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A QUARTERLY DEVOTED TO DISCUSSION AND INVESTIGATION IN THE HUMANITIES AND THE SCIENCES

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The SILLIMAN JOURNAL welcomes contributions in all fields from both Philippine and foreign scholars, but papers should preferably have some relevance to the Philippines, Asia, or the Pacific. All submissions are refereed.

Articles should be products of research, taken in its broadest sense; a scientific paper should make an original contribution to its field. Authors are advised to keep in mind that SILLIMAN JOURNAL has a general and international readership, and to structure their papers accordingly.

SILLIMAN JOURNAL also welcomes the submission of "Notes," which generally are briefer and more tentative than full-length articles. Reports on work in progress, querires, updates, reports of impressions rather than of research, responses to the works of others, even reminiscences are appropriate here. Book reviews and review articles will also be considered for publication.

Manuscripts should conform to the conventions of format and style exemplified in this issue. Whenever possible, citations should appear in the body of the paper, holding footnotes to a minimum. Pictures or illustrations will be accepted only when absolutely necessary. Scientific papers should be accompanied by an abstract. All authors must submit their manuscripts in duplicate, typewritten double-spaced on good quality paper. If possible, a diskette copy of the paper formatted in MSWord 6.0 should accompany the submitted hard copy.

The Editorial Board will endeavor to acknowledge all submissions, consider them promptly, and notify authors of its decision as soon as possible. Each author of an article is entitled to 25 offprint copies of his/her submitted paper. Additional copies are available by arrangement with the Editor before the issue goes to press.

Editor's Notes

IN THIS ISSUE: The focus on the issue of environment and development provides the thematic framework for this edition of **SILLIMAN JOURNAL**. It has been noticeable in recent years that the focus on the environment as a study has attracted the attention of several scholars representing many of the shades of opinion that are characteristic of this disparate discipline. Seven articles in this issue contributed by authors coming from different disciplinary backgrounds address both the human and the natural aspects of the environment from a variety of perspectives. The first six articles in particular explore what in Environmentalism has come to be known as "ecosocietal restoration" which calls for a reexamination of human society's relationships with natural systems so that the destruction and repair of ecosystems can be sustainably balanced. A common thread running through these articles is the emphasis on the importance of understanding connections both within natural systems and with social and economic concerns. All six articles implicitly argue for alternative policy initiatives which take into account environmental literacy and the need to educate the public in order to change attitudes and behaviors that are deleterious to natural systems.

The first three articles explore this theme within the context of the lives of the indigenous peoples of Negros Oriental. These three articles were outgrowths of the Ancestral Domain Research Project commissioned by the Provincial Environment and Natural Resources Office of Negros Oriental. The leading article by Nichol R. Elman and Ceres E. Pioquinto discusses the specific research methodology designed for the special requirements of the Ancestral Domain Research Project. In the second, Rolando V. Mascuñana reports the findings of his ethnographic study on the Negritos of Canggohob, Mabinay and the Bukidnons of Tayawan, Bayawan and Cabatuanan, Basay, Negros Oriental. The third article by Andrea G. Soluta with Wilfa Glynnis V. Manginsay offers baseline information on the present situation of the indigenous cultural communities of Negros Oriental, and concludes with a situational analysis by Ceres E. Pioquinto.

The next two articles by Betty C. Abregana and Enrique G. Oracion respectively were products of the Palawan Formative Research in Support of Environmental Communication Campaign. These two articles provide a comparative analysis of the knowledge and practices of local government officials, opinion leaders, and local residents relative to the environment. These two

studies raise the question of how national and local government policy aims may be linked to resource management while at the same time suggest the vital role of environmental communication campaign as the key to changing the public's attitudes and behaviors that are detrimental to the environment.

In a similar way, Angel C. Alcala's article suggests the connection between policy initiatives and local habitat and livelihood, linking sound environmental practices to community rehabilitation programs. In particular, it considers the role of organized communities and the Community Based Fishery Management approach as one of the effective strategies in solving the problem of dwindling fishery resources and argues for the establishment of marine reserves in the management of coastal fisheries.

Although departing from the general theme of this issue, but still necessarily part of the natural landscape, the subject of this issue's final article by Wayne A. Brown will be of particular importance to entomologists and to anyone interested in the distinctive and dynamic interactions among air, water, soil, biota, and people which constitute the environment.

CEP

ACKNOWLEDGMENTS: Several forms of individual support have assisted in the preparation of this issue of the **SILLIMAN JOURNAL** and it is our great pleasure to publicly acknowledge this help here.

We are deeply indebted to the Provincial Environment and Natural Resources Officer of Negros Oriental, Mr. Constancio S. Nangkil, Jr., for the kind and much extended loan of the PENRO computer and printer during the early stages of the preparation of the manuscripts.

We also wish to thank the Department of English and Literature of Silliman University for continually allowing unlimited access to the office computer and printer for the processing of the drafts.

Our deepest thanks to Dr. Christian Karl Schales, Visiting Professor in Information Technology from Germany, not only for offering his time and talent in the processing by digital imaging of photos and illustrations which appear in this issue, but especially for generously donating the use of his equipment and materials in the preparation of the final drafts for the press.

Finally, our gratitude to our contributors for their intellectual energy and to our readers for their critical insight. We hope they will be pleased with the results.❖

CEP
NSdV

THE QUADRANGULATION APPRAISAL TECHNIQUE[1] AS RESEARCH STRATEGY FOR THE NEGROS ORIENTAL ANCESTRAL DOMAIN RESEARCH PROJECT[2]

Nichol R. Elman and Ceres E. Pioquinto

THE GOVERNMENT'S Ancestral Domain Management Research Project, of which this article is an outgrowth, was conducted by the Silliman University Task Force for Ancestral Domains on the three indigenous cultural communities[3] of Negros Oriental--the Negritos of Canggohob, Mabinay and the Bukidnons of Tayawan, Bayawan and Cabatuanan, Basay from July to November 1996 (see Figure 1). This article represents a part of the major report on the Ancestral Domain Management Plan (ADMP).

To carry out the ancestral domain project, the Provincial Environment and Natural Resources Office created, as its special arm, the Provincial Special Task Force for Ancestral Domains (PSTFAD)[4] whose

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[1]This research approach was adapted from the model used by Dr. Nichol R. Elman in his dissertation, "Rural People Response to an Integrated Development Project of a Philippine Institution of Higher Learning," University of the Philippines Los Baños College, Laguna, 1993.

[2] The research project was commissioned and funded by the Provincial Environment and Natural Resources office of Negros Oriental in pursuance of the Constitutional mandate "for the recognition and protection of the rights of the indigenous cultural communities to their ancestral lands and domains to ensure their economic, social and cultural well-being" (Philippine Constitution 1987, Section 22, Article II; Section 5, Article XII; and Section 6, Article XIII).

[3] Indigenous Cultural Communities (ICCs), also called Indigenous Peoples (IPs) refer to "a homogenous society identified by self-ascription and ascription by others, who have continuously lived as community on communally bounded and defined territory, sharing common bonds of language, customs, traditions and other distinctive cultural traits, and who, through resistance to the political, social and cultural inroads of colonization, became historically differentiated from the majority of Filipinos" (Department Administrative Order No. 02, Series of 1993, Section 3, Article 1).

[4] The Provincial Special Task Force for Ancestral Domains (PSTFAD) refers to the Special Task Force based in specific Provincial Environment and Natural Resources Offices (PENRO) which is responsible for the identification, delineation, recognition and management of ancestral domain claims as defined in the Department Administrative Order No. 02, Series of 1993.

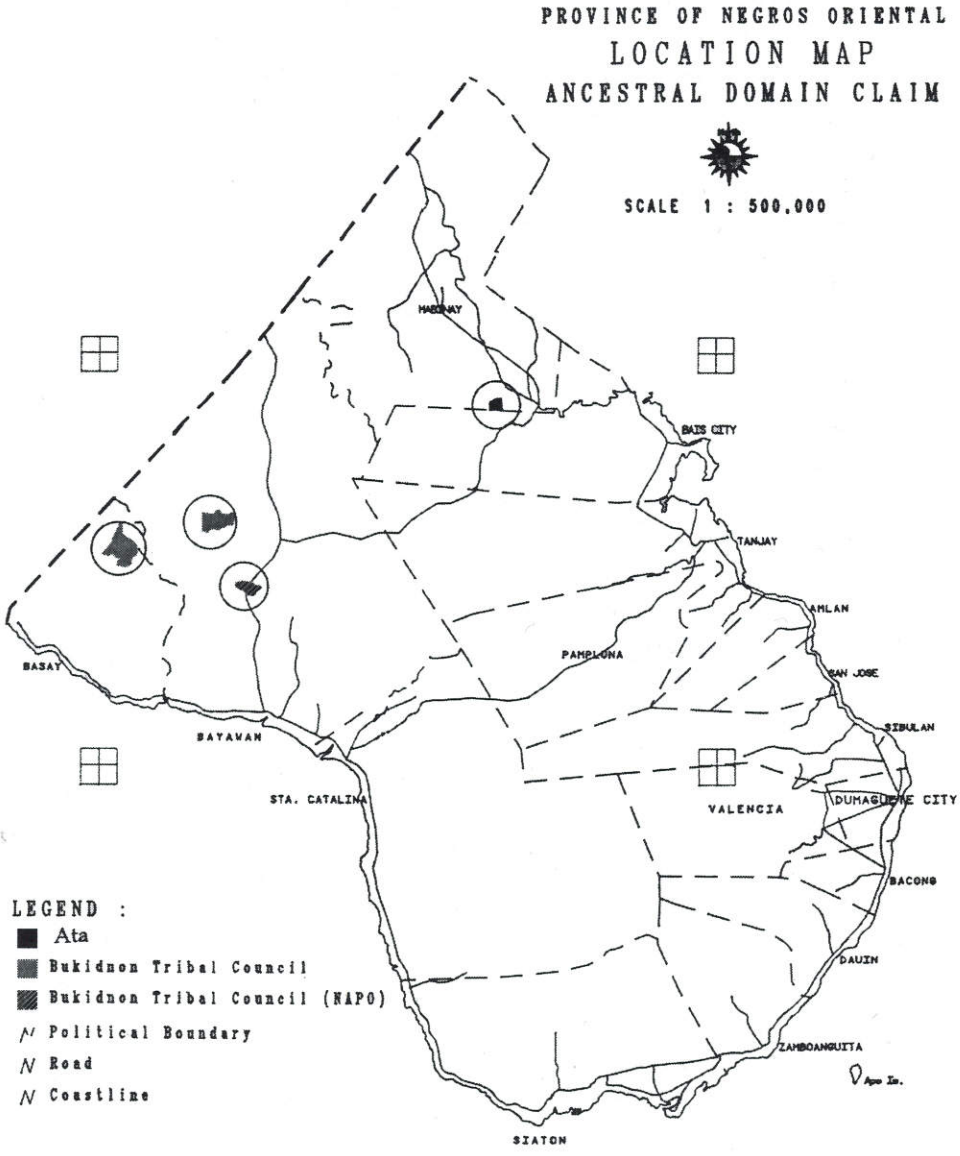

Figure 1: Ancestral Domain Location Map of Negros Oriental

main task was to assist the indigenous communities in the formulation of their respective Ancestral Domain Management Plan. In the first organizational meeting of the Provincial Special Task Force on Ancestral Domains in November 1994, Silliman University was designated as the Nongovernment Organization component of the PSTFAD and became the official research team to carry out the research investigation on the three identified communities.[5] The results of the research were to be used by the PSTFAD in identifying, delineating, and recognizing the ancestral domain claims of the three indigenous cultural communities in the province and in assisting them in their preparation of their Ancestral Domain Management Plan (ADMP).[6]

In consonance with the *Rules and Regulations For the Identification, Delineation and Recognition of Ancestral Land and Domain Claims*, Department Administrative Order *No. 02, Series of 1993*, the Silliman University Task Force recommended a full-scale research in the three identified indigenous communities of Negros Oriental. In the series of meetings and consultations attended by members of the PSTFAD, several problems became evident which necessitated the performance of a full-scale research.

First, there was the absence of a comprehensive and current literature on the indigenous constituents of the three identified areas that would provide some understanding of their way of life, their economic, social, and cultural situation, their indigenous practices, tradition, and heritage beyond a few, scattered, and dated accounts. Neither

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[5] The Silliman University group was then composed of Dr. Nichol R. Elman, Director of the Silliman University Extension Program, Dr. Ceres E. Pioquinto and Prof. Andrea G. Soluta of the Department of English and Literature, Prof. Rolando V. Mascuñana of the Anthropology Department, Atty. Joel Obar of the College of Law, and Ms. Wilfa V. Manginsay of the Extension Program. The group was later designated as the Ancestral Domain Research Team and thereafter became officially known as the Silliman University-DENR Task Force on Ancestral Domains.

[6] The Ancestral Domain Management Plan (ADMP) is a comprehensive management scheme formulated by the indigenous cultural communities themselves for the implementation of ecologically sound indigenous land use and environmental protection systems. Under this plan, the indigenous cultural communities exercise general supervision and control over the management of their respective ancestral domain claims including the resources therein (Department Administrative Order No.02, Series of 1993, Section 1, Article VI).

ethnographies from which to get data nor discussions on indigenous resource management were available in the existing materials which could provide the Task Force with valuable leads. Second, even at the earlier stage of the PSTFAD consultations, two major problems namely, the conflicting claims from different individuals with major stakes in the outcome of the ancestral domain project; and the submission of fraudulent or spurious proofs of ethnic affiliations of purported tribe members by certain interest groups made field research not just an imperative but the only way to ascertain the authenticity of the claims. Accordingly, the PSTFAD organized an ocular inspection and verification in the early part of 1995.

The special requirements of the Ancestral Domain Management Project, however, necessitated the use of a research strategy in accord with the specification of the Guidelines on the Management of Certified Ancestral Domain Claims.[7] The Quadragulation Appraisal technique or the Quadrangular approach to field research was developed by the Silliman University Task Force for this purpose. Using this research strategy, the Silliman University Task Force carried out a comprehensive community appraisal and profiling survey of the three indigenous cultural communities in July to November 1996.

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[7] The philosophy underlying the quadrangular approach is articulated in the Guidelines on the Management of Certified Ancestral Domain Claims as promulgated in the DENR Department Order No. 02, Series of 1993, Article 1, Section 3:

> The Indigenous Peoples have the right to formulate an ancestral domain management plan reflective of their needs and aspirations. It shall be prepared by the community itself according to its own indigenous knowledge systems and practices with the option to avail of external assistance under terms and conditions determined by the community.

The quadratech model, with its focus on the role of partner-communities, is rooted on the same fundamental philosophy which recognizes the individual's rights to self-determination. This distinctive feature makes the quadrangulation technique a most effective research strategy in realizing the main objectives of the Constitutional policy on ancestral domain.

The Quadrangulation Appraisal Technique (Quadratech)

The Quadrangulation Appraisal Technique (Quadratech) constitutes a paradigm shift from the conventional community survey which uses only the interview schedule or questionnaire. The quadratech approach, on the other hand, involves not just the gathering of primary and secondary data, but also the participation of the community organizers, the complementary external appraisal or assessment team (CEAT), and the involved collaboration of the partner-community in a constantly interactive relationship.

The diagram below schematically describes the interrelationships between component parts of the research process. In this diagram, the researcher/research team is aided by the following: the primary data collected by the interviewing team using structured interview schedule and the participation of partner-communities; the secondary data such as periodic progress and process recording and documentation lodged in the various concerned interagencies as well as published and unpublished materials found in libraries; the project staff or community organizers assigned in the partner-communities who gather and validate the primary or empirical data; and the complementary external assessment/appraisal team composed of interagency representatives (both GOs and NGOs) who provide the critical perspective on the data and serve as potential sources of technical and financial assistance. The principal researcher is both a participant and an observer in the research process. The relationship between the partner-community, the CO, as well as the CEAT is dynamic. The area for the secondary data is static because of their nature as armchair research data.

Primary Data

Data Gathering

In the quadratech model used by the Silliman University Task Force on Ancestral Domains, the primary data were gathered with the use of a structured interview schedule. Selected senior college students who

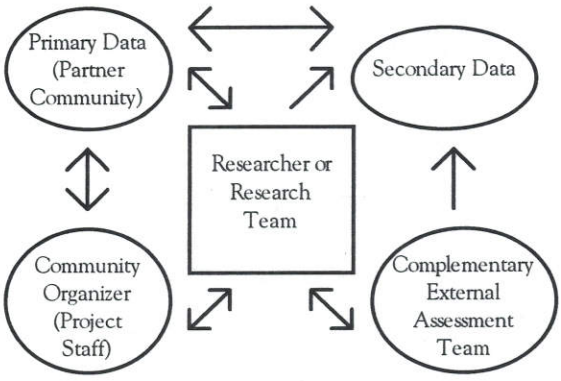

Figure 2. Diagram of the Quadratech Approach Paradigm used by the Silliman University Special Task Force on Ancestral Domain in conducting field research in three identified Indigenous Communities in Negros Oriental.

had some previous research experience in conducting socioeconomic surveys were chosen to assist the Task Force in conducting the interview. The interviewers were given proper orientation and training on the said study. The interview question, written both in English and in Cebuano, consisted of a checklist and a set of structured questions as well as an open list of possible answers or responses. For the open-ended questions, the respondents were asked to explain themselves while the interviewer noted the answers *verbatim*.

Prior to being used in data gathering, the interview instrument was pretested among selected members of the indigenous communities in the three research areas to test the validity, clarity, and relevance of the questions. Given the smallness of the population of these communities, the Task Force decided to include the initial pretest respondents in the final list of respondents. Part of the reason was that the research team was aiming for 100% respondents. The inclusion was also justified by the fact that, except for the reduced length of the final questionnaire, there were no substantial changes in the content of the interview schedule.

The interview schedule used among the respondents in the indigenous communities covered by the study included the following subjects, namely:

1. certain social, economic and psychological characteristics of the respondents in the areas under study
2. health and sanitation
3. family and community relationships
4. indigenous knowledge and practices
5. ownership of land
6. mobility assessment
7. social and cultural involvement
8. development projects and infrastructure
9. ancestral domain
10. certain behavioral observations noted among the respondent-indigenous people within the duration of the research activities

Data gathered by the community organizers (COs) as well as information collected by the research team during field visits also constituted the primary data and reinforced those gathered through the interview schedule. The primary data are additionally useful for validating the secondary data.

Role of Partner-Communities

As an indispensable component of the research process, partner-communities are sources of valuable information that go into the primary data. In the quadratech model, however, partner-communities are more than just data banks; they are active participants in the preparation, formulation, and determination of action plans for their community projects. Also known as the bottoms-up principle in actual practice, this pivotal role of the partner-communities in the quadratech paradigm is the unique feature that differentiates this approach from the traditional research procedure.

