Boniao, Study Leader of the soil ecology research, discusses the basic principles of biodiversity and conservation efforts in the Philippines.

Participants included representatives from the 17 municipalities and cities of Misamis Occidental, municipal and city agriculture officers, officials of the Department of Interior and Local Government (DILG), presidents of the Association of Barangay Captains (ABC), officers of Sangguniang Kabataan (SK), and representatives from the academe, among others.

BRP researcher and MSU-Naawan professor, Dr. Renato D. Boniao, led the panel of speakers and discussed the nature, value and status of biodiversity conservation in the Philippines. Mr. Roel Dahonog, Environmental Management Specialist from the Department of Environment and Natural Resources (DENR) Region 10, presented the various programs of DENR. Protected Area Superintendent Rolando S. Dingal updated the participants about the status of Mt. Malindang and PAO's activities in the MMRNP. He also presented a very interesting "life insurance policy" for the local farmers.

Misamis Occidental Governor Loreto Leo Ocampos presented his "Target 1000" program. These are the programs which he aims to achieve on his 1000th day in office and includes "1000 hectares of land undergoing soil testing, 1000 hectares of farm lands using organic fertilizer, 1000 hectares of land reforested in Mt. Malindang, 1000 hectares of mangrove reforested, and 1000 hectares of riverbank reforested or protected", among others.

The afternoon session was devoted to the presentations by the different organizations in Mt. Malindang involved in conservation. Mr. Iver T. Alabanzas, BRP Site Coordinator, presented BRP's objectives and research activities towards management and conservation of biodiversity in Mt. Malindang. Mr. Andy O. Pestaño, Director of CARE AWESOME (Agencies Working for the Ecological Sustainability of Mt. Malindang's Environs), presented their organization's projects and accomplishments towards biodiversity conservation, and their plans as the project moves in its final phase. CARE AWESOME combines environmental protection with alternative livelihood assistance to the communities who depend on MMRNP's resources. Lastly, Mr. Romulo Baz presented the Philippine Australia Local Sustainability (PALS) program relevant to environmental conservation. PALS is undertaking community development programs in 26 barangays in Mt. Malindang.

A pictorial exhibit of BRP's activities in Mt. Malindang was set up during the symposium. The same exhibit was also displayed during the Protected Area Management Board's (PAMB) *en banc* meeting the day before. ▪ *RIYAdan*

The BRP is funded by the Netherlands Ministry for Development Cooperation (DGIS) through the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA).

BRP participates in Mt. Malindang Week 2004

The first week of June is declared as *Mount Malindang Week*, by virtue of Executive Order No. 03-2002 by the Provincial Government of Misamis Occidental and the Department of Environment and Natural Resources (DENR).

This year, BRP hosted two of the major activities of Mt. Malindang Week celebration. In coordination with the Protected Area Management Board (PAMB), BRP organized a symposium and exhibit as part of its Information-Education-Communication (IEC) activities in bringing BRP and its outputs to the local people of Mt. Malindang. BRP also participated in the *en banc* meeting – with an update report of Mr. Iver T. Alabanzas about BRP's activities. Various activities aimed at capturing local stakeholders' interest about Mt. Malindang were also conducted during the said celebration. These included hanging of streamers depicting Mt. Malindang Week 2004 theme *"Ang pag amping sa kabukiran sa Malindang, pagseguro sa kinabuhi sa katawhan karon ug sa umaabot nga kaliwatan"* (Conserving Mt. Malindang, ensure life now and for future generation), tree planting, organizational meeting of Mt. Malindang Ecological Foundation, PAMB *en banc* meeting, Philippine Eagle information drive and a trek to Lake Duminagat. ▪ *RIYAdan*

Monitoring demand-driven research: the Philippines and Ghana partnership programmes

Monitoring for the demand-driven research partnership programmes is on.

It was in the late 1990s that the Netherlands Development Assistance Research Council (RAWOO) took the initiative to help design and establish two novel North-South collaborative research partnerships: a biodiversity research programme in the Philippines (BRP) and a health research programme in Ghana (HRP). The initiative was guided by the following key principles: (1) developing country 'ownership' of the programme-design process; (2) greater responsiveness of research to real-life problems and development needs; (3) broad involvement of stakeholders in agenda formation and priority-setting; (4) capacity building and institutional strengthening; and (5) genuine partnership and collaboration on equal footing.

In 2002, RAWOO proposed to launch a joint project aimed at monitoring and evaluating the implementation of both programmes, and to develop the methods, tools and indicators for assessing the programme performance, termed as the "Joint Monitoring and Evaluation (JM&E) of Research Partnerships Project". This took off at the end of 2003. Two local M&E facilitators were commissioned for the project, Dr. Levita A. Duhaylungsod, Professor at the University of the Philippines Los Baños, and Dr. Rudith King, Senior Research Fellow at the Kwame Nkrumah University of Science and Technology, Ghana to devise and test the tools and indicators for monitoring and evaluating the programme through a participatory approach involving the relevant stakeholders in the design process.

As BRP and HRP are approaching the end of programme implementation, a workshop on implementing the demand-driven research: the Ghana and the Philippines partnership programmes was conducted on 14 June 2004 in Hague, The Netherlands to review experiences with the implementation of both programmes among their major actors. The workshop was participated in by representatives from the Netherlands Ministry for Development Cooperation (DGIS) and Royal Netherlands Embassy in Accra, RAWOO Board members, Joint Programme Committee (JPC) members of the BRP and HRP, and staff of the BRP National Support Secretariat (NSS) and Support and Liaison Office (SLO). This activity was facilitated by Dr. Duhaylungsod and Dr. King.

Dr. Duhaylungsod presented the development of the Participatory Programme Monitoring System (PPMS) for the BRP, and the lessons learned and insights gathered through the process. She also mentioned the three major outputs of the PPMS Project: (1) PPMS framework, which explains the hierarchical logic of the monitoring system wherein the BRP's

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BRP sponsored this year's Mt. Malindang Week exhibit at the Provincial Cultural and Farmers Training Center, Capitol Compound, Oroquieta City. This was set up during the Protected Area Management Board (PAMB) en banc meeting attended by the different stakeholders of Mt. Malindang.

Final Output of the PPMS Project Unveiled

As in any game where winning is determined not by the effort of a single player but of the whole team, the Participatory Programme Monitoring System (PPMS) is a result of the collective endeavor of the key stakeholders of the BRP.

The PPMS User's Handbook is the final output of the PPMS Project derived from the various activities – discussions and consultations – conducted since the project started in November 2003.

The contents of the User's Handbook was presented during the Roundtable Discussions on 4 and 5 May 2004 at Elena Towers, Iligan City and Central Mindanao University, Musuan, Bukidnon, respectively. BRP researchers and research staff attended the activity.

Dr. Levita A. Duhaylungsod, the Joint Monitoring and Evaluation (JM&E) consultant and the activity facilitator, described the User's Handbook as a "58-page document containing both the methodological or conceptual discussions and the instrument itself".

The User's Handbook is divided into seven sections, namely: (1) Background, containing the vision, mission, goals and objectives of the BRP; (2) Users of the PPMS Handbook, containing the list of possible users of the document; 3) PPMS as a Monitoring Tool, containing a comprehensive discussion of the significance of monitoring the research process as well as an overview of literature expounding on participatory monitoring and evaluation; (4) Structure of Ideas in the PPMS Form, containing the process by which the parameters and indicators used in the PPMS Form were elicited from the BRP researchers; (5) Instructions on the Use of the PPMS Form, containing the step by step procedure in answering the PPMS forms; (6) Role of the People in the Monitoring Process; and (7) the Iteration Process, which emphasizes the importance of improving or refining the indices of the instrument based on the possible significant changes that the Programme might undertake.