Following the quadratech model, the Negrito and Bukidnon indigenous communities were more than just respondents and providers of

raw data for the baseline survey. As an integral part of the research process, members of these indigenous partner-communities played a central role in the formulation of their ancestral domain management plan and development programs. The community discussions of their workplans followed a matrix format in a series of seminar-workshop held both in the respective areas of Canggohob, Tayawan, and Cabatuanan and in Dumaguete. The COs and the Task Force research team facilitated the workshops and provided guidance in the format and content of the action plans. The output of the individual indigenous group's action plan was presented to the Task Force for review and assessment.

The Secondary Data

Also known as "arm chair" data or library research data, the secondary data consist of information collected from published or unpublished literature, maps, periodic progress reports, process recording or documentation that may be found in libraries or archives as well as in the files of pertinent agencies and offices. In the duration of the research work on ancestral domain, the Silliman University Task Force collected data not just through the use of the interview schedule, but also additional information from various sources and interagencies for supplementary information. The Task Force also checked published and unpublished literature related to indigenous communities, monthly and quarterly progress reports of various agencies, results of the yearly participatory community assessments, logbooks of the community organizers/extension workers, and other documents related to the study. This kind of information is useful in corroborating the findings of the primary data.

The Project Staff or Community Organizers

In the quadrangulation model, the Project Staff or Community Organizers (COs) stand at the juncture of the research process, occupying a mediating role between the partner-communities and the Research Team, as well as between the partner-communities and the Complementary Assessment Team, as conduit of valuable information. As

providers of empirical data, they play a critical role in data gathering, particularly in assessing the quantity and quality of the data, and finally in judging their validity. As the vital link between the Research team and the partner-communities, they pave the way for the research team's entry into the community as well as facilitate interactions between them.

During the course of the field research, the Silliman University Task force assigned Community Organizers (CO) in the partner-communities of Canggohob, Tayawan, and Cabatuanan. One CO for each of the three research areas lived with the community for four months to have an in-depth understanding of the culture and lifestyle of the people; observe their socioeconomic activities and civic involvement; and learn about the community's dreams and aspirations. As participant-observers in the locality, the COs immersed themselves in the everyday life of the community and monitored the people's activities to gain insights from them. They conducted in-depth interviews with respondents of the baseline data survey to fill in the "gaps" left by insufficient or questionable data. At the same time, the COs worked closely with the complementary external assessment team for information verification, clarification, and validation. It was also the responsibility of the COs to corroborate the results of the baseline survey with the secondary data on indigenous peoples kept by the different interagencies concerned.

The Complementary External Assessment/Appraisal Team (CEAT)

In the case of the research study on the indigenous communities in Negros Oriental, the CEAT is composed of representatives from both government agencies and nongovernment organizations. Leading the agencies is the Department of Environment and Natural Resources whose mandate of government is to implement the Constitutional policies pertaining to ancestral domain claims of the indigenous cultural communities. In this research study, the CEAT was composed of representatives from the Department of Agriculture, Department of Labor and Employment, National Irrigation Administration, Department of Health, Provincial Planning and Development Office, Department of Education, Culture and Sports, Department of Trade and Industry, Office

of Southern Cultural Communities, among others. There were some representatives of NGOs and People's Organizations.

Ideally, the CEAT should be exposed to the partner-communities of indigenous peoples during the research period, but they are not meant to have knowledge of the structured interview schedule intended for the respondents and the objectives of the research work in order to avoid bias. Their full involvement in the project also come a little later in the research process when the initial findings are presented for evaluation. In the quadratech model, the CEAT's role in the research process is to assess, verify or substantiate the findings from the structured interview schedule as well as from the information gathered by COs in their field experience.

In the course of the research on ancestral domain, the Task Force initiated a series of workshops in which the interagencies were organized to supplement the information gathered on the baseline data. The CEAT also provided more relevant information which were not available in the field or have been overlooked by the researcher/research team. Aside from critiquing the results of the baseline data during the interagency consultation workshop, the CEAT examined the needs of each community to determine the basic services to be rendered. At the same time, the CEAT evaluated their respective roles and programs and assessed their individual capabilities to extend support services to the indigenous communities. In the implementation of the Ancestral Domain Management Plan, the CEAT plays a support role as potential sources of both financial and technical assistance to the indigenous people.

The Research Team: SU Task Force on Ancestral Domain

The role of the research team in the quadratech approach is integrative in nature. As the principal research team, the Silliman University Task Force on Ancestral Domains directed the entire research process from the formulation of the community profiling questionnaires, to the collation, analysis, and synthesis of all data during the course of the research, and then in the presentation of the data to the communities and interagencies for evaluation and validation in a series of consultations and seminar-workshops. In keeping with the role of the existing Provincial

Special Task Force on Ancestral Domains (PSTFAD) outlined in the Guidelines, the Silliman University Task Force served as a channel of information, education, and communication for the partner-communities of Canggohob, Tayawan, and Cabatuanan, as well as between the partner-communities and the interagencies.

The first task of the Task Force members was to conduct personal or group interviews with individual COs assigned in the partner-communities to assess the quality of their initial outputs in the field. The interview centered on the personal experiences of the COs during their four months of community integration. The researchers and the COs regularly corroborated the primary data. To gain first-hand information of the partner-communities, as well as to monitor the progress of the COs, the Task Force visited the research areas periodically to conduct ethno-ecological studies through personal interviews with members of the indigenous communities and direct observation of the people's surroundings and lifestyles.

During these field trips, the team also visited a number of local government units in the municipalities of Mabinay, Bayawan, and Basay to gather information on community profiles, development projects, demographic data, maps and other relevant records on the indigenous communities. Among the major accomplishments of the Task Force was the reconstruction of the genealogical graph or family tree of the three indigenous communities as an essential first step in determining the legitimacy of the groups' ethnic affiliations. The findings of the research were then presented to the communities and the interagencies involved in the project in a number of community consultations and multisectoral meetings facilitated by the team. In keeping with its integrative role in the quadratech process, the Task Force remained in constant contact with the partner-communities, the COs, and the CEAT throughout the entire research period.

Validation of Ethnicity

Department Administrative Order No. 02, Section 1, Article 1, specifies the awarding of the Certificate of Ancestral Domain Claims (CADCs) to "*bonafide Indigenous Peoples members and communities*"

[underscoring supplied]. This declaration makes the authentication of ethnicity of prospective recipients of the Certificate of Ancestral Domain Claims (CADC)[8] a basic prerequisite in the preparation of Ancestral Domain Management Plan.

One of the most effective anthropological tools used in ascertaining the validity of the claimed ethnic affiliation of members of a particular group is the genealogical graph or the reconstruction of family tree. The reconstruction is a painstakingly long and tedious process, but the accuracy of the family tree diagram in tracing and in authenticating genealogical roots is difficult to challenge and therefore proves extremely useful right in the initial stages of accounting for the legitimate composition of groups applying for the Certificate on Ancestral Domain Claims (CADC). And since the diagram clarifies the complex relationships among the families such as how various households in the community are related to each other, whether consanguinally or affinally, it also instills among the members of the indigenous community being studied a sense of pride in their ethnicity and cultural heritage, in the process promoting societal integration.

In tracing the intergenerational level diagram, a number of informal interviews with the family heads and spouses were conducted during the field visits. The respondents were asked questions regarding their ethnic background, places of birth, number of years they have resided in the area, among other questions. The respondents were normally asked to trace his family (ascending-descending manner) as far back as he could remember. The formal interview also included questions whether the respondents had any relatives in the particular community under study and whether the relations were blood, affinal, and/or ritual. The COs assisted in identifying the indigenous members in the area by making a list which included the names of the respondents' children, family members who were married and their spouses, the latter in order to determine the

[8] The Certificate on Ancestral Domain Claims (CADC) declares and certifies the claim of each indigenous cultural community over a corresponding territory earlier identified and delineated as ancestral domain. The certification is issued in the name of indigenous community claimant and placed under the custody of its recognized indigenous socio-political leadership or people's organization. (DAO 02, 1993, Section 1, Article IV).

incidence of intermarriages. The data the COs collected were entered in a logbook for preliminary reconstruction of the family tree. The data were double-checked every time the research team made a field visit.

In the early stages of the research, students who assisted in the interview also helped in the house-to-house informal and exploratory interview. The preliminary data they collected formed part of the information that went into the genealogical study. Local residents also helped in identifying the names of the indigenous people. Similarly, the wives of respondents often provided data on children, their relatives, and siblings.

The reconstructed genealogical diagram then underwent a series of rigorous double-checking with some members of the community. This group interview authenticated the names, ethnicity, and generational age level of community members. In the course of the research period, the Task Force accomplished three genealogical graphs for each of the indigenous communities being studied. On three separate field works, the genealogical diagrams were presented to the respective community for validation and this offered opportunities for emendations and corrections right in the presence of the indigenous groups involved and the members of the Task Force, local officials, as well as officials of the Department of Environment and Natural Resources. An important dimension of this process is the community acknowledgment of the accuracy and validity of kinship relations indicated in the reconstructed family tree diagram. The presentation of these genealogical graphs to representatives of the CEAT in a seminar-workshop was equally imperative in order to give the interagencies some understanding of the research procedure in whose results, as a support system, they have a major stake.

Seminar Workshops and Community Consultations

Following the quadratech principles, the philosophy behind the Department Administrative Order No. 02, Series of 1993, Section 3, Article 1, in which the "Indigenous Peoples are given the right to formulate an ancestral domain management plan reflective of their needs and aspirations," and in consonance with the Basic Steps in the ADMP Preparation, Section 4, Article II, seminar-workshops in which the

partner-communities are trained for skills and know-how that will prepare them for the task of drafting their own ADMP, form an integral part of the entire research process. Similarly, these seminar-workshops are also meant for representatives of various agencies in anticipation of their own involvement in the project.

Consequently, the Silliman Task Force, assisted by the COs, organized a number of seminar-workshops aimed for this purpose. As crucial preparatory stages in the formulation of the ADMP, these seminar-workshops focused on the individual members of the indigenous communities as well as on representatives of the CEAT and their roles, responsibilities, and duties in the preparation of the ADMP.

The first workshop presented to the group, composed mainly of representatives from the line agencies, the initial findings from the baseline data for evaluation and validation by the CEAT. The critical perspective on the data provided by this group helped the Task Force determine which aspects of the research process or the data needed to be reviewed, reassessed or substantiated, and which problem areas needed to be addressed promptly. At this seminar-workshop, the CEAT representatives also evaluated their own roles in relation to the project on hand, assessed their individual intervention schemes, and considered their most effective points of entry in areas of concern such as health, education, and community infrastructure.

The second workshop involved the representatives of the interagencies and members of the Working Group of each indigenous community consisting of the tribal leaders, the barangay captains, and officials of the three research areas. In this workshop, the Silliman Task Force presented the family tree or genealogy of each indigenous group to the interagency representatives for their information. The validated data were also presented to the participants for review.

In preparation for the drafting of the ADMP, two major activities highlighted this two-day workshop. The first major activity of this workshop was the assessment of community and interagency profile using the S.W.O.T. Method (Strength, Weaknesses, Opportunities, and Threats). The participants were subdivided into two groups: one group from the indigenous people, and another from representatives of the

interagency. Using development concepts as framework for discussion, the indigenous people were asked to identify, analyze, and appraise their existing natural resources and socioeconomic conditions through community resource mapping and other participatory processes. In this exercise, the Working Groups judged the strengths, weaknesses, opportunities, and threats of each of these factors in the development of their communities. On the other hand, the interagency representatives were tasked to look into their perceived roles after having been presented the information on the indigenous people. During the presentation of the workshop output by the indigenous people, the CEAT served as the panel of assessors.

The second major workshop activity was the community tactical planning which began with an exercise in visioning and formulating of strategic goals and objectives. A discussion of the tactical planning procedure and brainstorming for ideas that would constitute the contents of the tactical plan were the main issues of this session. In keeping with the quadratech approach, the focus on the tactical planning process and the emphasis on the necessary skills required to carry out the process were meant to equip the groups with the know-how and the proficiency that will enable them to formulate and subsequently implement their own tactical and action plans by themselves.

Only a preliminary draft of the tactical plan was accomplished by the participants in this workshop. As a trial plan, this was critiqued for both content and structure by the Task Force using the strategic goals criteria of (1) simplicity, (2) measurability/quantifiability, (3) attainability, (4) realizability, and (5) time-boundedness. The final tactical plan, which was meant to be the product of the entire community's collective effort, was to be accomplished within 15 days after that workshop at each indigenous group's respective locality.

A third and final workshop to review and validate the final draft of the tactical plan was organized at each research site. The action plan prepared by the indigenous people themselves were clarified, analyzed, and reviewed by the Task Force and then presented to the community for acknowledgment prior to being synthesized into written reports that would form the ADMP.

In between the scheduled seminar-workshops were a number of community consultations in the three research sites organized and facilitated by the Task Force. In these community gatherings, members of the indigenous groups discussed issues pertaining to their ancestral claims and decided for themselves relevant courses of actions reflective of their needs and the aspirations of their community. At each of these community consultations, findings of the research and the groups' genealogical diagram were presented for community verification and authentication. When emendations on the data were necessary, the revised information was always returned to the group for confirmation and community acknowledgment. In the quadratech framework, the partner-community remains an active participant to the end of the research process. The people-centered approach of the quadratic model has the added premium of inculcating among constituents of partner-communities the values of self-reliance and group solidarity.

Conclusion

The essence of the quadratic approach to research may be summed up in one word--*empowerment*. The fashionable word of the '90s deriving from the work of the Brazilian educationalist Paulo Freire, empowerment means acquiring the awareness and the skills to take charge of one's own environment. In Calvert and Calvert's words it means "showing people how to take their destinies into their own hands" (1996: 123). Locally translated, it means community action. From the point of view of policy makers, whether the council of tribal leaders, or the local or national governments, this means encouraging individuals and groups to make their own decisions and to take part in shaping their own future. Thus, it involves the active and effective participation of people in the making of decisions affecting them. Veering away from the traditional "top-down" approach toward what is popularly known today as "bottoms-up" principle, empowerment allows people to initiate policies as well as shape the development of policies initiated by others. As the Brundtland Commission (WCED 1987) so rightly points out, "without participation,

development will not happen and the environment will be destroyed" (in Calvert & Calvert 1996: 177).

Rooted in the same philosophy is the constitutional mandate on ancestral domains. Recognizing that it is no longer enough for the government to tell people what it is going to do for them, policy makers of this constitutional provision have specifically defined in the ADMP Guidelines the role of the indigenous communities in shaping their own future through collective discussions and community decision-making processes. In allowing this, the government commits itself to safeguarding the constitutional policy respecting the rights of the indigenous communities to self-determination, justice, and equity.

The people-centered approach of the quadratech model which provided the framework for these community consultations makes it an appropriate complementary procedure in realizing the government's commitment. But since the first step in empowerment is learning how things work on the local, in the case of the indigenous cultural communities, on the rural or village level, the processes of the quadratech approach in the preparation of the Ancestral Domain Management Plan described in this chapter, also provide the best tool and the first step in teaching the indigenous communities the necessary skills in realizing the goals of the ADMP. It should be stressed, however, that this exercise should be considered not as the culmination of a research effort, but as a beginning of a much longer process of community self-education.❖

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ANTHRO-HISTORIOGRAPHIC NOTES ON THE INDIGENOUS PEOPLES OF NEGROS ORIENTAL: RECENT FINDINGS

Rolando V. Mascuñana

OF THE RECOGNIZED Indigenous Peoples or Indigenous Cultural Communities (IPs/ICCs) in the Philippines today, two groups live in the hinterlands of the province of Negros Oriental. These are the Negritos, locally known as Ata, of Barangay Canggohob, Mabinay and the Bukidnon (literally, hill/mountain people) of Barangay Tayawan, Bayawan and Barangay Cabatuanan, Basay in southern Negros.

Until many lowland migrants moved to the place, lured there by bright economic prospects, the early inhabitants of the Mabinay mountain areas were the Negritos (Ata) and the Bukidnons, two different cultural groups, each competing for the same space in the ecosystem The Negritos were traditionally hunters-gatherers while the Bukidnons practiced shifting cultivation. Both have been displaced from their ancestral lands as lowland migrants from Cebu and other places on both sides of Negros island settled in the area one after another. The economic prosperity offered by the place attracted more upland migration which resulted not just in the intensified exploitation of forest and other natural resources, but also in a stiff competition among the settlers, including the two indigenous groups, for use and consumption of resources that were clearly not inexhaustible. What has taken place was some kind of triadic competition between different ethnic groups for the same ecological niche and for the same limited resources. This process may have led the Bukidnons to leave the area. It is equally possible that they were pushed farther into the interior of southern Negros, which would explain why there are no more members of this group in this place today. The Negritos, also pushed farther into the hinterlands, remain the only indigenous group living in the area.

Anthropological studies (R. Cadeliña 1983; E. Oracion 1983) conducted on these communities strongly suggest that these two IPs/ICCs may be slowly disappearing, biologically and culturally. Biological and

sociocultural relationships with outside cultures may account for this situation. Biologically, assimilation, through the uncontrollable and inevitable processes of interethnic marriages, has accelerated the biological extinction of pure Ata and Bukidnon population today. The reconstructed genealogical diagram of each of these three indigenous communities affirms this assertion. These marriages are between Ata and Cebuano lowland migrants on one hand, and between Bukidnon and migrant settlers from Cebu and Panay (Iloilo, Antique, and Capiz) on the other. Such mixed-marriages have resulted in the disappearance among the younger generation of much of the biological features characteristic of pure Ata or Bukidnon individuals.

Culturally, recent studies found little traces of what may be described as uniquely Ata or Bukidnon traditional cultural practices or systems of knowledge. The inevitable process of acculturation, facilitated by steady cultural contacts with outsiders which intensified during the influx of upland migration in the 1970s, has slowly but irrevocably transformed the culture of the Negritos and the Bukidnons. Acculturation, defined by E. Adamson Hoebel (1966: 599) as "the process of interaction between two societies in which the culture of the society in the subordinate position is drastically modified to conform to the culture of the dominant society," explains the changes in behavior patterns, social and value system, material or artifactual of both Ata and Bukidnon. Changes in the upland ecosystem in the identified three areas which have adversely affected the lifestyle of today's indigenous communities have further accelerated the present bio-sociocultural changes. Evidence of these changes can be seen in the transformation of village economic activities from the traditional hunting, fishing, and gathering to the monetized, cash-based economy today.

Setting of the Study

Mabinay

Mabinay, an interior municipality where the Negrito settlement of Canggohob is located lies 87 kms away from Dumaguete City, the Provincial Capital of Negros Oriental. It is 42 kms from Bais City, 67 kms

from Bayawan, and about 48 kms from Kabankalan, Negros Occidental. It is located at the central portion of Negros Island, geographically located within a valley, surrounded by rugged mountains to the east, and by a terrain of rough plains and rolling hills to the south. It has a total land area of 36,226.35 ha (142.6 sq km), most of which are classified as agricultural and planted to sugarcane, corn and rice, the town's major crops. The place used to be the main source of forest products of the province and at present it has a vast reserved area for reforestation projects.