The User's Handbook is hoped to be of use not only in monitoring the BRP but also of other research programs with similar undertaking. Its content,

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Retirement Program for Marginal Farmers

By For. Rolando S. Dingal
Protected Area Superintendent, Mt. Malindang Natural Park

Farmers are the backbone of our country. People depend on them for food. This fact should have inspired the government to give due recognition to all farmers when they get old and are no longer capable of tilling the land. But what usually happens is otherwise. More farmers live miserably when they reach old age. The main reason for this is the absence of a government program that would look at the security of farmers whose income could not even meet the needs of their families.

This problem could be solved by requiring farmers to plant trees along the boundary line of their farm lots, along banks of creeks, rivers and gullies, in steep slopes, and in areas no longer suitable for raising agricultural cash crops. A single tree which has been properly planted and tended would earn at least one thousand pesos (PhP 1,000.00) after 10 years with an initial investment of five pesos (PhP 5.00) for the seedling, fertilizer and labor. The amount can be obtained in lump sum after the period.

Raising a single tree would mean a forced savings of thirty centavos (PhP 0.30) daily for the farmer. If a farmer therefore has planted 100 trees, he would have saved thirty pesos (PhP 30.00) daily; for 1000 trees, it would be three hundred pesos (PhP 300.00). If a farmer desires to get one million pesos in ten years time, he only needs to plant 1000 trees with initial investment of five thousand pesos (PhP 5,000.00) and tend the trees for one to two years. After that, his trees will take care of his forced savings.

This idea is a potential financial security for marginal and sub-marginal farmers. It would be likened to a retirement plan that would mature after 10 years or more but the trees will take care of the premiums. The face value of the plan would depend on the number of trees that a farmer could plant and raise until harvestable age. Compared to other crops, planting trees would be more advantageous because the farmer would only need to care of the trees in one or two years, and after that the trees will grow and thrive by themselves. The farmer will only go back when it is time to harvest.

While the farmer is secured, the environment is also improved. The biggest portion of the true value of a tree - its ecological value - will benefit a great number of living things inhabiting the ecosystems, near and far. The amount that the farmer would get in harvesting the tree is only the salvage value. Planting trees is a wise investment. It does not only provide financial security for a farmer but it also secures the health of the environment. ▪

Researchers and staff present papers in the 7th ICOPHIL

Researchers and staff of the BRP took part in the 7th International Conference on Philippine Studies (ICOPHIL) held on 16-19 June 2004 in Leiden, The Netherlands. With the theme, "Changing Landscapes, Humanscapes, and Mindscapes in a Globalizing World", the conference aimed to provide a forum for scholars from various parts of the world engaged in research on Philippine society, culture, economy, and environment, and to promote scholarship that does not remain inside the walls of the academe, but would contribute to policy making for sustainable development.

Dr. Perry S. Ong, Chair of the BRP Joint Programme Committee (JPC) presented a paper on "The State of Philippine Biodiversity: Changing Mindscapes Amidst the Crisis". Dr. Mariliza V. Ticsay, Coordinator of the BRP National Support Secretariat presented a paper on collaborative North-South research partnerships highlighting BRP experiences and lessons learned. Likewise, researchers from Mindanao partner institutions presented the following papers highlighting BRP research results:

- "Participatory Biodiversity Assessment in Malindang Range, Philippines";
- "Participatory Biodiversity Assessment in the Coastal Areas of Northern Mt. Malindang";
- "Participatory Biodiversity Inventory and Assessment of Lake Duminagat, Mt. Malindang Natural Park";
- "Resource Utilization Patterns in the Terrestrial Ecosystem in Mt. Malindang and its Environs"; and
- "Impact of Selected Policies on the Biodiversity Management and Conservation in Mt. Malindang and its Environs".

This international scientific conference is held every four years alternately in the Philippines and other continents. The 7th ICOPHIL was organized by the International Institute for Asian Studies (IIAS), Leiden University, The Netherlands. ▪ *CSFule*

Abstracts of papers presented in the 7th International Conference on Philippine Studies (ICOPHIL)

16-19 June 2004, Leiden, The Netherlands

The state of Philippine biodiversity: Changing mindscapes amidst the crisis

Perry S. Ong

The Philippines is one of the most biologically rich countries in the world and recognized as such as an exclusive member of the 17 megadiversity countries. Nearly half of Philippine biodiversity is found nowhere else in the world, thus it forms part of global living heritage. However, it is also one of the most threatened as it has lost more than 75% of its original habitat and recognized as such by being an exclusive member of the 25 global biodiversity hotspots. The Philippines is predicted to be among the first countries in the world to suffer a total environmental collapse (when the environment stops to provide the services it normally provides) and species extinction spasm (when large groups of species go extinct at the same time). Amidst this crisis that threatens the existence of Filipinos as a people, very few Filipinos are even aware of this threat, neither are they moved to take action. This is so because the crisis is overshadowed by other political, economic, military and social crises that beset the country. People's mindset is focused on tackling the other crises first before attending to biodiversity crisis. Unless this "business as usual" mindset is changed immediately, the crisis will reach a point of no return when nothing that we will do will prevent us to suffer the fate of extinction as a people.

Participatory biodiversity assessment in Malindang Range, Philippines

Jose B. Arances, Victor B. Amoroso, Olga M. Nuñeza, and Paul Kessler

The Terrestrial Ecosystem Master Project (TEMP) as part of the Philippine-Netherlands Biodiversity Research Programme (BRP), in close relation with the socio-economic-cultural and aquatic ecosystem research projects, aims to generate a more comprehensive information and knowledge of the diversity of flora, fauna and soil ecology across the landscape of Malindang Range. Several flora and fauna were recorded from the initial sampling conducted in both forest and agroecosystems. Participatory inventory and assessment revealed 593 species of plants with 22% endemism. Of these species, 10 are endangered, two rare, and 258 are of economic importance. Sixty-one varieties of agricultural crops were also recorded. Moreover, vertebrate faunal survey recorded a total of 138 species including 16 anurans, four skinks, five snakes, 88 birds, 12 volant and 13 non-volant mammals. A 53% endemism was recorded with 16 species as rare and endangered. On the other hand, invertebrate survey showed 183 insects, five spiders, and one crustacean species. Of these, nine species of butterfly are endangered and endemic, and five rare. High species richness was recorded in the forest ecosystem with 27 species while only one in the agroecosystem. Recommendations for sustainable monitoring, conservation, management and utilization of these critical bioresources will be developed.

Dawsonia superba, *a rare and endangered species in Mt. Malindang.*

Participatory biodiversity inventory and assessment of Lake Duminagat, Mt. Malindang Natural Park

Carmelita G. Hansel, Teresita O. Poblete, Victoria T. Quimpang, Rhea Amor C. Lumactud, Diosdado Ganob, Emelyn Lumimas, Margilyn Lumimas, Luzminda Pacut, and Roseller Panchito

Lake Duminagat is a crater lake located in Mt. Malindang Natural Park, which is one of the Protected Areas in the Philippines. Two communities are adjacent to it, both included in the municipality of Don Victoriano, which is wholly circumscribed by the Park. The Park represents the flora and fauna of the Zamboanga biogeographic zone. Lake Duminagat holds a central place in the spiritual life of the Subanon people, who look on the lake as sacred and a source of healing water. The Subanon is the indigenous people group who have lived in parts of the Zamboanga Peninsula, starting from pre-Hispanic times, one group of which have lived in the Mt. Malindang area. Although the Subanon have had their own traditional customs and practices, they have become more or less enculturated by the influence of Bisayan and western cultures, brought about by Bisayan settlers/businessmen and mass media. As part of the Philippine-Netherlands Biodiversity Research Programme (BRP) for Development: Focus on Mt. Malindang and Environs, this project utilized the participatory approach to involve the local community as local researchers or local partners. It studied the morpho-physicochemical and biodiversity characteristics of the lake and its perimeter. Involvement in this research gave the local researchers and the community an awareness of the natural and social factors that affect the Lake Duminagat ecosystem. It is hoped that results of this research will be used to empower the local communities to come up with a strategy of conserving and sustainably utilizing the lake's biodiversity to open up various livelihood possibilities.