Formerly a satellite of Bais City, Mabinay became a municipality on January 1, 1960. Later, the territory of Mabinay was enlarged with the annexation of a number of identified barrios of Manjuyod and Bais City. These sitios have become today the barangay of this newly-created municipality. At present, Mabinay has 32 barangays with a total of 228 sitios and/or *puroks* and is still considered a fifth class town.

Canggohob. Although barangay Lamdas was the original Negrito settlement founded by a Negrito chieftain by the name of Gardian Empel sometime in the 1950s, population pressure from lowland migrants forced the Negritos to leave and relocate in barangay Canggohob, one of the 32 barangays of Mabinay. The settlement, considered today the last frontier of the resettled Negritos, has a small population of Negritos. Specifically, the Ata settlement is found in the former project area of Silliman University (Maturan 1978), then the Negrito Research-cum-Action Project of Silliman University (R. Cadeliña 1983). Barangay Canggohob itself is accessible by vehicle through the barangay feeder road, but to reach the Ata settlement, one has to hike through the hills from Barangay Canggohob proper to the settlement. The steep downhill and uphill trail traversed by a creek leads to the area which is a few strips of rocky narrow valley and hills, many of them bereft of vegetation except for clumps of *cogon* (*Imperata cylindrica*), *talahib* (*Saccharum spontaneum*), and *hagonoy* (*Chromolaena adorata*). The present condition of Negrito farms, mostly located in the hillsides and sloping terrain, shows that the top soil is gone and their farm are badly eroded. Calcareous rock appearing at the surface is a sign of deteriorating soil condition and high rate of soil runoff during heavy rains.

The settlement used to be part of the Bais Forest Reserve which covered a total area of 9,816 ha. Of these total land area, only 24 ha are left today as resettlement site for the Negritos through the intervention of Silliman University in 1960. What the Negritos call the Silliman site is known today as Sitio Macabines. Every Sunday since July 1995, it has become the local market center (*tabu-an*) of both Negritos and Cebuano settlers in the area. The most recent development indicating social changes taking place in the area is the fiesta celebration introduced for the first time on September 17, 1995, two months after the *tabu* was established by a Cebuano settler in the area with the consent of the Negritos.

Bayawan

Bayawan, in whose municipality the Barangay of Tayawan belongs, is located on the southwestern tip of the province of Negros Oriental. It was the last town of southern Negros until June 15, 1968 when Basay, its biggest and most progressive coastal barrio, 27 kms away, became a municipality. The municipality of Bayawan is bounded on the north by the provincial boundary of Negros Oriental-Negros Occidental and the Sagunayon River which runs easterly until it meets the source of Ilog River which intersects the Bais-Tanjay boundary line. To the east is the Camandagan Creek which flows downstream to Sicopong River upstream and due northeast to a point marking the boundaries of Bayawan-Sta. Catalina and Tanjay; to the south by the Sulu Sea, and to the west by the Pagatban River and the municipality of Basay.

Bayawan has a total land area of 55,795 ha (484.75 sq km) and is 101.9 kms south of Dumaguete. It has presently 27 barangays. It used to have a plywood factory (Marli Plywood Factory and Veneer Corporation) which produced lumber and wood byproducts for export in 1950s. Big companies, such as Ang Tay Sawmill Company, established lumber mills which exploited the town's rich timber land. Bayawan is agricultural and has an abundant supply of rice, corn, and staple crops. The establishment of the Tolong Sugar Milling Company (TSMC) in Sta Catalina in 1969 provided the impetus for the expansion of sugarcane fields on the coastal lands and rolling hills in the upland of Bayawan. The logged-over areas of

what were once forested regions have been converted to sugarcane fields. Bayawan also has good fishing grounds which have attracted fishermen from other areas to come and fish in this part of the province.

Tayawan. Tayawan is an upland barangay, 26 kms away from Bayawan. The barangay site covers 37.5 ha and is the biggest of the 27 barangays of Bayawan. The entire barangay has a total land area of 12,440 ha surrounded by hills and steep mountains which are generally devoid of primary forest cover. Cogon grass and patches of stunted trees cover the open lands and dominate the vegetation components in the upland. The northern portion of Tayawan is considerably higher and more rugged than the eastern and southern portions. The western portion is rugged foreland which extends to the edge of Pagatban River. The Pagatban River has always served as a natural boundary that separates the regions of Tayawan and Cabatuanan.

Tayawan is basically an agricultural community with its lands planted to coconuts, rice, corn, sugarcane, bananas, camote, cassava, gabi, ube, and others. Lower hill slopes are generally cleared for upland rice cultivation. Of the total land area of 12, 440 ha, 33% is classified as agricultural. In line with the thrust on countryside development of former Pres. Ferdinand E. Marcos during martial law years, Tayawan was declared as the "Palayan ng Bayan" of southern Negros. The latest data gathered on the total cultivated land show that about 35% is planted to coconut, 25% to rice, 10% to corn, while the remaining 30% is planted to sugarcane, fruit trees, and others.

According to accounts provided by respondents, the present barrio of Tayawan used to be the center of rituals and ceremonies in the past and was therefore considered a hallowed ground by the Bukidnons. As such, it was the venue for the celebration of the annual rice harvest festival which brought together members of the Bukidnon community. The gathering was a festive occasion of dancing, eating, drinking, and singing which usually lasted for a couple of days. This was also both the time and the place for married as well as unmarried males to meet eligible females which often led to marriage negotiations among families. Games and competitions were also slated among the Bukidnons from different groups. Those male Bukidnons who "chicken-out" during the competitions were called

tayawan, a Bukidnon or *binuki* version of the Visayan-Cebuano word *talawan* which means coward. This word was part of the local lingo in the past and referred to a particular behavior. Since then, the place has been called Tayawan among the Bukidnons and the name was carried over when the lowland migrants came.

In the early 1950s, Tayawan was then fully covered with thick forests, except those patches of swidden fields in the lower hill slopes and plains which the native Bukidnons owned. According to Pedro (Pidoy) Villanueva, an old timer from Capiz and a resident of Tayawan, the Tayawan area was still forested when he first came to the place in the 1960s. His job as a forest guard of Soberando's logging concession enabled him to meet and befriend some of the Bukidnons in the Tayawan area particularly Tonyo Wala, Tonyo Tuo, Juanito Trono, Carpo Balor, and other tribals who were considered hostile to the lowland migrants. In Pedro Villanueva's account, the Bukidnons in the 1960s wore loin cloth (*bangan*) extracted from a soft bark of a tree locally called *Talobang* and *Dalal-og*.

Basay

The municipality of Basay where barangay Cabatuanan is found is the last town of Negros Oriental in the south. It is 122.6 kms away from Dumaguete City and 27 kms away from Bayawan. Basay separated as a barrio of Bayawan and became independent on June 15, 1968, later becoming a municipality on January 1, 1971. Basay has 10 barangays and a total population of 18,500 according to the NSO Census of 1995. It is still a fourth class municipality of the province. The municipality is bounded on the north by the provincial boundary of Negros Oriental-Negros Occidental and by the Pagatban River which runs northeasterly and serves as a natural boundary between Basay and Bayawan; on the east by the municipality of Bayawan; on the south by the Sulu Sea; on the west by Sangke River which serves as natural boundary between Negros Oriental and Negros Occidental. To the south, running as a narrow coastal belt of the south are coralline limestone formations and raised coral platforms, except in Basay poblacion, between Pagatban area and Tayabanan.

Basay has a land area of 237.8 sq km In the 1950s the upland was a vast forest area with numerous ranges of rolling hills and mountains. The interior areas today are rugged and the mountains are bereft of forest and other vegetation cover due to massive forest destruction by the commercial logging company, the invasion of lowland migrants from different ethnic backgrounds, and by the *kaingin* system of the native Bukidnons. Patches of vegetation of noncommercial value grow luxuriantly on some steep slopes or foothills, but most of the steep slopes as well as open areas are invaded by *cogon* grass, *talahib*, other coarse grasses and shrubbery. Farmlands situated on sloping grounds show signs of heavy soil erosion except in places bordered by small valleys. The soil deposits in these valleys are generally fertile and safe from erosion. These areas are given to upland rice cultivation. The mountain springs provide continuous supply of water. Recent data gathered show that a total of 300 ha in the upland of Basay are already reforested by Local Government Units and some private individuals.

Cabatuanan. Barangay Cabatuanan is one of the 10 barangays of Basay. Located in the interior, 17 kms away from the town, it is the farthest barrio of the municipality of Basay. The 1995 *Census of Population* recorded 107 households and a population of 543 (NSO 1995). It became a barangay in 1972. The Cabatuanan barrio proper is situated on the ridgetop overlooking the mountain slopes, the trails, valleys, and ravines which are generally steep. The place got its name from a tree called *batuan* which once grew abundantly in this area. The *batuan* tree bears a fruit that is sweet-sour when ripe. The unripe fruit is very sour and is popularly used as condiment.

When Oracion did his field research in the Cabatuanan area from 1949 to 1951, he described this part of Negros as still "covered with thick forest all visible from the coasts" (T. Oracion 1954: 1; 196: 205; 1967: 159). In the 1960s, however, the logging operations of Ang Tay Sawmill Company devastated large portions of the Cabatuanan mountains and other interior barrios whose rolling hills and mountains were once cloaked in primary rain forest. Only the natural obstacle presented by the steep mountain slopes of the northwestern and northeastern sides of

Cabatuanan prevented the logging operations from penetrating the remaining forest, thus sparing it from further exploitation.

The Negritos of Canggohob

In the absence of recorded history and written documents, Beyer's theory of migration offers the earliest speculation about the Negritos as the first group of migrants to reach the Philippines during the late Pleistocene (Ice Age) about 25,000 BC (Jocano 1967: 132). As theorized by Beyer, the Philippines at this time was connected to the mainland of Asia by exposed land masses or land bridges (Beyer 1921: 971; Salcedo 1967: 3). In the course of time, when the sea level went up due to climatic changes in the temperate zones (deglaciation), these land bridges were cut off and sunk to the floor of the China Sea, possibly a drop of 100 fathoms (Yengoyan 1967: 177), thus isolating the nonnavigating primitive Negritos from others of their kind (Beyer 1921: 917).

Following this theory, Beyer speculated that the Negritos came overland and wandered to these islands via land bridges. However, when geological changes took place and various islands separated, the Negritos, being no seafarer, were stranded in the places where their descendants now live. Ethnographic data on their lifestyle, material culture, and social organization tend to reveal the unlikelihood that these highly mobile people had at any time ever developed a high culture.

In the island of Negros where they are still found, and some freely roaming around, notably the Negros Occidental group, they are popularly called Negritos (little Negroes). Spanish documents mentioned that when the Spaniards came to the island, they encountered in their first contact these strange little blacks who abound in the coastal area, close to the mouths of the rivers, and on the reaches of headwaters, hence the island came to be known as Negros. Rahman quotes from a 17th century account by a Spanish missionary in the Philippines, Fray Antonio de Mozo, which noted the numerous presence of the Negritos throughout the island. In this account, the Negritos were described as (1963: 139):

Fig. 1: Some members of the Negrito indigenous community
(photo: Ceres E. Pioquinto ● digital imaging: Christian K. Schales)

> ...very dark in skin color, not black but rather brownish or pallid black, their hair is curly (kinky), lips not thick; many of them are very corpulent, and all have large abdomens, generally both men and women appear feeble.

Rahman also quotes from another account by Fr. Paul Schebesta, SVD, which describes the Negritos as follows (1975: 210):

> The Negritos are not a homogenous race. Since prehistoric times, racial elements of melanesoid, veddoid, premongoloids and australoid origin, together with the Negroid base, have entered into the constitution of the Negrito race. The Negritos are a short-statured but by no

> means dwarfish group of mankind; some characteristics exhibit them as Negroid. Basic to all Negrito group is (pygmoid) racial complex (dark skin, curly hair, brachycephalism, short-stature, with undifferentiated characteristics)....although in varying combinations. Thereby the similarity if the racial image is accounted for, the differences result from other racial components through racial mixture.

The Ata of Canggohob are believed to have descended from the first stock of Negritos who occupied the island of Negros during the pre-Hispanic time and are considered today to be the last of the remaining groups who used to inhabit the hinterlands and outlying areas of Mabinay.

Studies show that once widespread throughout the island, the early generation of Negritos held complete possession of mountains and valleys, streams and forests. Being nomadic in lifestyle and characterized as hunter-gatherers, they made no cultivation, although not incapable of doing so. Instead, they wandered freely, depended for food and medicine on forest products collected for the day, or on the game and fish caught and hunted. They had no concept of time; could not remember their ages, or where and when they came from The onset of hunger was a signal to go out and hunt for game or gather food again.

The concept of individual land ownership was unknown then. Land and forest had traditionally been the property of all and members of the groups were all free to roam and claim hereditary rights to exploit and hunt in it (Reynolds 1983: 165). This concept of land ownership is

fundamentally communal based upon actual use, and none of the individuals claimed any exclusive rights over the land. Unfortunately, this traditional concept of communal ownership had grave consequences for the Negritos. Not being in possession of any legal documents certifying private rights to their land, they were ultimately dispossessed of their domain by encroaching lowlanders and migrant settlers and displaced to the remotest areas. Since family survival and adjustments to new environmental conditions and lifestyles are closely tied up with land ownership or its acquisition, it implies that the present generation of Negritos, pushed now to the hinterlands, are facing grimmer prospects for survival than their early ancestors ever did.

The present territory of the Negritos is characterized by a resource base that has become largely deforested as a result of commercial logging, influx of lowland migration by Cebuanos, and hillside swidden (*kaingin*) cultivation by Negritos themselves. These factors, "local environmental stresses" (Hoffman 1982: 82), have altered the environment's faunal and floral composition, consequently destroying the traditional resources where the Negritos used to hunt and collect "food, medicine, materials for tools and housing construction" (R. Cadeliña 1983: 176). This has forced the Negritos today to seek alternatives and substitutes from nontraditional sources such as material cultures and finished goods from the local market. As a consequence, the Negrito economy today is becoming more and more monetized. Once an egalitarian society, the Negritos, having been exposed to the influence of the Cebuano lowlanders, now prefer private ownership of property as a form of security for their families.

The deforestation activity has likewise forced the Negritos today to reconstruct their traditional technology "from a forest-oriented technology" dependent on forest products and slash-and-burn agriculture to "an open, cultivated farm" (R. Cadeliña 1983: 177). The recent study has observed that the Negritos have now adapted new farming techniques such as the use of the cow/carabao-plow agriculture, the practice of bush-fallow period, the use of *bunglay*-hoe agriculture in steep or hilly farms in the absence of draft animals for plowing, and the adoption of new crops and new cropping patterns. Unlike their predecessors who roamed the forests freely in the past, the present-day Negritos are tied permanently to

one spot because of these new farming schedules and the unavailability of land on which to open new swidden fields. It has also been observed that the shift of the Negrito traditional economy to a monetized market system has spurred the growth of wage labor (*pasuhol*) and increased the need for odd jobs as sources of cash. Without skills or education, the Negritos hire themselves out for work in the farms of Cebuanos or as paid laborers in sugarcane fields of a *hacendero* or corn fields of a local Cebuano in the area for P50.00 for a 10 x 10 sq m *kumbada* or *pakyaw* (piece work). Negrito girls help bring in additional income for the family by working as househelp in lowland households.

The many socioeconomic transactions and interactions between the Negritos and the Cebuanos have resulted in closer links between the two groups as well as facilitated intermarriages between them The genealogical diagram revealed that most of the third and fourth generation of Negritos are offsprings of mixed-marriages. This explains why a considerable number of new generation Negritos today no longer look like their "pure" Negrito forebears, but appear taller, with lighter skin color, and hair that is not so curly or kinky but wavy. In the Negrito community today, these meztizos, or mixed-breeds, are better-known as *sambog* or *kalibugan*. The interesting findings are that Negritos themselves favor and encourage exogamous marriages among their children. This may be a form of coping mechanism for interethnic relations and acceptance by the dominant group in society.

In the area of sociocultural activities, the influence of the Cebuano lowlanders has also been pervasive. Negritos are now involved in a number of Cebuano-initiated social activities such as the *tabu* (local market), barrio dances, and barangay fiesta. In the newly-organized barangay fiesta, the Negritos sponsored their own Negrito representative in a money-contest search for the fiesta queen. This may suggest the extent to which the Negritos have accommodated themselves not just to a monetized economic system of the more dominant group, but also to the commodification of culture and women that underlies practices such as beauty contests. Even more disturbing is the way this situation also suggests the extent to which the Negritos have allowed their cultural identity to be undermined by the practices of the dominant culture. The

fact that the rapid demise of the Negritos' own culture is partly, if not mainly, due to their own willing participation is no small irony.

Predictably, these interactions between the Negritos and the Cebuanos have also bred negative side effects as Negritos pick up vices such as drinking and gambling. It was observed that even youngsters as young as five-years-old drink liquor, smoke tobacco or cigarette, or chew betel nuts, practices they have learned from their own parents as well as from their Cebuano neighbors. A disquieting observation is that parents appear tolerant of their children's behavior.

On the other hand, Cebuano lowlanders complain that the Negritos are lazy (*tapulan*) and prefer to ask for money, cigarettes or drinks even from strangers rather than buy or work for these items. In particular, Cebuanos are critical of what they find as the Negritos' wait-and-see attitude, lack of initiative and self-reliance, and opportunism Unflattering as they are, these characteristics might be explained as the Negritos' attempt at "sociological adaptability," their way of leveling with the more dominant group which has, for a long time, cheated, exploited, and treated them as social inferiors.

As far as the concept of political leadership is concerned, the Negrito traditional system in which leadership was associated with an individual's religious and healing powers and thereby conferred political authority on medicine men and religious leaders has become a thing of the past. Since it is believed that these religious leaders have special relations with the spirit world that inhabit the natural environment, the destruction of this environment itself might have led to the marginalization of these traditional symbols and figures of authority and the decimation of their cultural practices. Most likely, the community's absorption into the present political system has hastened the demise of these traditional practices.

The Bukidnons of Tayawan and Cabatuanan

The Bukidnons of southern Negros have been in this area for many centuries, but how or when they first reached the island of Negros is still uncertain. The theory popularized by Beyer claims that the Philippines was populated by several "waves of migrations" in various periodic time

sequence (Manuel 1967: 25; Jocano 1967: 130; Dizon 1983: 39). Beyer speculated that the next group of migrants who came to the Philippines after the Negritos were the Indonesians who came by sea (Beyer 1925: 917; Salcedo 1967: 3; Manuel 1967: 25; Jocano 1967: 131). In Oracion's own account, these Indonesians "formed the basic population in all larger Bisayan islands at the time when the later Malayan inhabitants arrived" (Oracion 1954: 1).