Participatory biodiversity assessment in the coastal areas of Northern Mt. Malindang

Della Grace G. Bacaltos and Erik de Ruyter van Steveninck

The coastal communities in the project area of Northern Mt. Malindang in Misamis Occidental depend mainly on fishing for livelihood. Their high dependence on the coastal resources for food and income may have greatly contributed to resource depletion and habitat degradation. The problems on resource depletion and habitat degradation have to be addressed to sustain their livelihood and the resource-base. Management interventions have to be well planned to provide long-term economic benefits for the coastal communities. Doing so requires baseline information, which could be derived through resource assessment. This project assessed some coastal barangays to determine the status of the coastal and marine biological resources in the area. Data were gathered and a study on Institutional Agreement was conducted to investigate the history of the establishment and current management scheme for the Baliangao Protected Landscape and Seascape. The researchers did not do the assessment process alone. Developing the capability and empowering the local community by making them research partners was an innovative feature of the project. The involvement and participation of representatives from various sectors such as the local government units (LGUs), nongovernment organizations (NGOs), government agencies (GAs), and people's organizations (POs) in community validation and consultation process highlight the participatory nature of this project.

Resource utilization patterns in the terrestrial ecosystem in Mt. Malindang and its environs

Alita T. Roxas and Leontine Visser

Environmental degradation in the Mt. Malindang environs has been mainly due to anthropogenic factors. The pressure of meeting subsistence needs has forced the people in the surrounding communities to impinge on the environment. This has serious implications for long-term sustainability of the environment and also of livelihood activities. The continued degradation of the natural habitat adversely affects the culture of the people in the communities. Given this, it is largely insufficient to study only the biophysical and chemical dimensions of the environmental problem and biodiversity loss; a good grounding of the socio-economic and cultural dynamics of the problem must also be obtained. Central to this goal is to recognize the connection between biodiversity and cultural diversity. There is also a need to acknowledge the urgency to integrate issues of resource utilization over time, access to and control over resources, indigenous knowledge system (IKS) and opportunities for it to form synergy with modern technology for resource management and conservation, as well as the appropriateness and effectiveness of environmental policies in the local and national levels. These issues are addressed in the study. Particular reference is given to livelihood security and environmental sustainability and the influence of social differentiation, specifically, ethnicity, culture, class, and gender.

Impact of selected policies on the biodiversity management and conservation in Mt. Malindang and its environs

Aurelia Luzviminda V. Gomez

The intent of environmental policies is logically the proper management and conservation of natural resources, without jeopardizing the livelihood of those who are dependent on these resources. Thus, effective implementation of such policies should lead to the conservation of the natural resources, while maintaining sustainable livelihood for the people. As part of the Biodiversity Research Programme (BRP) Master Project, this study focuses on analyzing the impact of the National Integrated Protected Areas System (NIPAS) Act of 1992, the Indigenous Peoples' Rights Act (IPRA) of 1997, and the Fisheries Code (RA 8550) on the management and conservation of Mt. Malindang and its environs. The initial results from three barangays of the municipality of Don Victoriano, closest Mt. Malindang Natural Park, cover only the NIPAS and IPRA. Initial findings show that majority of the barangay residents were not aware of either NIPAS or IPRA, despite claims by some staff of the Department of Environment and Natural Resources (DENR) that they had repeatedly conducted community assemblies to educate the residents about the NIPAS. In the case of IPRA, it appeared that no information campaign had been done in the area, which is heavily inhabited by indigenous people. Generally, the people were aware of some prohibited acts stipulated in the NIPAS, particularly on cutting of trees and the use of power saw. What is alarming is that they also admitted to committing those prohibited acts. Another reason for concern is the presence of only 19 forest rangers to monitor the 34,464-hectare protected area.