The Bukidnons of Negros were alleged to be the descendants of what Beyer classified as "Indonesian Type B" (one of the seven physical types Beyer hypothesized) in his "The Non-Christian People of the Philippines" (*Census of the Philippine Islands 1916*) and *Population of the Philippine Islands in 1916*. The former material has, according to Manuel, "remained standard work for a long time and it is the most referred to by students and scholars, though now out of date" anthropologically (Manuel 1967: 25). Beyer described the characteristics of "Indonesian type B" people as,

> ...relatively dark-skinned, shorter in height, thick-set body, large rectangular face, thick large nose with round flaring nostrils, large mouth with rather thick lips, and large round eyes. (Beyer 1921: 918)

while the "Indonesian Type A:

> ...represents the tallest type of migrating peoples who reached the Philippines shores. They stand from 5 ft. 4 inches to 6 ft. 2 inches, with an average 5 ft. 7 inches. They are characterized by rather light skin-color, slender body, sharp thin face, high aquiline nose with elongated nostrils, thin lips, high broad forehead, and deep-set eyes. (Beyer 1921: 918)

The present generation of Bukidnons both in Tayawan and Cabatuanan show certain marked physical characteristics found in Beyer's description but their features reveal more or less a Mongoloid-Malay admixture. Some

are shorter in height and have small-to-medium-built bodies, light-to-dark brown skin color, straight-to-wavy, coarse, light brown-to-black hair, and sharp thin face. Others have distinctly rectangular jawline, flat forehead, thin lips, and chinky deep-set rather than large round eyes. The Mongoloid features are more marked in some of the Bukidnons observed in the two areas. The taller Bukidnons today may have descended from the Indonesian Physical Type A (Beyer 1921: 918) while the shorter ones with Mongoloid features may have been the descendants of the Malay (Beyer 1921: 918; Oracion 1964: 235). Possibly, those early Indonesians who came into contact with the Negritos (also known as Proto-Malays), who were numerous at that time, took their spouses from this latter group and produced a progeny with a chocolate-brown skin complexion, short stature, and medium-built physique seen in many Bukidnons today. The Bukidnons in Tayawan and Cabatuanan share the same physical appearance and cultural features. These physical descriptions above were noted by the Task Force in both Bukidnon communities of Tayawan and Cabatuanan.

T. Oracion's studies, however, did not include the Bukidnons of Tayawan although in fact these two groups are interrelated in some ways, historically and genetically. There have been intermarriage alliances between the two groups with either group providing the female partners. The reconstructed genealogical diagrams revealed that many of these people are related to each other by blood and are therefore kinsfolk. Despite the physical separation imposed by the Pagatban River which forms the geographical boundary and territory of both regions, both the Cabatuanan and Tayawan Bukidnons are not completely isolated from each other. They often cross the river (said to be crocodile-infested at that time) to visit relatives on the other side by means of *balsa* (a raft made from several cut whole-bamboo tied together by strips of rattan).

Personal observations of the current situation, however, attest that only these physical features remain to bestow on the Bukidnon some remnants of a cultural identity. Integration through culture contact with lowlanders and interethnic marriages with migrant settlers have hastened the disappearance of what may be considered a distinctively Bukidnon culture or *Buki* consciousness, a subject which the Bukidnons themselves

found difficult to define. This current state of affairs in the two Bukidnon communities may be traces to a number of factors.

First, the Lacson's Marli Plywood Factory and Veneer Corporation started its commercial logging operations in the area in the mid 1950s. The Ang Tay Sawmill likewise extended its logging operations from the uplands of Basay, crossing the Pagatban River to the adjacent mountains of Tayawan. The presence of the Ang Tay Sawmill Company and the Marli Plywood Factory and Veneer Corporation in the areas adversely affected the lives of the Bukidnons by destroying the resource base and the physical environment of the Bukidnons. Ironically, the Bukidnons themselves, attracted by the money, unwittingly aided in the destruction of their natural resources by working for the logging companies. Because of their practice of *kaingin*, the Bukidnons had the "reputation of being excellent woodcutters" (Maceda 1978: 13). This gave them the opportunity to work in the logging companies for wages. However, this eventually gave way to resentment when many of them were dispossessed of their lands.

Consequently, the management of the various logging concessions had to resort to a variety of strategies to maintain good relations with the hostile Bukidnons. One was to allow them to ride in or on logging trucks which later became their favorite pasttime. Another was to give them money, food, or cigarettes. According to Pedro Villanueva, a migrant former worker in the logging company, he used to resort to these schemes himself and consequently became the Bukidnons' benefactor. In this position, his advice was often sought after by the Bukidnons each time a quarrel broke out among them His way of handling petty quarrels among the Bukidnons was to withhold any form of aid if a conflict arose. Thus, to the Bukidnons, the commercial logging activities in their area were at first welcomed for these provided temporary conveniences such as the thrill of riding on the logging trucks and the acquisition of money, food, cigarettes, and cheap household items.

Fig. 2: A Bukidnon hut in Tayawan, Bayawan
(photo: Ceres E. Pioquinto • digital imaging: Christian K. Schales)

A second factor was the influx of settlers from Panay island in the 1950s. These migrants composed the pioneer population in Tayawan and in the interiors of Basay. They came in search of better economic prospects which their home province could not adequately provide. In these parts, they found arable lands for cultivation. Despite the steep slopes, these migrant upland swiddeners came to farm the logged-over areas of Marli Plywood and Ang Tay Sawmill and cut and burned newly reforested areas and the remaining undergrowth. The years saw more migrants from a "variety of ethnic and technological background" moving into the area and who "rode the logging trucks ever deeper into the forests" or simply "follow[ed] logging roads to new clearing location, built a modest house, and cut and burned the remaining vegetation nearby" (Griffin 1985: 89 & 97). Even the steep slopes were cleared in no time at all. As a consequence of the logging operations and the flow of migrants into the area, the

Bukidnons were forced to go live in other settlements though these places were not actually distant from the orbit of change and influence of lowland communities today.

With the expansion of the logging operations to Cabatuanan and the pressure of upland migration, the Bukidnons of this area soon experienced the same fate as that of their kinsmen in Tayawan. As commercial logging in these parts in the 1960s claimed valuable territories and lowland migrants occupied the newly opened areas and apportioned for themselves the logged-over sections for homestead and farms, Bukidnons found themselves pushed farther into the hinterlands. This environmental change adversely affected the lives of the native Bukidnons in the interior areas. After they were pushed to the interior, the Bukidnons occupied this remaining area for hillside swidden. The upland area, now invaded by cogon grass, is not fully cultivated by the Bukidnons. The top soil is eroded and depleted (*bantod*) of its natural fertility. Despite the use of commercial fertilizer, the land does not give a good yield of crops.

A third factor that marked another change in the life of the Bukidnons and also caused their further displacement was the operation of the Tolong Sugar Milling Company (TSMC) in 1970. Although it brought prosperity to the town, the operation of this sugar company entailed the acquisition of more and bigger ha of land which only influential sugarcane planters were able to do with their political connection. For the Bukidnons, this meant only one thing--the loss of their land. In anticipation of a better prospect for sugarcane production, big landowners hired tenants and laborers, Bukidnons among them, to clear much of the upland area to give way to sugarcane cultivation.

Finally, the entry of the Construction Development Corporation of the Philippines (CDCP) Mining more or less sealed the fate of the Bukidnons living in the area. Prior to the exploration of CDCP Mining Corporation in 1971, the steep slopes and mountains of Cabatuanan were partly forested areas. There were clusters of remaining forests left in some inaccessible areas. The CDCP construction in 1976 and its full operation as a copper mine in 1977 further depleted the remaining forest reserves in this area. The lumber materials used in housing and other construction projects of CDCP came from the remaining forest supplied by the

Bukidnons themselves. The full operations of CDCP Mining Corporation subsequently dislocated a number of Bukidnon families in Mohong where the CDCP's Mill Site is located. Driven out of the place, they moved farther north closer to the Pagatban River. The construction and operation of the CDCP Mining Corporation in the upland of Basay has not only displaced the Bukidnons further and destroyed their physical environment, but polluted their water and air as well.

After CDCP closed down in July 1984, the Bukidnons came back to the area. Of the total 43 families identified by the SU Task Force, four Bukidnon kin-related families live in Barangay Cabatuanan proper today. These four families have intermarried with migrant settlers. Some live in the vicinity of the former CDCP mining while others are found along Pagatban River in Sitios Mohong and Matab-ang where they do hillside farming on the slopes or narrow valleys.

Over the years the lives of the Bukidnons in Tayawan and Cabatuanan have inevitably changed as a result of various events that took place in both areas since the 1950s. The consequences of these events have been serious for the Bukidnon and their cultural identity. Changes were evident in the Bukidnons' style of clothing, technological tools, housing, and few lowland material cultures for household use. Bukidnons today dress as the lowlanders with second-hand clothes obtained mostly from *okay-okay* (second hand clothes sold cheaply and widely) either by direct purchase, barter, or by working for the lowlanders. They acquire them mainly during the *tabu* at the Tayawan barrio proper during market day. Every Saturday is a market day (*tabu*) in Tayawan proper. The *bolanteros* (itinerant vendors) from neighboring towns come to peddle their wares. The Bukidnons come down from their farms to attend the market day activity. This gives the community the opportunity to interact freely and socialize with one another.

From their various social interactions with other groups, Bukidnons have been influenced in many different ways. The influx of migrants to the Bukidnon areas changed some of their belief systems. While in the past they practiced animism, today some are members of religious denominations either as Roman Catholics, Seventh Day Adventist or Iglesia ni Cristo. There are other religious sects in the area such as

Universal Church, Philippine Biblical Apostolic Holiness Church, Anak sa Amahan, Church of Christ, among others. Although their religious affiliation discourages the continuance of traditional practices associated with beliefs in environmental spirits such as *taglogar*, *tamawo*, *subid* or *engkanto*, the practice of *pamuhon-puhon*, *dolot*, *padaga*, *padiwata*, *buhat* or *halad-halad* (offerings, rituals and ceremonials intended for the spirits) are individual family activities which still survive today and are usually performed by the *sorohano* or *babaylan* (medicine man).

Another influence derived from contacts with the lowlanders is smoking cigarettes although smoking rolled tobacco leaf and chewing betel quid (which consists of betel nut, tobacco leaves, *buyo* or arica leaves, and lime powder) have always been a part of the Bukidnon traditional cultural practices during work, pasttime, and social encounters with friends. Both young and old Bukidnons have learned to drink liquor and to gamble on card games, cockfighting, billiard, pool, and even on sports such as basketball.

In terms of their cultural traits, T. Oracion's 1967 account has this to say about the Bukidnon (173):

> In his economic endeavors, he is concerned completely with the present. The idea of providing the necessities of life or storing or stocking of needed food for the future plays a small part in his economic life. This is one of his cultural traits. If he has enough to fill up the day's wants, he would not bother for the next day. When his corn or palay crops are harvested, he gives up his other economic activities or occupations....and sits at home consuming the crops or bartering them for some cheap liquor that a Christian neighbor may bring. He only realizes later that his supplies are running short, then he begins to work harder again.

Recent observations of these people reveal little changes in their character from Oracion's earlier descriptions of them To outsiders, the Bukidnons appear lazy (*tamaran*). Unlike their lowland Christian neighbors, they tend to take life easy. Bukidnons have been observed as

generally indifferent to work and are not used to working as laborers either in the sugarcane hacienda for wages, as *tinawo* (caretakers-workers) of somebody's farm or in his own farm Nevertheless, given the difficulty of life, they have little option but to work in order to survive.

In addition, the Bukidnons have also been observed to be seemingly unaware of the practice of *dagyaw/bolhon* (a voluntary collective work process in the community) in their community activities. They tend to exhibit a strong individualistic and wait-and-see attitude instead of cooperating with others in the community. One striking example involved a militiaman assigned in Cabatuanan at the height of the insurgency problems in the area. Despite his request, the community simply refused to help him fence the detachment camp although the project was also meant to provide them protection.

Similarly, Bukidnons have been known for their profit-oriented mentality which drives them to want to make money even from aid projects meant to alleviate their economic condition. For example, it is a widespread knowledge that the carabaos provided under the animal dispersal program of the Central Visayas Regional Project (CVRP) were either sold or slaughtered by the Bukidnons themselves and the meat exchanged for corn. Another incident involved the sale of a set of carpentry tools donated to the community by the government agency.

Further, it has been the experience of outsiders including the research team that the Bukidnons are generally suspicious of any outsiders coming to their place. When asked, they talk little and rarely volunteer an answer beyond what is asked of them They are invariably unresponsive or indifferent to outsiders whom they think might regard them as lowly individuals or as "mere Bukidnons." They are also wary of outsiders who they fear might exploit their perceived backwardness or illiteracy claiming that *ginapuhunan, ginabaligya,* or *ginapanguwartahan lang kita sina* (literally, to be used or exploited for personal gains). Ironically, the research team's experience with them is that they refused to attend seminars and meetings unless snacks were served. It was equally evident that Bukidnons were prepared to cooperate with any endeavor only if certain gains could be expected from it. In their social relations with lowlanders, a few of them have the reputation of being *inosenting-tuplok* (cunning or sly) with the

ability to outsmart even the educated ones. They are not ashamed to ask for help from individuals or any government office using their impoverished state as a excuse.

As evidenced by the above information, Bukidnons of the two areas today are the products of environment and culture contact with people from the lowland. Changes in their behavior, social values, outlook in life, beliefs, and material cultures will continue in the next generation as agents of change from the outside world continue to exert influence on their way of life. No longer isolated today, they are forced to adopt coping mechanisms in order to survive or else face extinction. Coping mechanisms such as interethnic marriages, working for wages, change of religious affiliations, membership in sociopolitical organizations, and getting a formal education comprise their economic and social interactions with outsiders. In the process, traditional practices that are deemed no longer functional in the new environment are discarded.

The Magahat[1] *Controversy*

One of the most noteworthy findings of this study relates to Dr. T. Oracion's contention that the *Magahats* were a group distinct from the Bukidnons (T. Oracion 1953, 1954a, 1954b, 1955, 1956, 1958, 1959, 1964, 1965, 1966, 1974, 1978). The data of T. Oracion's published materials on the *Magahats* and Bukidnons were taken mostly in the 1950s and the latest available information was 1978. There has been a wide gap of almost two decades between the earliest and the newest information from the last research work published by him in 1978. Between that time and the time of his death to the present, neither ethnographic data nor anthropological studies on the Bukidnons of southern Negros or on the *magahat* have come out. Hence, there is a need to update the existing data.

According to Oracion's ethnographic materials of the 1950s, the *Magahats* were a separate, distinct group with established social boundaries different from its neighbors, the Bukidnons (Oracion 1954: 1). Yet, the intriguing aspect of this article is also Oracion's claim that the *magahat*

[1] For purposes of clarification in this study, the word *magahat* with a capital letter M refers to a group of people as claimed by Oracion, while the one with a small letter m refers to the practice.

refers to the practice of killing: "When a person kills another because of a death of any member of the family, he is called a Magahat. This *practice* is now minimized because of the frequent association with Christian neighbors...." [Underscoring added] (1954: 1, fn. 4). In his ethnographic accounts, Oracion describes this process of ritual killing in this manner (1954: 12):

> ...the corpse is wrapped with a pandanus mat and is not buried until all the people in the village have a chance to see the body. *Sometimes [sic] the members of the dead person's family or relatives go out on a raiding party to the coastal regions to kill.* Once they succeed in killing they return home and can now bury the deceased. *This practice is known as [m]agahat.* If they are unsuccessful, they kill any animal they see upon arrival. Then they bury the dead person [emphasis added].

As Oracion's data never established the difference or the distinction between the *magahat* as a people and as a practice, these conflicting claims continue to becloud the issue up to the present.

However, information gathered during the various field trips made by the SU-DENR Task Force in 1995 and during the survey and final investigative research work conducted by the same team in 1996 provided convincing evidence that the term *magahat* referred to a practice. The latest research data suggest that, contrary to Oracion's claims, the so-called *Magahats* did not refer to an ethnic group that existed independently of the Bukidnons. The Bukidnons themselves in the interior mountains of Basay (Barangay Cabatuanan) and Bayawan (Barangay Tayawan) denied having ever heard or known of the existence of the *Magahats* as a group of people. Elderly Bukidnon informants, who also call themselves *Buki* or *Tumandok* (native of the mountains), claimed that the *Magahats* were the same people as the Bukidnons but the word itself did not refer to an ethnic designation but to a ritual practice involving the act of killing. According to these informants, Cresenciano Bunghay and Agapito Balor of Tayawan, Bayawan and Salduga Trono and his brother Rustico of Cabatuanan,

Basay, it was the performance of this act that made one a *Magahat*, a word ostensibly derived from the Cebuano-Visayan term that means "to kill." The act called *magahat* refers to the killing of an innocent person while the perpetrator is known as *Magahat*.

Fig. 3: Salduga Trono, Bukidnon tribal chieftain and his brother Rustico
(photo: Ceres E. Pioquinto • digital imaging: Christian K. Schales)

Bukidnon key informants supplied information about the varied *magahat* practices of their forebears and the beliefs associated with the practice. In the version of Salduga Trono, the elderly Bukidnon chieftain of Cabatuanan, Basay and his younger brother, Rustico (Listic) Trono, when a Bukidnon died, one able-bodied male member of the bereaved family was obligated to kill someone to go with the dead. The sacrificial victims were either the Negritos (Ata) or lowland Christian Filipinos

(*damagat or banwahanon*) whose souls were believed to be ritually offered to the dead Bukidnon to accompany him in his journey to the after world.

Subsequent interviews with the elderly Trono bothers of Cabatuanan on September 28, 1996 provided additional information about the *magahat* as a practice. In their version, when a *Magahat* killed a lowlander (*dumagat* or *banwahanon*), he extracted a tooth from his sacrificial victim and placed it inside his bamboo betel-chew container (*malam-an*). This *malam-an* was then placed in a belt pouch which he tied around his waist with a piece of stripped rattan and carried wherever he went. If he had another occasion to kill a *dumagat* or *banwahanon* because of another death in the family, the tooth previously extracted was thrown away and replaced with a new one he had just extracted. The tooth inside his *malam-an* was believed to be an amulet that could protect the carrier from unfriendly spirits, such as his previous victim.

According to the Tayawan informants' version, the *magahat* practice involved cutting the hands and feet of the sacrificial victims, an act symbolic of the belief that the victims did not only accompany the spirit of the dead Bukidnon but also worked as his slaves (as represented by the severed hands) and docile attendants (represented by the cut feet) in the afterworld. If the departed member of the Bukidnon was a child, only the hands of the victims were cut; if an adult, both the hands and feet were cut.

A common practice was that an individual rarely went out and killed alone but was often accompanied by a handful of male relatives to form a raiding party. Each was armed with a spear (*bangkaw*), bolo (*pinuti*), and long knives (*talibong*). A kind of bonding agreement existed between the members of the raiding party which obligated one to help the other in case an untoward incident happened along the way. As practiced in the past, any Bukidnon raiding party also included one person who did not actively take part in the raid but took care of the food provision of the raiding group. His other task was to serve as a lookout for the group and to bring the news of the raid to the community.

The Negritos of Canggohob, on the other hand, have a variant interpretation about the *magahat*. A Negrito informant, Agustin Requel, from Mabinay claimed that the *Magahats* are the Bukidnons whom the

Negritos of Canggohob referred to as *Ata'ng Puti* (light-skinned Negritos) and with whom the older generation Negritos had "blood feuds" in the distant past. This claim coincided with the version of the Bukidnons themselves. Requel still recalls the story about the *magahat* raid in their area as told by his grandfather, Gardian Empel, a former Negrito chieftain. He remembers quite well the name of the leader of the raiding party, known to the Negrito elders as Sebyo Balangkawitan, who was noted for his agility and dexterity. Sebyo Balangkawitan was allegedly a notorious Bukidnon who together with his men used to ambush the Negritos on their way to a nearby spring along the ridges or on cliffs and behind clumps of bamboo. Forced to defend themselves, the Negritos, under the leadership of the chieftain Gardian Empel, managed to repulse Sebyo and successfully drove away the latter's men.

Fig. 4: Agustin Requel, Negrito tribal leader and children
(photo: Ceres E. Pioquinto ● digital imaging: Christian K. Schales)

Agustin Requel also narrated that it was usually the wife of the Bukidnon who challenged her husband (*laki*) "to kill" upon the death of a member of the family or nearest relatives. It was believed that to perform the killing act would put the soul of the departed in peace. Otherwise, it would continue to molest them If the husband hesitated, the wife usually taunted him by calling him a coward (*dugo-dugo si laki*). She and her children would then lose respect in him The husband, forced to take up the challenge of his wife, would then round up volunteers, mostly male relatives. However, it is difficult to ascertain whether it was culture or his sense of shame (*ulaw ni laki*) or male pride that eventually dictated the husband's acceptance of his wife's challenge. Successful or not, the party returned home after three days of prowling. In the case of an unsuccessful raid, the group would kill the first animal they met on the way to appease the soul of the dead person. Still, a human sacrificial victim was preferred for its presumed significant function to the dead in the afterlife.

Although the versions from both Bukidnon and Negrito informants vary in their accounts of the different practices involved in the ritual killing, they invariably and consistently suggest that the word *magahat*, does not refer to a group of indigenous people but rather to a practice of killing for ritual purpose. Why Oracion described the ritual killing to take place only "sometimes" (Oracion 1954:12) is unclear. In light of this new information, the prevailing idea in Oracion's studies about the *Magahat* as a separate, distinct cultural group in southern Negros appears debatable. If these new findings have any validity, then the need is for more than just an update of the existing data. The contrary findings of the Task Force insinuate the urgency for a new and systematic investigation of the subject.❖

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A SITUATIONER ON THE INDIGENOUS PEOPLES OF NEGROS ORIENTAL[1]

Andrea G. Soluta and Glynis Wilfa V. Manginsay
with a Situational Analysis by Ceres E. Pioquinto

THE THREE INDIGENOUS CULTURAL COMMUNITIES (ICCs) in this study--the Negritos in Canggohob, Mabinay and the Bukidnons in Tayawan, Bayawan, and in Cabatuanan, Basay--do not live in isolation from other cultural groups in their respective settlements. This is so because through the years, more and more lowlanders have come to invade the areas traditionally belonging to these ICCs. Records culled from the National Census Office show that as of 1995, out of 700 households in Barangay Tayawan, 666 (95.14%) are Cebuanos while only 34 or a mere 4.85% are Bukidnons. The figures presented in the census have not substantially changed when this particular study was conducted in July to November of 1996. This lopsided ratio is also reflected in the two other study sites: Cabatuanan has 98 (74.24%) Cebuano and Capizeño and 34 (25.75%) Bukidnon household population while Canggohob has 182 (79.82%) Cebuano as against only 46 (20.17%) Negrito households.

Still these figures do not reflect the fact that a few of the so-called indigenous households are actually just "half-indigenous" in that only one of the spouses is an authentic member of the recognized indigenous cultural communities. Alarmingly, these dwindling indigenous household numbers seem to indicate that the Negrito and Bukidnon cultures in Negros Oriental are doomed to extinction if integration, acculturation, and other contributory factors are allowed to run their natural courses.

Nonetheless, these relatively small numbers have enabled the research team to get more than half of the total Bukidnon household

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[1] The data in this paper have been culled from the results of the baseline survey using a set of questionnaires and conducted through structured interviews during the period July to November 1996 by the Silliman University-DENR Task Force on Ancestral Domains. We wish to thank the three indigenous cultural communities, through their respective tribal associations, for permission to publish these data.

population and practically all of that of the Negritos as sample size, enough numbers to come up with a definitive profile of the indigenous peoples (IPs) in Negros Oriental today (see Tables 1-2).

Table 1: Data On Indigenous People's (IPs) Households Surveyed and Not-Surveyed Per Research Area

No. of Respondents	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Interviewed IP Household within the community	23	22	43
Not Interviewed IP Household within the community	11	12	3
Total No. of IP Households in the community	34	34	46

In addition, some indigenous peoples outside of the identified ICCs have also been interviewed since it was established that "they are descendants of the original inhabitants of the specific lands they relate to, although [they] will not now be living on their original land" (Calvert & Calvert 1996: 246). But these "indigenous outsiders" have relocated in neighboring barangays and thus are still near their original cultural communities.

Table 2: Breakdown of Respondents per Research Area

No. of Respondents Interviewed	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Residents	23	22	43
Non-Residents*	17	21	8
Total No. of Respondents	40	43	51

* Refer to a Bukidnon or a Negrito living outside the Research Areas

The data in Table 3 below show that all the three ICCs are relatively young communities since the general age range is 1-40. If this

fact is seen in light of the earlier observation that the Negritos and Bukidnons are diminishing in number and may soon go the way of other vanished cultural groups, such information is positive in that it at least gives an assurance of the continuation of the indigenous lineage.

Table 3: Age Bracket of Indigenous Household Members

Response	Tayawan (Bayawan)		Cabatuanan (Basay)		Canggohob (Mabinay)	
	M	F	M	F	M	F
Less than 1 year old	4	2	2	2	1	2
1 - 4	11	17	20	15	13	12
5 - 9	15	11	18	15	8	23
10 - 14	17	15	18	23	20	2
15 - 19	16	17	17	15	11	20
20 - 24	19	13	13	19	16	19
25 - 29	13	13	15	15	10	21
30 -. 34	12	9	11	11	12	9
35 - 39	12	12	4	13	6	5
40 - 44	8		9	7	3	5
45 - 49	4	3	3	4	5	2
50 - 54	4	7	11	2	2	2
55 - 59	4	2	3	1	7	4
60 - 64	3	4	2	2	2	1
65 - 69	5		5	3	1	2
70 - 74	1	1			7	5
80 - 85	1	1				
Not Sure	5		11	8	1	1
Total	154	127	162	155	125	35

Further, this young population indicates that most of the IPs are still dependent on the household heads for their survival since close to one

half of the entire population in this study (385 out of 858) are 19 years old and below. Understandably, then, the burden of responsibility weighs heavily on the household breadwinner who normally has to support an average of 4-8 family members mainly by tilling the land (see Tables 4-5).

Table 4: Occupation Of Respondents Per Research Area

Occupation	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Farming	35	39	49
Housekeeping	5	4	2
Total	40	43	51

Table 5: Number Of Persons In IP Households (Including Respondent) Per Research Area

No. of Persons	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
One	None	None	None
Two	1	1	8
Three	2	2	8
Four	3	5	8
Five	7	3	6
Six	5	6	5
Seven	4	4	4
Eight	6	8	6
Nine	7	5	4
Ten	1 3	4	1
Eleven	2	1	None
Twelve	1	3	1
Thirteen	1	None	None
Fourteen	None	1	None
Total	40	43	51

Although there are those who are fortunate to have other members of the household help the heads of families eke out a living or to receive help from nonhousehold members, the extra income does not really help much in alleviating their poverty. This is really not surprising considering that the additional income comes from rendering menial jobs--laborer, househelp, welder, and the like. The same situation holds true to the heads of families who augment their earnings by occasionally working for other people. Thus, predictably, most respondents said that the total earnings of the household members (and assistance received, if any) are not sufficient for the household's needs. Table 6 lists the reasons why the family's total earnings are deemed meager by the respondents:

Table 6: Reasons why earnings are not adequate

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Many Children	6	3	
Farm is too small	3		
High cost of commodities	2	9	
Money not enough	5	6	
Very low salary		5	
Lack of fertilizer		3	
No permanent work		5	
Soil is no longer fertile		2	46
Reasons not specified	15		
Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Total	31	33	46

It is noteworthy that the Negritos are one in saying that this economic insufficiency is mainly caused by a land that is no longer fertile. On the other hand, around half of the Tayawan Bukidnons also claimed to be financially burdened but, interestingly, did not want to state specific reasons for saying so. This reluctance to discuss one's finances especially to people who are virtually strangers might be attributed to cultural considerations.

The data gathered corroborated by personal observations show that economically the Bukidnons and the Negritos are unquestionably severely underprivileged. This conclusion is reinforced by the information yielded on the IPs' housing and facilities. A typical IP house is a one-room affair that mutely stands as witness to the day-to-day life of all the household members, but is hardly adequate in providing the barest essentials of a proper shelter. An exception, however, are the Cabatuanan IPs who live in the vicinity of the former Construction and Development Corporation of the Philippines (CDCP) Mining Company in houses owned by the company. These houses have usually two or more rooms other than the sala but many of them are in a desperate state of disrepair. Consequently, this situation cannot be made an indication of economic stability. Moreover, these so-called rooms are practically the size of matchboxes barely able to accommodate six people comfortably. Partly for this reason, most houses are devoid of the clutter caused by over-stuffing of furniture that characterizes most Filipino lowland houses today.

Nonetheless, evidence of exposure to either the Cebuano or the Ilonggo ways of life is now becoming quite marked among the Bukidnons in Cabataunan as slowly their houses begin to showcase various amenities of modern living such as plate racks and radios, and in one household, even a wall clock. If one investigates more closely, however, it is not surprising to find that these houses happen to be "half-indigenous" since one of the spouses does not belong to the ICC but most probably a lowlander.

Still, it comes as no surprise that not a single one of the IP houses enjoys electric and water services from the government. Instead, light to these people means a recycled bottle filled with kerosene with a strip of old

Fig. 1: Negrito houses in the hillsides of Canggohob, Mabinay
(photo: Ceres E. Pioquinto ● digital imaging: Christian K. Schales)

cloth for wick, known as *moron,* or a burning wood that fuels their improvised stove since most of the houses are so structured that the kitchen is part of the area that also doubles as bedroom, dining room and sala.

But despite being denied basic amenities, life goes on for these indigenous peoples. At this stage, their main concern is not to avail of basic services but instead to look for the most basic of human needs--food. And for them, food is found primarily in the land they farm. Hence, it is not uncommon to find in every Negrito house and most of the Bukidnon abodes the so-called necessities of farm life such as the bolo and the hoe. Yet, the plow which is also important in traditional farming is not found in every house since it is more expensive than the bolo or the hoe. The

Fig. 2: Negrito children in front of their hut
(photo: Ceres E. Pioquinto ● digital imaging: Christian K. Schales)

inclusion of the plow in the list of the most coveted possessions of both groups of IPs provides one of the clearest gauges of the indigenous peoples' economic status .

As mentioned earlier, the lives of the Bukidnons and the Negritos are practically tied to the piece of land they till. Interestingly, despite avowals of poverty, a majority of the respondents say they own the land they presently cultivate (see Tables 7 - 9).

Table 7: Do you cultivate a piece of land in this area?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Yes	37	37	49
No	3	3	2
Don't cultivate any piece of land		3	
Total	40	43	51

Table 8 Do you own the land you are cultivating?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Yes	32	31	31
No	5	6	18
Total	37	37	49

Table 9: Size of Land Owned by the Respondents

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Less than 1 has.	2	4	7
1 -2 has.	16	6	12
3 - 4	9	4	16
5 - 6	5	4	14
7 --8	1	3	
9 - 10	2	9	
13 - 14	1		
15 up	1	3	
Can't Estimate		4	
Total	37	37	49

One can thus comprehend why these people have stopped being migratory and have instead grown roots in their respective places. Like their ancestors before them, these IPs have grown crops such as corn and rice primarily for their own consumption; only the surplus yields are sold. Yet, because the entire piece of land is generally not fully cultivated, the income derived from these products remains insignificant. Most of the respondents in Tayawan have pegged their yearly income to be just around P10,000.00 with only two respondents giving a higher estimate of P50,000.00. On the other hand, 13 of these landowners did not give an estimate of the annual earning from their piece of land. An even bigger figure in Cabatuanan--18 out of 37 respondents--also claim their inability to estimate their land's yearly income. Such hesitation to openly discuss one's finances could be read as a culture-bound response engendered by the community attitude towards money as a personal affair. On their part, the Canggohob folks have mentioned seemingly exaggeratedly low amounts for their yearly earnings (amounts cited were between P4,000.00 to P7,000.00) but they could not very well be accused of deliberate undervaluation since the pittance which is passed off as an income just happens to be a stark reality.

The generally poor state of farmlands nowadays does not really give much hope to farmers. It is then not surprising if the people themselves feel uncertain over the ability of their land to still provide for their needs in the near future since the "fatta da land," as Steinbeck memorably put it in *Of Mice and Men*, seems to have evaporated with each passing year leaving not even a trace of grease in the soil today. In spite of this, it is interesting to note (see Table 10) that 18 of the Tayawan group, and 21 of the Cabatuanan group maintain that their land will still yield good harvest in the near future. In this instance, one can say then that the Bukidnons are a more optimistic group than the Negritos. But if one were to consider the data that most Negritos do not own the land they till, such bleak view of the future becomes comprehensible.

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Table 10: Do you think your land will still give you a good harvest in the near future?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Yes	18	21	2
No	14	7	46
Not sure	5	9	1
Total	37	37	49

For those who till other people's lands, of course, expect even lesser since they need to share whatever they harvest with the owner of the land. Seen from this perspective, the estimated P1,000.00-P1,500.00/year from more or less a hectare of land ceases to be ridiculous. In the meantime, the family members keep growing which means more mouths to feed from the same land that unfortunately is not growing in size. And with the quality of soil getting more inferior each year, it will be difficult even to imagine that the Negrito situation will drastically improve soon. In a way then, unless these people start looking at the land from a different perspective and not see it as their sole means of survival, their unrelenting cycle of poverty will remain unbroken for generations. This change in perspective, however, still seems a distant possibility if the data in Table 11 below are to be used as basis.

Table 11: Are you willing to convert your farmland into an orchard or to be planted with other trees of economic value?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Yes	33	11	7
No	6	27	42
No t Certain	1	2	
It Depends		3	2
Total	40	43	49

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No	6	27	42
No t Certain	1	2	
It Depends		3	2
Total	40	43	49

As can be gleaned above, an overwhelming majority of the Negrito respondents are not willing to convert their farmlands (or their imagined farmlands for those who do not own a single parcel) into orchards for more commercial viability. Only seven were adventurous enough to answer affirmatively. On the other hand, the Bukidnons in Tayawan exhibit more adaptability to change as evidenced by the 33 out of 40 respondents who registered their willingness to convert their farmlands into orchards. Meanwhile, 27 Cabatuanan Bukidnons share the opinion of the Negrito majority while 11 out of the 43 respondents agree with the view of their kinsmen in Tayawan.

When asked to explain why they were unwilling to convert their land into orchards, most of the Negritos said that the land is their "only source of livelihood" and thus they could not afford to "experiment" with it. This unwillingness to undertake something new or to try something different could also help explain the fact that 35 of the Atas expressed no desire to move out of their places in case they are given an offer by the government to relocate (see Table 12).

Table 12: If promised a titled farmland somewhere and some assistance by both private and government sectors, would you relocate to the area?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Yes	30	21	16
No	10	17	35
Not Certain		5	
Total	40	43	51

The foregoing table proves that the Tayawan Bukidnons are consistent, too, in their willingness to gamble on a new life. A greater number of the respondents said that an offer of a titled farmland is enough reason for uprooting hearth and hoe to try to establish somewhere else but a few expressed the same sentiments as the Atas who thought that "*anugon*

mobiya sa yuta" ("It'll be a waste to leave the land") or "*kapuy ug balhin-balhin*" ("moving is tiresome").

Health Profile

Aside from their dreams and aspirations, the physical manifestations of so-called civilization have also gained entry into the IPs' lives. An illustration are the Barangay Health Centers put up in these remote sites. Nonetheless, the information that about half of the Bukidnon respondents and their respective families and practically all of the Negrito respondents and their families have not yet availed of the centers' services is particularly noteworthy (see Table 13).

Table 13: Have you and members of your family ever availed of the services of the Barangay Health Center?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Yes	19	23	4
No	17	18	47
Not Certain	4	2	
Total	40	43	51

But this nonuse of an existing institution could be explained by the fact that many of the respondents consider the health centers' facilities and resources to be woefully inadequate (see Table 14).

Table 14: Would you consider the Barangay Health Center facilities in your area adequate?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Yes	7	13	3
No	14	21	41
No t Certain	19	9	7
Total	40	43	51

In the follow-up interviews done by the research team, both the Bukidnons (or *Tumindoks/Tumandoks*) and the Capizeños in Cabatuanan claim that in the past, some health personnel used to go to their barangay at least twice a month. However, such visits became less often until the residents only got to see the former once a month; then once in two months. The latest news according to one Capizeño mother is that the midwife will now be visiting the area just once every three months. Meantime, nurses and doctors have completely stopped visiting. So the midwife is now the only health personnel still traversing the very badly damaged roads going up their place. How can health centers be serviceable then without personnel? On the other hand, not going to the health centers could be ascribed to the fact that the people usually self-medicated or went to a traditional healer when having fever, cough, colds and diarrhea or other minor illnesses which are the only illnesses these health centers could adequately attend to anyway (see Table 15).

Table 15: What do you do when you or members of your family have minor illnesses?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
See the community indigenous healer	20	18	34
Go to the Barangay Health Center	9	11	2
Go to the hospital	2	4	
Treat family members by oneself	9	10	15
Total	40	43	51

In case of more serious illnesses, the Bukidnons, unlike the Negritos who still keep faith in their community healers, endeavor to bring their sick member to a hospital though this is located quite far from their sitios. When a seriously-ill IP is brought to the Barangay Health Center, this is because it just happens to be nearer than a hospital.

For those who do not avail of hospital services, neither the rootedness to traditional ways nor the distance to a hospital is the overriding reason for this decision, but rather the financial aspect entailed when going to one. Follow-up questions asked during the administration of the questionnaires made this fact evident. Most of the respondents were absolutely terrified of the prospect of not being able to pay hospital bills and thus do not place the hospital on top of their priority list even when faced with a serious illness in the family. As a result, various IP lives have been unnecessarily lost, further decimating the dwindling ICC members in Negros Oriental at present. In such cases, families instead depend on traditional healers, not because their services are absolutely trusted, but because they also have the great merit of being much cheaper than hospitals.