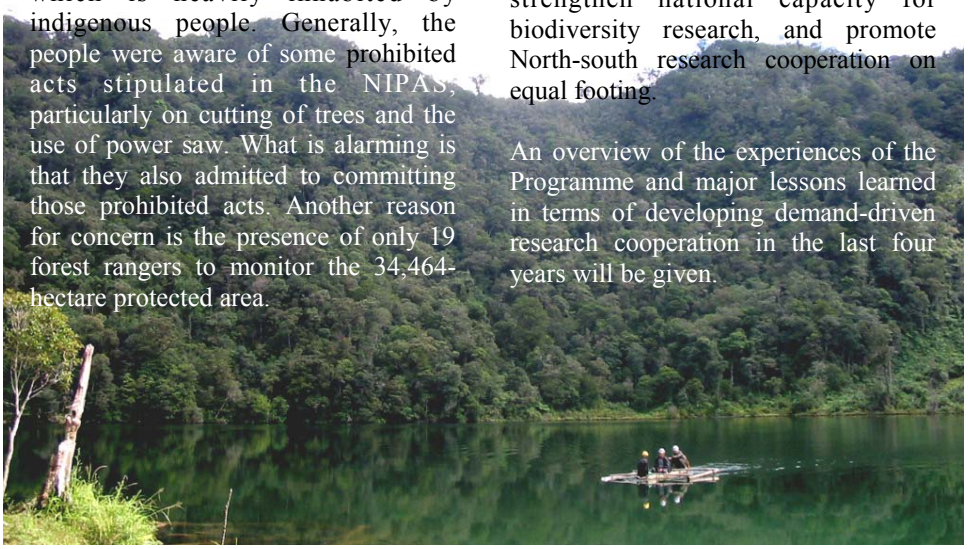
The demand-driven research process: Lessons learned from the Joint Philippine-Netherlands Biodiversity Research Programme (BRP) for Development in Mindanao

Mariliza V. Ticsay, René van Veenhuizen, Perry S. Ong, and Marc Lammerink

The Philippine-Netherlands Biodiversity Research Programme (BRP) for Development in Mindanao is a demand-driven, collaborative research programme initiated by the Dutch Government. The BRP was designed to develop innovative North-South research partnerships based on national research priorities.

Among the innovations of the BRP are the following: (a) a participatory and consultative nature that promotes multi-stakeholder participation involving not only the scientific research community, but also most importantly local communities and stakeholders, including local governments and non-government organizations; (b) location-derived and development-oriented; (c) systems-oriented and interdisciplinary bringing together the natural and socio-economic/cultural components and their interactions; and (d) uses an integrated ecosystems or landscape approach to research. BRP was designed to contribute to conservation, management and sustainable use of biological resources, build and strengthen national capacity for biodiversity research, and promote North-south research cooperation on equal footing.

An overview of the experiences of the Programme and major lessons learned in terms of developing demand-driven research cooperation in the last four years will be given.



Will the twain ever meet?": A Methodological dialogue for South-North partnership in research and development

Levita A. Duhaylungsod

For several decades, a great deal of effort has gone into strategic approaches to South-North partnership in enhancing human and institutional capacity for development of the Southern countries. Underlying many of this cooperation is the emphasis on innovative methodologies that promote participation particularly of Southern partners. There is also recognition that to be truly participatory and collaborative, South-North partnership should be strongly anchored on an awareness of the social context in which the development partnership is located.

One area of such partnerships is capacity enhancement on research where Southern and Northern scientists collaborate for knowledge production and endeavors to produce researches with development agenda. This partnership dialogue is a challenging social process because the wealth of South-North partnership experiences has been mainly development projects in nature. The premise of research for development is an innovation that resulted in the search for evolving science-based and interdisciplinary approaches that similarly take into account developing community-based researchers within the context of cultural and institutional complexities. The paper focuses on a methodological development that particularly addresses the concern for systematically assessing the capacity development efforts being promoted in a South-North partnership. Largely drawn from a process and experiential learning from the Biodiversity Research Programme in the Philippines, the paper proposes a methodological framework and argues that such framework can have a wider application in the field of participatory research with multi-stakeholder involvement across cultures and environment.