One aspect of health that always generates interesting information from researches is Family Planning. In this particular study when the respondents were asked whether s/he and his/her spouse practice birth control methods to plan their number of children, 33 of the Tayawan group, 36 of the Cabatuanan group, and 50 of the Canggohob group said no (refer to Tables 16-18).

Table 16: Do you and your spouse practice birth control methods?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Yes	7	7	1
No	33	36	50
Total	40	43	51

Table 17: If yes, specify the birth control method used

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Self Control	3		
Pills	1	3	
Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Rhythm	1	4	1
God's Will	1		
Not Specified	1		
Total	7	7	1

Table 18: If no, this is because of

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Fear	32	26	24
Old Age	1	1	1
Not being used to it		3	21
Childlessness		3	1
Wanting more children		3	3
Total	33	36	50

This is because most of them are purportedly afraid of something unknown or unfamiliar to them notwithstanding assurances from health personnel. On the other hand, the very few who answered that they do practice birth control methods gave thought-provoking descriptions of the methods they used. Three from Tayawan said they employed "self-control" while one respondent simply said "*Pagbu-ot sa Ginoo*" or God's will.

When a pregnancy results from the "self going out of control" (though not ascertained whose self--husband's or wife's--usually goes out of control in these instances), after nine months a *mananabang* (village midwife) is asked to come help deliver the baby in the couple's home (see Table 19).

Table 19: Where does your wife normally deliver her baby?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
At home assisted by a traditional healer	40	40	51
At hospital		1	
At home, assisted by husband		1	
No Answer		1	
Total	40	43	51

The choice of home and *mananabang* over a hospital nowadays could not be readily read as an outright conclusion that these IPs are still tradition-bound when it comes to delivering babies. This is dictated more by practicality as already discussed in the preceding portion of this section.

It is then not surprising for the respondents in Cabatuanan and Canggohob to have indicated their preference for indigenous medicine or so-called village treatments over health center and hospital ministrations. On the other hand, the Tayawan group's preference for the latter over the former is also quite consistent with the impression that this group of *Bukis* among the three ICCs have become the most acculturated. In this respect, it may now be just a matter of time for *Medicol* and *Vicks Formula 44* to entirely replace the herbs used by their ancestors as treatment for minor illness such as headaches and coughs (see Table 20).

Table 20: Do you prefer local medicine (village treatment) over hospital or Barangay Health Center treatment?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Yes	6	23	33
No	30	6	18
They are the same		11	
Depends on the illness		1	
Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Never tried		1	
Not Certain	4	1	
Total	40	43	51

Sanitation

As often the case of places located in the hinterlands, sourcing potable water is fast becoming a problem. The *Bukis* in the two study areas primarily depend on open wells for their drinking water while most of the

rest depend on springs. The same is true in the case of the Negritos although the latter depend more on springs rather than on open wells (see Table 21).

Table 21: Source of Drinking Water

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Open Well	28	31	18
Stream	2	4	
Jetmatic	2	1	
Spring	8	7	33
Total	40	43	51

Basically, the source of drinking water also serves as source for cooking and kitchen use but water for washing and bathing largely comes from streams especially for the Negritos.

Having gone to the Negrito area often enough, the team has indeed observed the problems on water that is besetting the community at present. The main source of water here is the small river that separates Sitio Macabines--where most of the Negritos are located--from Canggohob Proper. This river supplies the drinking, cooking, bathing, and washing water of most of the IPs in the area. Unfortunately, when the rainy season comes, the river gets swollen and becomes muddy and murky easily. If this happens, the Negritos are left with no choice but to go somewhere much farther for drinking and cooking water, or collect rainwater for the same purpose. As for bathing and washing, the river, murky or not, still serves the purpose despite its health risks to the community. This same river, however, also feeds an artificial lake in the nearby Highland Resort, having been deliberately diverted there by the owners. As a result, only a trickle flow into this river in the dry season forcing the Negritos again to fetch water elsewhere much farther.

It should also be noted here that boiling of water for drinking is not part of the Negrito orientation. This is also true to most of the Cabatuanan *Bukis*. Interestingly, though the Tayawan respondents contend to be aware of the importance of boiling water for drinking, they actually do not practice this in their homes. The data then cannot be used to conclude that the Bukidnons in Tayawan are more conscious of their health than the other two groups in this study.

It is therefore easy to understand why water-borne diseases such as diarrhea and the more serious dysentery are quite common in the three ICCs. Further, the lack of water in Canggohob could also explain partly the generally unkempt appearance of both children and adults there. But for this detail, the Negrito children could otherwise be beautiful and exotic what with their soulful eyes, curly hair and dark skins. Nonetheless, when compared to the Bukidnon children specifically in Cabatuanan with their pale skin and dull-eyed stares, the Negrito children are definitely sprightlier and more vigorous. Their counterparts in Cabatuanan certainly need to eat more nutritious food to match the former's sprightliness and vigor.

Another component of sanitation severely lacking in the three research sites are toilet facilities. All the Canggohob respondents declared that they do not have a designated area used as toilet while a majority in Tayawan and about one half of the respondents in Cabatuanan also have the same situation (see Table 22).

Table 22: What kind of toilet facilities do you use?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Open Pit	4	12	
Closed Pit Antipolo Type	1	1	
Water-sealed	1	9	
No CR	34	21	51
Total	40	43	51

In the survey done, it is quite amusing to note that many respondents considered the open space outside their houses as comfort rooms with even one respondent claiming to have a "5-hectare wide toilet." In these modern times, not having a properly designated comfort room is not only primitive but unimaginable. Yet, this just happens to be still the state of things among the indigenous peoples in this province today.

Cultural Profile

In the course of the field research, the SU Task Force was not able to identify many names of IPs in the research sites who are recognized as keepers of what were once rich traditions. Perhaps the only authentic Bukidnon traditional healers alive today are Salduga Trono and Nayo Aureano of the Cabatuanan Bukidnons. Unfortunately, the two are now very old men with Salduga no longer able to stand and walk on his own. In addition, his voice is barely comprehensible aside from the fact that he is also hard of hearing. Presently, he is still the acknowledged leader of the Cabatuanan tribe and hence the importance of his contribution to this research, but his health is fast deteriorating and so it is now quite impossible to interview him extensively. This is the reason why the researchers were not able to extract any substantial Bukidnon cultural practices from him. Nayo, on the other hand, still occasionally administers his indigenous medicine but he, too, is getting on in age and so younger

members of the group should learn from him now if they would like their tradition to survive.

A few Bukidnons from the same site also said they could still remember a song or two from their elders but when asked to sing a sample of these, they sang songs having either Cebuano or Ilonggo lyrics and not the *Binuki* language and so the origin of these songs are questionable. In terms of knowledge of their traditional songs and dances, the Tayawan group seems to remember more of these than their counterparts in Cabatuanan. In one occasion, the research team witnessed some old Bukidnon dances by some of the Tayawan elders. As well, the Tayawan *Bukis* can boast of having a member who still knows their traditional practice of walking on fire. In an interview, Ramonito Ugad claims to have walked on fire in the past during important celebrations but he rarely, if ever, does the act at present since he is wary of outsiders or ill-wishers who might get jealous of his prowess.

On the other hand, the Negritos in Canggohob like the Tayawan Bukidnons still know a few of their traditional dances like the *kinalaykay* and the *kinalasag*. Most notably, Antonio Baldado and Eugenio Requel showed that they could still dexterously execute these traditional dances if prodded; however, because of nonpractice, they tended to falter in their steps at times. Needless to say, a more intensive documentation of these fast vanishing traditions should be done soon if one wants to preserve what is left of these cultures.

One sign that signals the inevitable process of cultural destruction is the demise of these respective group's dialects. All the respondents consider either Cebuano or Ilonggo as their main language and have all but forgotten their ancestors' native tongue. Although a few words of *Binuki* (Bukidnon dialect) or *Inata* (Negrito dialect) have trickled down to the younger members, no one below 40 years old among the three groups can actually speak their respective languages. Not only are the languages forgotten in the process of integration but also their traditional lifestyles. For instance, the Negritos were once mainly hunter-gatherers but this is no longer true of their descendants today who all consider farming as their main means of survival.

One contributory factor to this cultural destruction could be attributed, ironically, to the IPs desire to adapt to the ways of the dominant culture; in this case, the Cebuano or the Capizeno for socioeconomic and political exigencies. For instance, if one were to scrutinize Table 23, one will realize that an overwhelming majority of the respondents and their spouses have not gone to school at all.

Table 23: Educational Profile of the Household Members

	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Children of Respondents who are below 8 years old and have not gone to school yet	73	64	67
Parents (respondents and their spouses) have gone to school	39	7	64
Parents (respondents and their spouses) have not gone to school	40	67	98
Children have gone to school	129	179	31
Total	281	317	260

For those who did, no one went beyond Grade 2 among the Negritos while not a single Bukidnon parent has gone beyond the elementary level. What is then made obvious here is that practically all members who are 30 years old and above are uneducated. In contrast, the younger ones now show better chances of getting higher education since all those who have reached high school are in the 25 and below bracket. Two of the Bukidnons in this age bracket have even gone on to college. Thus, in terms of education, the younger generation will definitely not remain unlettered for long unlike their elders before them (see Table 24).

Table 24: Educational Attainment of Indigenous Household Members

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Below 8 and have not gone to school	49	56	56
Above 8 and have not gone to school	56	61	96
Grade 1	24	26	9
Grade 2	31	30	18
Grade 3	21	39	20
Grade 4	22	37	4
Grade 5	7	20	
Grade 6	23	21	4
First Year High school	4	5	
Second Year	4	4	
Third Year	5	1	
Fourth Year	3	2	
College	1	1	
No Answer	31	14	53
Total	281	317	260

From the perspective of progress, a higher education, of course, means more chances of success. Unfortunately, "getting an education" seems also to be the nemesis of programs aimed at preserving cultures, specifically indigenous cultures, which have many practices that are considered primitive by those who do not understand them. And many of the indigenous youth today happen to be among those who do not understand their ancestors' lifestyles simply because they have not been given the opportunity to do so. When the younger IPs were asked if they were willing to carry on the tradition of their elders, many of them either said "*nahuya kami*" ("we're ashamed") or "*wala kami kahibalo* " ("we don't know anything about it").

Social Profile

The data gathered from the three research areas have yielded practically the same information as far as domestic and community relations are concerned. Almost 100% of the respondents in the three sites claim that they are living in harmony with both their family and their community. This claim is corroborated by the researchers' impression that there is relative peace and order in the three study sites.

On the domestic front, budgeting finances and child discipline lay largely on the shoulders of women. This finding confirms the stereotype role of women at home who are expected to concern themselves mainly with the upbringing of children and the day-to-day activities in the house such as cooking and cleaning. In the meantime, the husbands, being the breadwinners, are expected to worry about where to get the money for their needs. Nonetheless, the couple jointly decides on business ventures and investments, as well as on their children's education. Accordingly, these indigenous couples exhibit traits typical to Filipino parents.

Corollary to the above is the matter on child discipline. When asked whether it was all right to discipline children (taken here to mean the imposition of some kind of punishment on children who misbehave), most respondents said yes, and that they imposed "light to moderate punishments" on the misbehaving or disobedient child. It is a bit disturbing to note, however, that 10 respondents from Canggohob declared that they imposed "heavy" punishment on their children. Unfortunately, what constitutes heavy punishment for them had not been followed up by the group.

To an outsider, this punishment could come in the form of parents making their children stop schooling, if they were allowed to go at all, so they can work long hours in the sun to help fill the perennially empty family coffer. For instance, Rustum Bornea, an intelligent 22-year old Negrito was asked why he only reached grade two when he was obviously interested in going to school. He said that his mother told him to stop schooling after his father died because she needed help in the farm. Rustum happened to be the eldest among his siblings and thus tradition demanded that he had to carry on his father's responsibility. Recently,

Rustum expressed desire to go back to school since with his new awareness of the marginalization of his people, he realizes now more than ever the importance of education. "*Para dili mi pahimuslan ug politico*" ("so that politicians will not take advantage of us"), he declared. When asked what then would become of his family responsibilities if he goes to school, especially now that he is married with one child, he answered that his siblings are old enough to help him in the farm and so this means his task is now lessened. In this regard, though unwittingly, Rustum is helping perpetrate the unfair practice of child labor in his community. And so the cycle goes on.

The above illustration therefore contradicts the respondents overwhelmingly positive response to the query on whether or not they are willing to sacrifice for the sake of their children. Nevertheless, it does complement the data on the harmonious relationship among the family members (see Table 25). One explanation for this seeming contradiction is that these parents do not consider as punishment their asking very young children to help earn for their survival as do most poor parents anywhere.

Table 25: Are you willing to sacrifice for the future of your children?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Yes	39	41	51
No	1	1	
No Answer		1	
Total	40	43	51

The data above further reflects the attitude of the parents towards their obligation to give their children a better future. The overwhelming positive response from the respondents indicates that the parents are still aware of their basic obligations toward their children.

This benevolence towards one's own kin is also extended to the community at large. This is supported by the response given to the query on whether or not the respondents will stop being a member of an

organization if she/he realizes that she/he will not get anything from such involvement. A greater number of the Bukidnons said that they will still continue with their community involvement. The Canggohob group however takes the pragmatic view that if they do not gain anything then they better not get involved at all. Such a stance could perhaps be explained by the "wait-and-see attitude" that this group generally have according to anthropologists (see Table 26).

Table 26: If somebody tells you that your involvement in the community project would not give you and your children a better-future, would you deter from it?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Yes	5	3	46
No	32	32	5
No Answer	3	1	
Don't Know		7	
Total	40	43	51

The generally congenial relationships between and among the ICC members have of late been disturbed on account of the Ancestral Land and Ancestral Domain Claims program of the Philippine government. Relatives and neighbors who used to live peacefully together are starting to become suspicious of each others' motives. This is especially true among the Bukidnons, both in Tayawan and in Cabatuanan. Thus, it would be interesting to observe the reactions of members when the specific area are awarded by the government to each of the three groups will finally be parceled out among themselves.

Because the issue on Certificate on Ancestral Domain Claims (CADC)[2] and Certificate on Ancestral Land Claims (CALC)[3] is presently

[2]The Certificate on Ancestral Domain Claims (CADC) declares and certifies the claim of each indigenous cultural community over a corresponding territory earlier identified and delineated as ancestral domain. The certification is issued in the name of theindigenous community claimant and placed under the custody of its recognized

causing divisiveness among the IPs, the Provincial Environment and Natural Resources (PENR) officials met with the people (the nonindigenous members in the community were also invited to attend) a few times to answer questions and clarify matters pertaining to the abovementioned government programs. Such meetings have, however, not been of much help at all if the data in Table 27 were to be used as a gauge. The figures show that there were still quite a number of respondents who claimed ignorance of the ancestral domain issue. Those who declared knowledge of the subject explained it simply as part of their birthright; "*nga kami ang mosunod sa mga yuta sa among katigulangan*" ("that we will inherit our ancestors' land"). This definition obviously reveals very limited understanding of the subject, and thus the research team thinks that there is still a great need for the IPs to have more in-depth knowledge of the issues concerning the ancestral domain claims so that they will be ready to deal with all the program's legalities.

Table 27: What do you know about "Ancestral Domain Claims?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
That we will inherit our ancestors' lands	7	18	49
Owned by the haciendero	2		
To divide among ourselves		1	
The claims of the minorities		1	
No knowledge about it	31	23	2
Total	5	6	18

indigenous socio-political leadership or people's organization (Department Administrative Order No. 02, 1993, Section 1, Article IV).

[3]Certificate of Ancestral Land Claims (CALC) refers to certificates issued to individuals and indigenous corporate claimants of ancestral lands which are not within recognized ancestral domains (Department Administrative Order No. 02, 1993, Section 2, Article V).

Aspirations

Like everyone else engaged in the business of living, the Bukidnons and the Negritos aspire to have a better life in the future. Specifically, most respondents have indicated that they wished to have a more prosperous life in the next five years (see Tables 28-30) and better than the one they now have.

Table 28: Aspirations of Bukidnons in Tayawan

Aspirations	Frequency
1. To live harmoniously	19
2. To own a piece of land	5
3. To send children to school	4
4. To have good health	4
5. To continue and sustain farming activities	3
6. To engage in business	1
7. To be able to maintain and live in a concrete house	1
8. Cannot say because not certain of the future	3
Total	40

Table 29: Aspirations of Bukidnons in Barangay Cabatuanan

Aspirations	Frequency
1. To improve living condition	28
2. To continue farming and own a carabao	2
3. To send children to school	2
4. To have Peace and Order	5
5. To have Good Health	1
6. To be Employed	2
7. To get rich	1
8. Cannot say because not sure of future	2
Total	43

Table 30: Aspirations of Barangay Canggohob

Aspirations	Frequency
1. To Improve living conditions	24
2. To send children to school	1
3. Can't say because not certain of future	26
Total	51

Although tables 28 to 30 indicate other items in the respondents' wish list, such items actually all boil down to the dream of a better life. For example, five respondents in Tayawan said they wanted to own a piece of land while two in Cabatuanan expressed the desire to send their children to school. In the Philippine context, owning a piece of land is both a status symbol and a sign of security: status symbol because so many Filipinos do not own one considering the price of land today; and a sign of security because land is an asset that is generally believed to appreciate in value, thus acquiring a piece or pieces of land is considered a sound economic move.

Too, sending one's children to school is seen by parents as an economic investment because Filipino culture dictates that children should take care of their parents when the latter are already old. Aside from this, children who have finished schooling and who now have jobs are also expected to help the family either by giving part of their salaries to their parents or by sending their younger siblings to school. Obviously, all the above are just different ways of trying to arrive at the same end; that is, to have a better or more prosperous life. It could then be pointed out here that a harmonious life is actually also translated to mean an economically-stable life. In this regard, the Bukidnons and the Negritos are normal beings in wanting to improve their lot in life.

Fig. 3: Bukidnon mother and child, Cabatuanan, Basay
(photo: Ceres E. Pioquinto ● digital imaging: Christian K. Schales)

Be this as it may, these people have not lost faith on their ability to survive and are taking one day at a time which could explain the Negritos' overwhelming choice of their present condition over what they have experienced five years ago. When made to compare the quality of their life between now and five years ago, 49 out of the 51 respondents chose the present to be better (see table 31).

Table 31: If you compare your present living condition with that of the last five years, which is better?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Now	19	14	49
Last five years	4	14	2
The same	10	11	
Not Sure	7	4	
Total	40	43	51

This figure comes as a surprise since as manifested earlier, the Negritos claim that their land is no longer as fertile as in the previous years which resulted in their generally poor farm yields hence the economic burden they are presently experiencing.

The Bukidnons, however, think that there is not much difference between the two periods. Though 19 out of the 40 respondents in Tayawan chose the present over the past five years, this number is neutralized by the 10 who believe that there is really no difference between their life then and now and the seven who are not certain of which answer to give. Meanwhile, the Cabatuanan IPs are also about even in their assessment of the situation. An equal number of respondents (14) chose the present over the past and vice versa while 11 think that their situation now has not really changed from five years ago. When asked the reason for their answers, the Bukidnons opined that their life is "*mao gihapon*" ("still the same").

Comparatively, the figures in Table 32 below which give an assessment of the chances of their life being better five years from now are also about even in showing the Tayawan Bukidnons' choices.

Table 32: If you compare your present living condition with that of the next five years, which do you think would be better?

Response	Tayawan (Bayawan)	Cabatuanan (Basay)	Canggohob (Mabinay)
Now	13	14	46
Five years from now	17	16	5
The same		3	
Can't say because not certain of future	10	10	
Total	40	43	51

Although a bigger number think that their lives would be better in five years' time than what they are presently experiencing, the difference is actually very slight. Some of them maintain that it is not easy to predict the future and so it is difficult to speculate on an answer. On the other hand, the Negritos show firm rootedness in the now for most of the respondents claim that their situation at present is preferable to that five years from now since they believe that their farms will not be that fertile any longer.❖

SITUATIONAL ANALYSIS

Calvert & Calvert (1996: 48) identify five basic human needs which are universal: (1) clean water; (2) good food; (3) proper sanitation and health facilities; (4) reasonable housing; and (5) education. Although the manner of organizing to meet these needs varies with circumstances, the chilling reality stands that these basic needs remain unmet among a billion people living in poverty in the developing countries. Similarly, it has been widely established that "environmental degradation is increased by

inappropriate development which is a consequence of poverty, and it then in turn increases the poverty from which it arises. It is most painfully experienced by the poorest elements of society which usually include women, children, and indigenous peoples" (Calvert & Calvert 1996: 237).

Amazingly, despite the immense diversity of cultures, contexts, and circumstances, and the great distances that separate them from each other, indigenous peoples all over the world share one thing in common--a deep-seated sense of powerlessness. This malady is succinctly summed up in this description of the indigenous peoples' situation everywhere: "indigenous peoples exist wherever traditional, sustainable lifestyles survive in continued opposition to the encroaching power of the modern, internationalized state" (Calvert & Calvert 1996: 246). In this situation, the daily lives of indigenous peoples are lived in constant battle against greater powers that continually threaten their survival and obliterate the culture which gives them their identity. Dispossessed of their tribal lands and displaced to the hinterlands, indigenous peoples find themselves entangled within the vicious cycle of poverty and environmental exploitation from which they have little hope to come out. As results of the recent research in these communities attest, the lives of the Negritos and the Bukidnons, particularly those in Cabatuanan, provide a concrete case.

To zero in on the local situation, the results of the recent study conducted on the indigenous communities of Negros Oriental by the Silliman University Task Force suggest that we need never look too far for examples of the way in which a group of people suffer because of the deprivation of the basic needs mentioned above. Nor do we need much proof to validate the situation in which "a community survives in continued opposition to the encroaching power of the modern, internationalized state." Putting the usual economic (income, rate of savings, or ownership of property, adequate housing, etc.) and social (life expectancy, access to health care, proportion of children in school, adult literacy rate, etc.) indicators to bear on the results of the baseline survey of the three identified indigenous cultural communities easily locates the Negritos and the Bukidnons at the bottom of the human development index (HDI) as far as the quality of their lives is concerned.

Both Negrito and Bukidnon communities manifest marked forms of poverty and vulnerability. As the baseline survey shows, aspects of material poverty experienced by these places include, among others, undernutrition and malnutrition, ill health, extremely low levels of education, and inadequate shelter. Aggravating these problems is the absence and/or nonfunctioning of supporting institutions or agencies which could provide the much needed assistance. For instance, the survey shows that although there are barangay health centers located in these indigenous communities, few have availed of their services for a variety of reasons, foremost of which are that the health facilities are dismally inadequate and health workers almost nonexistent. This, along with poor nutrition, overwork, and maternity seem to provide the explanation for the high incidence of women's deaths in the community, a speculation suggested by the number of successive marriages that a majority of men have contracted in their lifetime. At this stage, no actual figures are available to indicate the rate of female mortality, nor of its cause, but if these initial speculations have some validity, then this problem has to be addressed as a matter of urgency.

Absence of clean water supply exacerbates the problems of health and sanitation and contributes to poor nutrition, too. Again the survey shows that clean running water in the indigenous households is not just a luxury but a rarity few have ever heard of. And not surprisingly since a majority of them, except for Bukidnons living in the vicinity of the former Construction Development Corporation of the Philippines (CDCP) Mining where water is abundant, source their water from rivers or streams several hills away from their houses. This scarcity of water for consumption may account not just for the poor health of many of the indigenous peoples, particularly the Cabatuanan children, but also for the generally unkempt, and untidy appearance of indigenous men, women and children. Basic hygiene practices generally taken for granted in better surroundings are a critical issue in these parts and only a concerted and massive education campaign will improve the situation.

Still, given the scarcity of food in these areas, concerns for hygiene are understandably peripheralized for the more urgent issues of survival. The generally poor state of health of a majority of indigenous peoples,

chiefly children and older people, in these areas points to the woefully low quality of nutrition that is available for everyone. What might constitute a meal is not so much a problem as whether one is able to eat at all. Yet, it has been widely established that poor nutrition lowers the resistance and thereby exacerbates the problem of disease, leading eventually to deaths. Again, the displacement issue is easy to blame for pushing people into marginal lands where they are hardly able to produce anything from their subsistence farming. However, the problem is more complex than it seems. Any policy initiatives aimed at improving the quality of life of the indigenous communities must also include equally major initiatives to rehabilitate and care for the environment.

Again, the issue of survival is at the root of the problem of adult illiteracy and the low attendance of children at schools. Although the link between an improved quality of life and the level of education is widely accepted, very few Negritos or Bukidnons see the connection as revealed in the results of the baseline survey. Predictably, education does not figure on the top of their list of aspirations for their children. The dismayingly low literacy rate among adults may have been due to a lack of access to educational opportunities given the absence of economic resources and the distance to the schools. Surprisingly, although the situation has improved with the proliferation of public schools even in the remotest barangay, a low school attendance among indigenous children is perceptibly obvious. That the cycle of ignorance and illiteracy continues among the younger generation is not just an unfounded fear; it is a disturbing reality. An encouraging exception is the initiative shown by the Negritos for an adult literacy program which they themselves have identified as a priority need.

Up to the present, a number of efforts have been tried to solve these problems, but if the solutions remain remote or very slow in coming, often they never reach their beneficiaries. Mainly, this is because these communities, particularly Cabatuanan, are so remote and access to them is only by extremely bad roads; partly, because there is no efficient internal transfer system to act as safety nets to assure that assistance reaches their intended beneficiaries. Usually, the enormity of the problem simply leaves the government overwhelmed and, unprepared with emergency initiatives, is unable to respond quickly enough.

What seems to be the root cause for the dismayingly sordid situation of indigenous peoples? Just as the manifestations of poverty of indigenous peoples everywhere are amazingly the same, so are the root causes of their misery and their aggravating circumstances. Among indigenous peoples in the Philippines in general and the Negritos and the Bukidnons in particular, both external and internal factors have conspired to wreak havoc on the traditional habitat of these people and consequently decimated their culture.

Of the external factors, Bennagen identifies at least five that play a major and direct destructive role in practically all of the traditional territories of indigenous peoples, not least of all those of the Negritos and the Bukidnons. These factors interrelate and reinforce each other in making life for the indigenous peoples a constant struggle for survival. One, the encroachment on tribal lands by migrant settlers whose greater number and political power continue to marginalize the lifestyle of the indigenous peoples. Two, the impact of recent programs for rapid development such as infrastructure projects which often lead to the clearing of large areas and the cutting of trees, and local as well as transnational corporations who show intense interest on resource-rich regions often occupied by indigenous peoples. Three, displacement because of government counter-insurgency campaigns. Four, the continuing prozelytization and evangelization by various religious sects whose own sets of values have marginalized the traditional ways and practices of indigenous peoples and undermined their traditional beliefs particularly those related to protection and biodiversity conservation. A fifth and most important factor is the conflicting views of land ownership held by indigenous peoples and that subscribed to by the state. To the growing indigenous movement around the world, the structure of land ownership is often pointed out as the single, most deeply-rooted and most persistent evil from which emanated all other evils plaguing the indigenous communities everywhere. The question of land ownership is a prevalent motif in the indigenous peoples' assertion of their rights to their ancestral lands (1996: 3).

In the Philippines, this takes the face of the Regalian Doctrine introduced into the country during the Spanish era as part of the colonial

policy but persists ever stronger today with constitutional sanction. As pointed out by Bennagen (1996: 3), this Doctrine specifies that "all lands of the public domain, waters, minerals, coal, petroleum, and other mineral oils, all forces of potential energy, fisheries, forests or timbers, wildlife, flora and fauna, and other natural resources are owned by the State" (*Philippine Constitution*, Section 2, Article XII). It is clear that this Doctrine has been designed to favor the rich and powerful outsiders who have access to political influence and legal means of acquiring lands within the tribal territories from the state. And, more often than not, they have the capability, usually through violence, to displace helpless inhabitants out of their tribal lands. Meanwhile, it has been established that "once the control over the resources is transferred from the indigenous people to the state and corporate interests, exploitation and destruction of the environment inevitably follow" (Fiagoy 1996: 74).

On the other hand, the indigenous peoples maintain a communal concept of land ownership, a view which clearly runs counter to the Regalian Doctrine. Compounding the problem for the indigenous peoples is their ignorance of their rights and of the law which renders them vulnerable to victimization by those who have recourse to legal procedures. This results inevitably to the disenfranchisement of the indigenous peoples and consequently to environmental and cultural destruction for which, unwittingly, they are often blamed for causing. Although indeed there are enough data showing indigenous peoples' role in the destruction of their own environment,[4] they cannot be blamed entirely for the problem. The problem, however, is more complex than it appears and mainly because of the peculiar nature of land itself. According to Calvert & Calvert, "land is not a homogeneous commodity that can be shared at will...[and] it is not always easy to agree who should get access to land" (Calvert & Calvert

[4] Bennagen cites a few cases in which the indigenous peoples have been involved in the destruction of their environment, among them: (1) the penetration of commercial vegetable production into Benguet Province which has greatly eroded the biodiversity and indigenous management practices in the area; (2) commercial woodcarving by the Ifugaos has led to overcutting of trees and the deforestation of the rice terraces (Bennagen 1996: 2). Among the indigenous communities of the province, both the Negritos and the Bukidnons have been known to engage in illegal logging practices by allowing and assisting illegal loggers to prey on the forest products in their respective area.

1996: 36-37). Until the introduction of the Certificate on Ancestral Domain Claims (CADC), the state's nonrecognition of the indigenous peoples' rights to their ancestral land posed the greatest threat to the biodiversity and cultural diversity of the traditional communities. Among the Negritos and the Bukidnons, such problems are too obvious to mention.

What have been the consequences of these external factors on the quality of life in general and on the traditional culture in particular of the indigenous peoples, prominently the Negritos and the Bukidnons? To be sure a number of effects are plainly evident and far-reaching as the results of the recent research show. One, the tribals are noticeably worse off than the rest of the population. Continued pressures from upland migration in Canggohob, Tayawan, and Cabatuanan by Cebuano and Panay settlers as well as development projects, notably the logging companies, the bankrupt CDCP Mining in Cabatuanan area, and the Tolong Sugar Central, among others, have combined to oust these people from their traditional domains and push them farther up the hinterlands where they eke out a miserable hand-to-mouth existence.

Two, being physically marginalized as a result, they abandon their indigenous knowledge of their resources, and more often than not, given the limited remaining resources, contribute to their exploitation either by their own abuse or by allowing others, for money, to abuse them. This may account for the conspicuous absence of examples of indigenous resource management practices, especially among the Bukidnons. The effect of the change from subsistence system to cash economy is particularly striking among certain members of the Bukidnons as profit-orientation takes hold of their traditional ways and practices. Among the Cabatuanan Bukidnon, this mentality has been observed to lead ultimately to unsustainable practices such as overexploitation of resources, participation in ecologically destructive practices, or simply nonparticipation in government-initiated cooperative efforts on environmental protection and conservation.

It is common knowledge, for instance, that many of these Bukidnons used to participate in illegal logging operations, lured to the scheme by the seemingly quick returns. With the issuance by the government of the Certificate on Ancestral Domains Claims (CADC), the

Tayawan Bukidnons are now talking about mining which seems to them more lucrative and profitable, realizing neither the devastating ecological consequences of this enterprise nor the contradictory implication of this plan in relation to the real spirit of the CADC. Unlike most other indigenous groups in the country who profess a timeless link to the land and manifest a reverence for it as a source of life (Bennagen 1996; Lucas-Fernan 1996; Fiagoy 1996), the Bukidnons see land as a commodity with fixed market value. This attitude exemplifies the extent to which the Bukidnons have become alienated from their traditional culture while at the same time highlights the forces that have caused this alienation.

Three, another consequence of this displacement is cultural marginalization. The indigenous peoples, chiefly the Bukidnons, are forced to abandon their traditional ways and practices as a way of coping with the processes of integration and acculturation in a more dominant social order in which they find themselves at the bottom of the social hierarchy. Among the Negritos and the Bukidnons, the loss of their native dialects and many of the expressive forms that gave them their distinctive cultural identity, is a direct consequence of cultural marginalization.

Interethnic marriages also contribute to the marginalization of traditional lifestyle in a different way. They determine genetically the physiological characteristics and traits of progenies of Bukidnons/non-Bukidnon and Negritos/non-Negritos alliances resulting in the gradual disappearance of distinctive physical features among the mixed-breed offspring. Similarly, indigenous cultures tend to be displaced from the hierarchy of values by new sets of values that come with interethnic marriages by being branded as backward or inferior. This tendency guarantees, if not hastens, the demise of traditional cultural beliefs and practices. Nowhere is this situation more strikingly conspicuous than among the Bukidnons of Cabatuanan whose community has been overrun by migrants from Panay and Capiz since the early 1950s. Many of them exhibit values, traits, attitudes, and mentality so perceptively remote from those described in current literature as distinctively unique to indigenous peoples.

Another contributory factor to the continuing marginalization of indigenous ways and practices is the pervasive influence of mass media and

film which has encroached on the consciousness of these people in a far more insidious way by presenting to them unattainable images of the good life as they are lived in the affluent surroundings of Makati or Hollywood. Apart from the new set of values that are introduced by these culture agents, integration into the world of media and film has left the younger generation of indigenous peoples keenly aware of the disparity between their ideal and their actual circumstances. Not surprisingly, this leads them to want the trappings of modern life and development such as a motorbike, a radio, or a watch. The problem starts when to buy them, they take, or allow others to take, more from the already depleted natural resources than they need. And then the same pattern of poverty and environmental exploitation repeats itself even more relentlessly.

Afterword

The problems mentioned here underscore the complexities underlying programs aimed at preserving traditional cultures. Their professed objective which is the preservation of indigenous peoples with their way of life intact presents the government and other institutions involved with a moral dilemma. Needless to say, the importance of preserving indigenous culture as a way of strengthening community solidarity and identity cannot be overstressed. However, what is no longer debatable is that not all aspects of indigenous culture are good. A paradoxical situation that surfaces from this kind of cultural policy is the way the emphasis on cultural heritage represents an attempt at validating and maintaining the status quo. However, as the indigenous people themselves know, there is nothing remarkable or exemplary about their present situation and any attempt to preserve it leaves little to be desired as far as the quality of their life, or lack of it, is concerned.

Issues such as these raise more questions than offer answers. Questions such as the role of governments and established institutions in the preservation of indigenous cultures. What kind of intervention would be appropriate in recuperating tradition and preserving traditional cultures? What are the motives for doing so, the particular approach to take, and the attitude that must accompany that approach? What are the

effects of the current strategies employed by both GOs and NGOs on the people who are supposed to be their beneficiaries? Indeed, what do these prospective beneficiaries, the indigenous people themselves, think of the whole endeavor? There are no easy answers.❖

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THE PALAWAN FORMATIVE RESEARCH PROJECT: CONTEXT, METHODOLOGY AND GENERAL FINDINGS

Betty C. Abregana

PALAWAN, a frontier island province, is part of the Southern Tagalog Region. The province has 22 municipalities and 420 barangays spread in a land area of 14,896.3 sq km. As of 1990, the population was 528,287. The terrain of the province is rugged, particularly on the western portion where a chain of mountain ranges rises to heights up to 2,086 m. Except for the wide plain in the north and pockets of big valleys and delta lands along the shore down to the south, the west coast is practically devoid of coastal land and consists mainly of craggy foothills and mountains close to the sea. Rivers and streams traverse through the province but the most unusual is the seven kilometer underground river flowing under limestone rocks and emptying into Saint Paul Bay. The principal river in the province is Iwahig River (*National Statistics Office: Provincial Profile* 1990).

The same document indicates that in 1986, 1.1 million ha or 75.1% of the total land area of the province (1.5 million ha) were forested lands, while 24.9% were certified alienable and disposable lands. Of the total forest lands, 64.5% were national parks/game refuge and bird sanctuaries/wilderness areas; 31.9% were established timberlands; and 3.6% were civil reservation.

Palawan's physical configuration, characterized by its narrow contours, steep slopes, and short distance from mountain to shore, makes it vulnerable to the consequences of human disturbances on the natural environment. The strategic importance of Palawan rests on three main factors: (a) its rich natural resources; (b) its geographical proximity to international shipping lanes (i.e., the Palawan Passage and North and South Balabac Straits) which could yield vast economic, sociocultural and military benefits; and (c) its potential as a growth center in the South China Sea region which includes particularly Sabah of Malaysia and North and South Sulawesi of Indonesia. Mainly for these factors, government planners have been spurred "to view development in Palawan from the

framework of the geopolitical and socioeconomic realities existing in the province, the nation, and the South China Sea region" (*The Palawan Framework for Development 1996-2005*: 6-7).

The *Palawan Framework for Development* (*PFD*), a medium-term development plan for 1996-2005, has identified nine sectoral issues related to environment and natural resources. These are: (1) the lack of successful program/project implementation; (2) poor pollution control measures; (3) nonoperationalization of Palawan Council for Sustainable Development (PCSD)-Department of Environment and Natural Resources (DENR) Memorandum of Agreement; (4) the lack of community participation; (5) unsustainable use of natural resources; (6) lack of sufficient and sustained funding; (7) influx of migrants; (8) problematic policies; and (9) limited research and development in environment and natural resources (*PFD*: 6).

To address these concerns, policy-makers of the *Palawan Framework for Development* formulated a number of plans and programs for the sector on environment and natural resources (*PFD*: 31-33). Programs and projects effectively and successfully implemented were those which aimed at (1) minimizing graft and corruption through periodic monitoring; (2) encouraging and promoting responsive bureaucracy; (3) establishing and enhancing the commitment of stakeholders; and (4) conducting social preparation of beneficiary communities. In addition, programs and projects such as forest park development, environmental law enforcement, watershed rehabilitation, and communal farming were introduced and implemented.