Two thesis grantees complete research

Two students who were given thesis grants by the BRP have completed their research and have obtained their degrees from their respective universities. Below are the abstracts of their dissertation.

Adaptation and Vulnerability of Subanen Community to the Adverse Environmental Conditions in Mt. Malindang National Park, Philippines

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University of the Philippines Los Baños

The study was conducted in barangay Lake Duminagat, which is located within Mt. Malindang National Park, of Don Victoriano, Misamis Occidental, Philippines. It sought to examine the adaptive mechanisms and assess the vulnerability conditions of the Subanen community to the adverse environmental conditions in the area. Data were gathered in April and May 2003 through a combination of various research techniques such as the use of key informants, focus group discussions, survey of thirty heads of the family, transect walk and participatory mapping. Eight residents who have been in the barangay for a long time and are mostly local officials/ leaders served as key informants. Twenty men and women aged 35 to 77 years participated in the focus group discussions.

Secondary data were used to supplement the primary data collected. These were analyzed using descriptive and inferential statistics. Vulnerability ranking among respondents was done using the average rank of dependency ratio, capital and income. Relationship between selected variables and the vulnerability rank was established using the Spearman Rank Correlation and Regression analysis.

Findings revealed that the combined effect of continuous and heavy rain, strong winds, pests and diseases, and soil degradation caused a significant decline in agricultural production which resulted to low income. In response, the people employed several adaptive strategies such as shift in agricultural crops, land and crop rotation, expansion of area of cultivation, out-migration, family planning, formation of organization, and change in food consumption from rice and corn to root crops.

Despite the adaptive strategies employed by the Subanen people, they remained vulnerable to the impacts of environmental conditions in the area. Their vulnerability is indicated by their low income, low and declining agricultural productions, low educational attainment, lack of skills to shift to other livelihood activities, and the lack of internal and external institutions to assist them. Statistical analysis revealed that household income, capital, farm size, and education, are significantly correlated to their vulnerability. These factors explained 82 percent of the variation of the vulnerability index.

Diversity of Trees Along Altitudinal Gradient: Layawan River Going Up to North Peak in Mt. Malindang Natural Park, Barangay Lake Duminagat, Don Victoriano, Misamis Occidental

Harold C. Perez
BSci Environmental Science
Mindanao State University, Marawi City

The study was conducted to provide baseline data on the composition, structure, and function of the forest tree community specifically covering the banks of Layawan River to the summit of North Peak in Mt. Malindang Natural Park. A total of 11 plots measuring 20 x 20 meters were established from 1,100 masl up to 2,100 masl, at 100 meters space intervals.

The inventory indicated 31 families, 48 genera, and 67 species of trees. Species with highest importance values are *Eleaocarpus calomala* Merr. (Kalomala), *Lithocarpus celebicus* Rehd. (Celebes Oak), *Engelhardia apoensis* Elm. (Apo Lupisan), *Garcinia* sp., *Phyllocladus hypophyllus* Hook (Dalung), which are mostly hard woods and high commercial valued timber.

Twenty-two or 34.33% of 67 species listed have corresponding published accounts as to their conservation/ ecological status. There are four endemic species to Mindanao, three endemic species to the Philippines, three endemic species to Luzon, three species known as depleted, one rare species, one endangered species, four common species in the Malesian region, and three have been labeled as indeterminate. This finding suggests that the area still harbors a number of endemic species; suggesting further that the area has not been totally altered to support such diversity.

Mean height of species, diversity and equitability indices per plot were determined as expression of community structure. The diversity and equitability indices per plot decreases as altitude increases. This finding exemplifies the observation of a number of ecologists that species in high altitudes become fewer or less diverse as a response to environmental stresses like altitude and steep slopes, among others.

On the other hand, the mean height of species per plot increases as altitude increases. This finding is contrary to Beal's (1969) observation of decreasing height of species as altitude increases. However, no actual measurements were done, except for ocular estimates.

The different uses of the different species were solicited through key informant interviews. Fourteen species or 29.17 % of those identified were said to have some use by the local community, namely as source of timber (*tigkahoy*), firewood (*sugdud*), and medicine for stress (*Bulong nak Bughat*). Five of the species used as timber and/or firewood are among the top ten species with highest importance values. This suggests that these species are still abundant in the site, despite the heavy dependence of the local people on said resources.

Researchers and community members work together to conserve trees in Mt. Malindang

Wildlings of economically important plants are propagated in the temporary nursery, jointly put up the researchers and local community.

Community members from the three barangays in Don Victoriano, Misamis Occidental are working with BRP researchers to conserve and propagate economically important, endemic, and rare plants in Mt. Malindang.

Residents of Barangays Mansawan, Gandawan, and Lake Duminagat, and the researchers are jointly putting up a nursery as income-generating project for the community. This activity is an offshoot of the first-generation project where an inventory and assessment of floral resources in Mt. Malindang was carried out.

According to Dr. Cecilia B. Amoroso, Project Leader, the nursery is envisioned to provide income for the members of the community, as well as to encourage them to conserve the forest.

The local researchers collect seeds and wildlings of fast-growing trees from the forest and plant these in the temporary nursery. The collected seedlings of fast-growing trees are planted along the road and trails to provide shade, lumber and medicine. Some of the tree species planted were: (1) almaciga *(Agathis philippinensis)*; (2) ngilo *(Elmerallia platyphylla);* (3) tongog *(Phyllocladus hypophyllus);* (4) lukinay *(Dacrydium elatum);* (5) lipata (unidentified sp.); and (6) kalingag *(Cinnamomum mercadoi)*. A permanent nursery is being constructed to house the propagated wildlings/ seedlings and ornamentals with medicinal value in Barangay Mansawan.

Dr. Amoroso is pushing for a local ordinance that will require visitors in the area to buy seedlings from the nursery and plant these along the roads and trails leading to the forest. The income generated from this activity will be used for the maintenance and operation of the nursery to ensure continuity of conservation actions.

Today, the researchers and the local partners monitor the nursery in the area. When the project ends in 2005, the management of the nursery will be turned over to the community. ▪ *CSFule*

Final output...from page 3

specifically, the methodology by which the indicators were evolved from the programme's goals and objectives can serve as a prototype for developing a monitoring system that is participatory in nature.

Dr. Duhaylungsod has presented and submitted the PPMS User's Handbook as well as the PPMS Project Report to the Netherlands Development Assistance Research Council (RAWOO) during the Special Joint Programme Committee Business Meeting in the Netherlands on 14-15 June 2004. ▪ *GDRivera*

Monitoring demand-driven...from page 2

vision, mission, and goals are translated into parameters and process indicators; (2) PPMS instrument, a research programme-dedicated monitoring tool on process; and (3) PPMS User's Handbook, a complete documentation on the PPMS which expounds the process in which the PPMS was developed, as well as the procedure in using the PPMS instrument.

Dr. Rudith King presented the interim results of the JM&E project for HRP, specifically the achievements, and the concerns and challenges in undertaking the Programme Monitoring and Evaluation (PM&E).

The interim results of the JM&E project served as inputs to the discussion on the main achievements of the programmes, main constraints in programme implementation, and emerging issues such as knowledge generation, dissemination, and utilization, capacity enhancement efforts, stakeholder involvement, North-South collaboration and partnership, and programme governance and management. ▪ *CSFule*

SAMU'T-SARI is the official publication of the BRP. Its name was derived from the Pilipino term for biodiversity which is "*samu't-saring uri ng buhay.*" *Samu't-sari* means variety.

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