To alleviate the pollution problem, a number of pollution control measures were effectively enforced and implemented. These measures included (1) conducting seminars, trainings, orientations on proper waste disposal management system; (2) encouraging local government units to establish waste management system including effective drainage and sewage system; and (3) encouraging and promoting pollution control measures.

These environmental initiatives were given legitimate support by well-defined environmental standards, policies and guidelines such as: (1) enforcement and implementation of the Memorandum of Agreement between the Palawan Council for Sustainable Development (PCSD) and

the Department of Environment and Natural Resources (DENR); (2) enforcement and implementation of the Environmental Statement System (PD 1505); (3) formulation of adequate and well-defined policy on tourism development; (4) adoption, enforcement, and implementation by local government units of policy guidelines and standards for tourism-related establishments; (5) formulation, adoption and implementation of policy standards investments towards sustainable development; (6) establishment of appropriate mechanism to address the problem of migration; (7) creation of policy standards and guidelines for biodiversity conservation; and (8) strict enforcement and implementation of policies, laws, and regulations on mining activities.

Community participation to encourage active involvement among members of the community in environment-related activities was promoted with a number of community-based programs. Some of these programs which have been initiated and successfully carried out included environmental awareness training, seminars, and orientation; effective information and education capability enhancement training for environment extension workers; campaign strategy for environment-related activities; provision of adequate facilities and materials support; and community dialogues and consultations.

Measures for proper and sustainable use of natural resources, such as the Provincial Land Use Plan, have been adopted and implemented. At the same time, local government units have been encouraged to formulate and implement Municipal Land Use Plan consistent with the Provincial Land Use Plan.

To ensure sufficient and sustained financial support for environment-related activities, a set of fiscal policies were initiated which included the (1) establishment of an adequate trust fund for environment; (2) allocation of funds for environmental programs, projects and activities; (3) drafting of environmental project packages for foreign as well as national funding which would provide adequate access to sources of funds; (4) imposition of penalty fees to environmental polluters; and (5) imposition and efficient collection of environmental tax.

Finally, as a vital support system, research on issues related to environment and natural resources has been promoted and established.

Such research projects included first and foremost the establishment of an environmental research and development center; the creation of the Palawan Environment Information and Database System; and a resource inventory of all available data, manuscripts, and research abstracts pertaining to Palawan Environment and Natural Resources. The need to provide adequate financial and other support for the promotion of research and development work in Palawan Environment and Natural Resources has been likewise stressed.

The *Palawan Framework for Development* has also identified existing developmental issues which have not only hampered major developmental efforts in the province but have proved deleterious to the environment. These negative issues included (1) disorganized and unrealistic government policies on land use; (2) deforestation caused by shifting agriculture and improper logging practices; (3) intensified agricultural and fisheries production in the coastal areas; (4) under-utilization of potential agricultural areas; (5) improper pollution control; and (6) encroachment into critical watershed areas.

In light of these environmental concerns, what key communication interventions can be implemented to move people to adopt environmentally positive actions? Presently, provincial government offices and nongovernmental organizations engaged in environmental programs do not have a unified communication plan for the province. An encouraging exception, however, are agencies such as the Palawan Council for Sustainable Development (PCSD) and the Palawan Tropical Forestry Protection Programme (PTFPP) which are in the process of formulating their plans.

The GreenCOM Project

The Environmental Education and Communication Project (GreenCOM) is a United States Agency for International Development (USAID) project implemented by the Academy for Educational Development (AED), a nonprofit, nongovernmental organization based in Washington, D.C., and its subcontractors. GreenCOM builds on two decades of AED experience in the application of development

communication to motivate the voluntary adoption of positive behaviors related to social program goals.

In the Philippines, GreenCOM is collaborating with the government, nongovernmental organizations, people's organizations (POs), local government units (LGUs), and private sector counterparts in the tasks of harnessing and focusing environmental information, education, and communication (IEC), social marketing, and advocacy in order to support sustainable resource use. One of GreenCOM's tasks in the Philippines is to design, implement, and evaluate three pilot communication interventions. The sites for these interventions are San Vicente, Palawan; Metro Cebu (Mactan/Olango Islands); and Malalag in Davao del Sur.

The communication interventions will be linked to the devolution of natural resource management to local government units and communities as mandated by the Local Government Code. The Local Government Code essentially devolves resource management from the national to the local level and provides local government units with the mandate to motivate and assist communities in taking the actions necessary for sustainable resource management within their *puroks*, *barangays*, and municipalities. The overall purpose of the communication interventions is to demystify the Local Government Code and motivate LGUs and community members to take advantage of the rights that the Code provides consequently promoting the adoption of specific actions or behaviors among both LGUs and local residents. The communication interventions will contribute to heating up the process of devolution in the various levels, at the top (provincial and local decision-makers and opinion leaders), as well as at the bottom (people's organizations and individual community members).

Research Objectives and Methodology

In response to GreenCOM's request for a proposal, a formative research in support of the pilot environmental communication campaign in San Vicente, Palawan was conducted. The purpose of the research was to help shape the content of the communication intervention and to

determine which channels will be used to communicate the messages to the target audience. The study aimed to identify (1) current knowledge, beliefs, and practices of "doers" and "nondoers" in relation to the ideal behaviors; (2) the factors that have influenced the adoption of those behaviors; and (3) the most effective (trusted) and efficient (preferred and currently used) channels to communicate information about the environment.

The research approach was exploratory and qualitative. As an exploratory study, the research aimed to get extensive information about behaviors toward the environment, discover new dimensions, and uncover additional aspects of these behaviors. As a qualitative research, it did away with highly numerical survey techniques. Rather, it engaged people in a conversation in their natural settings, and documented how the inhabitants of these settings made sense of their surroundings through social roles, structures, adherence to cultural norms and behavioral routines, the individuals' own perceptions, subjective apprehensions, and so forth.

The study participants included Local Government Unit (LGU) decision-makers, opinion leaders and community residents. In-depth interviews were conducted with LGU officials and opinion leaders. Focus group discussions (FGD) were done with community residents. An interview guide and a separate FGD guide were used to direct the flow of the conversations and to generate data sets that were comparable across research sites.

In Palawan, the site chosen for pilot environmental communication campaigns was San Vicente. In this rural municipality, the participants of the study included 15 LGU decision-makers composed of five females and 10 males who were mostly residents of coastal barangays; 14 opinion leaders composed of seven females and seven males who were mostly residents of coastal barangays; and community members organized into 10 focus groups consisting of five female and five male groups from the coastal barangay of Port Barton and the barangay of New Villafria which has an upland reforestation site.

The focus discussion group (FGD) in Port Barton was made up of four doer groups consisting of two female groups and two male groups and

two nondoer groups composed of one female group and one male group. In New Villafria, the FGD format consisted of two doer groups made up of one female group and one male group and two nondoer groups composed of one female group and one male group.

An adjacent municipality was chosen as point-of-comparison.[1] The participants of the study were limited to the LGU decision-makers. Seven LGU respondents were males and another seven were females. Most were residents of the poblacion.

Data management, analysis and writing of the results of the study were done by the members of the research team who were also directly involved in data collection.

Doer-Nondoer Distinction

The basic methodology used in this research required comparing doers and nondoers among the participants of the study. As generally defined, doers are members of the target audiences--women and men--who are engaged in performing the desired behaviors; nondoers are those who are not. In this study, LGU decision-makers in San Vicente were chosen as representatives of a doer municipality while LGU decision-makers in the adjacent town were selected to represent a nondoer municipality.

A comparison of the track record of environmental activities of the two municipalities at the time of the study showed that San Vicente has an institutional framework for its environmental agenda and has a formal mechanism, initiated by the local government, for the participation of community residents in the management of a local natural resource. In addition, the municipal government allocated a budget for its municipal environmental work plan. On the other hand, the adjacent municipality is still in the process of defining and formulating an institutional environmental plan and sourcing logistics for the implementation of such a plan. Presently, environment-related activities in this comparison municipality are carried out by some line agencies such as the Department

[1] For ethical reasons, the municipality used for comparative purposes in this study will be referred to invariably as the comparison municipality, adjacent municipality/community/town, and adjoining municipality/community/town.

of Environment and Natural Resources (DENR), the Department of Agriculture (DA), and other sectors such as schools, nongovernment organizations, or women's groups, without a cohesive program of action. At the time of the study, the adjoining municipality had no specific item in the budget for environmental programs.

Opinion leaders were classified into doers and nondoers. Opinion leaders, as operationally defined in this study, referred to persons who were considered influential in the community because their ideas or opinions were either sought or listened to by the residents. Doer opinion leaders were those who directly participated in community activities that were considered positive actions toward the environment. By contrast, nondoer opinion leaders were those who did not participate in such activities.

Community members were categorized as doers if they belonged to and actively participated in the activities of a *samahan* (local association) devoted to the protection of a local natural resource, like the forest or the sea. Community members were classified as nondoers if they did not join any local environmental samahan. A good number of the nondoer community members, however, were members of such local groups as pastoral council, mothers' club, and association of parents and teachers.

Study Sites

San Vicente

San Vicente lies approximately at 119 degrees latitude and 10.5 degrees north latitude on the northwestern side of Palawan. It is bounded by the South China Sea on the west, Taytay on the north, Roxas on the east, and Puerto Princesa City on the southwest. Except for some isolated areas, the terrain of San Vicente is generally rugged due to the vast Pagdanan and Central Ranges that traverse the entire municipality. Elevation ranges from zero to 703 m. Around 18 % of its total land area is moderately sloping, undulating and rolling (0 to 18° slope) while 82 % is steeply sloping to hilly and mountainous (18° slope and above). San Vicente has legal jurisdiction over ten barangays located within an area of 82,057 ha (see Figure 1). Twenty-two smaller islands scattered in the South China Sea also form part of the municipality.

The 1993 Census recorded the population of San Vicente at 18,472. The ratio between males and females was placed at 120 males for every 100 females. This population consists of 24 ethnic groups, with new migrants (e.g., Cebuanos/Boholanos, Warays, Ilonggos) settling in the place together with the original migrants such as the Agutaynens, Tagalogs and Cuyonens. Given such an ethnically diverse population, San Vicente is certainly a multilingual community. Roman Catholics make up 76 % of the residents. The major sources of household income are fishing and farming. The major crops produced in the area are rice, coconut, cashew and corn. In 1986, the aggregate household income of the town was PhP87,985,487; the average household income was PhP28,829, while the per capita income was PhP5,252

Socio-Economic Profile: Municipality of San Vicente, 1993

In this study, San Vicente qualified as a doer municipality because of its institutionalized environmental agenda as contained in the Strategic Environmental Plan-San Vicente Project (SEP-SVP) document. The Strategic Environmental Plan of San Vicente was launched on 3 April 1993 by Executive Order No. 1 issued by the Municipal Mayor. On the same date, a Memorandum of Agreement (MOA) was signed between the municipal government and the 10 barangay governments. The MOA provided for the implementation of the SEP-SVP and Bantay San Vicente, outlined the policies, and identified facilitating and implementing bodies with their corresponding roles and responsibilities. The SEP-SVP followed a work program and was allocated a budget for its operation. In addition, San Vicente has instituted a formal mechanism for community participation in the management of natural resources as evidenced by the community organizing work done at the barangay level, the formation of local associations of farmers in upland farming communities, and the local associations of fisherfolk in coastal areas (see Table D).

Of the 10 barangays, the coastal community of Port Barton, and the barangay of New Villafria which has an upland area were selected as sample barangays for the focus group discussions (FGD) with community residents. Port Barton is the barangay with the most number of households, with majority of its residents depending on coastal resources

for their livelihood. Meanwhile, New Villafria (formerly Kemdeng), despite having the lowest number of households, was chosen as a sample site for the FGD for being the Pagdanan reforestation site, part of which has been presently designated as a communal forest. In both barangays, community organizing processes were instituted and local resource management associations were established. Still, there were members of these communities who did not join a samahan.

The Comparison Municipality

The adjacent municipality used for comparative purposes in this study is located in the northern portion of mainland Palawan, lying along latitude 10° 19' 30" north and longitude 119° 21' 30" east. It is bounded by the Ilian River and the municipality of Dumaran to the northeast, San Vicente to the northwest, Puerto Princesa City to the southwest, along Langogan River, and Sulu Sea to the north. The terrain of this municipality is generally plain to gently rolling on some areas along the shorelines facing the Sulu Sea, with gently sloping to steep mountain along the Barbacan Range of San Vicente. Seventy-two % of the total municipal area has slopes of 31° and above, while the rest falls within the 0 to 8° slope (11 %), 9 to 18° slope (10 %), and 19 to 30° slope (7 %). The total land area of 117,347 ha is home to 31 barangays, 29 of which are located in the mainland while two are on separate islands. The town has 14 islands and islets.

Based on the *Municipal Profile* of 1995, the total population of this town was reported at 44,364. The average municipal ratio between the sexes was 108 males for every 100 females. Several ethnic groups reside in the area with the Cuyonens, Agutaynens and Cagayanens composing 47 % of the population; Ilonggos, Cebuanos and other Visayans account for 30 %; the rest are Tagalogs, Bicolanos, Ilocanos and others. Roman Catholics make up 70 % of the population. About 45 % of the total working age population are in farming while 30 % are in fishing. The major farm crops are rice, coconut, cashew and coffee. Other sources of income are business and employment in government and private offices.

The *Palawan Framework for Development* (*PFD*) has identified the areas north to Taytay and San Vicente as suffering from forest denudation

caused primarily by traditional shifting cultivation system, unregulated settlement of pioneering kaingineros and improper logging practices (*PFD*: 1). The same document reported the claims from some concerned sectors of this comparison community that trawlers from other provinces are destroying traditional municipal fishing grounds located in the coastal waters from Puerto Island to South Verde Island (*PFD*: 3). The community feared that trawl fishing would result in declining yields and economic difficulties among subsistence fishing families and might force them to adopt destructive fishing practices, like the use of poisons or explosives (*PFD*: 3). This town also has a silica mine which purportedly empties waste materials directly into rivers (*PFD*: 5).

At present, this town has neither a legislated municipal environmental plan, nor a budget for environmental programs. The municipality relies solely on line agencies of the government such as the Department of Agriculture (DA) and the Department of Environment and Natural Resources (DENR) to initiate environmental activities. The incumbent mayor has taken a step to set up a sea patrol in line with the Bantay Palawan program.

Findings of the Study

This section summarizes the results of the study based on three primary sources of information: LGU decision-makers, opinion leaders, and community members. These results reveal that doer and nondoer respondents differed markedly in their knowledge, beliefs, and practices, regarding the environment and in their attitude towards environmental destruction.

Current knowledge, beliefs and practices of doers and non-doers

As shown in *Chart D*, San Vicente, as a local government unit, has made the decision to commit itself to environmental management. To carry out this commitment, the municipality, along with appropriate local and provincial bodies, has organized the structures and processes for the natural resource management programs and implemented these programs at the community level (Stages 1 to 4). However, the stages on marketing

and monitoring are, at present, still on a limited scale. San Vicente LGU decision-makers realized that the natural resource management program pursued by the municipality ameliorated the state of the environment. They acknowledged that without such intervention, degradation could not have been abated.

For their part, doer community members expressed concern over the deterioration of local natural resources. As shown in *Chart G*, doer community members in San Vicente made the decision to participate in the local association; organized, elected officers, accepted personal responsibility to protect and manage local resources, and invited other residents to join the association; planned a program of action; and implemented planned activities, monitored violations, and actively reported violators to authorities (Stages 1 to 4). At the time of the study, doer community members had limited marketing and monitoring activities of the process and impact of the program.

On the other hand, the comparison municipality is still in the process of defining and formulating a municipal environmental agenda. Although some line agencies and units of the local government engage in environmental activities, they receive no programmed direction from the municipality. Moreover, most of the respondents did not consider the degradation of natural resources as a serious problem, as long as something, like tree planting, is being done. The LGU decision-makers themselves did not perceive as alarming the present state of the environment in their own locality. Some reported that the condition of the environment in Palawan is still all right compared to that of the other places like Cebu. Similarly, non-doer community members generally did not consider the state of local natural resources to be critical. Moreover, they did not join a *samahan* devoted to the protection and management of local resources.

Nevertheless, across groups, the common environmental values held included a sense of personal responsibility for arresting the degraded state of natural resources, the value of working together to solve a shared problem, the belief that nature is God's gift and the way to show gratitude for such gift is to ensure that the future generation will enjoy the same bounty.

Factors which motivate doers most to take positive action

Across sample groups (LGU officials, opinion leaders, community members), a number of factors which motivate doers most to take positive action have been identified (*see Chart A*). These factors are LGU support, understanding of environmental problems, environmental values, beliefs and practices, consistent enforcement of environmental laws/ordinances, and access to technical support services and training. Specifically, LGU decision-makers underscored the existence of clear-cut environmental laws/ordinances, access to appropriate technology, access to credit and financing, willingness to invest personal time, money or materials, maintenance of smooth interpersonal relations, and increased family income from positive environmental action as equally crucial factors in motivating doers to take positive action.

Opinion leaders concurred with the LGU officials on the additional factors which motivate doers most to take positive action, except for factors such as the existence of environmental laws and access to credit and financing. Opinion leaders also considered crucial the approval and support of family members or influential community members in the conduct of environmentally positive actions. Meanwhile, opinion leaders and community members from interior barangays or upland areas considered access to appropriate technology, technical support services and training crucial (*see Chart B*). Among the community members, the primary factors considered to lead toward a positive environmental behavior include awareness of environmental ordinances or policies (*see Chart E*).

Factors which demotivate non-doers most and influence them not only to be passive but also to take negative actions

LGU decision-makers of the non-doer municipality considered political differences and factionalism as two of the most demotivating factors for taking environmental action. LGU decision-makers claimed that the involvement of some local officials in illegal activities has by and large influenced them to take either a passive attitude or negative action in relation to the environment. In other words, the bad example set by some officials demotivate LGU decision-makers to take positive action towards

the environment.

Opinion leaders believe that non-doers take either passive attitude or negative actions because of a number of factors: (1) limited knowledge of the effects of environmental destruction; (2) the perception that local resources are God-given for everyone to avail oneself of; (3) ignorance of environmental laws or ordinances; (4) lack of LGU support; (5) no access to appropriate technology; (6) lack of technical support services and training; (7) unwillingness to invest personal time and money or materials; (8) absence of support from members of the family; (9) fear of social disapproval; and, (10) having no assurance that environmental action will lead to an increase in family income.

An observable tendency among community members is an unwillingness to participate in environmental action when they perceive that the technology introduced is inappropriate to their needs and local conditions; when there is no assured provision for credit or financing of planned projects; when the demand on time, money or materials is beyond tolerable limits; when environmental action does not result in higher income for their family; and when there is no social recognition and approval of the actions they have taken (*see Chart F*).

Understanding of environmental laws and regulations

Except for the non-doer LGU, doers and non-doers across sample groups considered the understanding of environmental laws and regulations as a critical factor in the performance of ideal behaviors. Participants of the study have uniformedly cited the lack of clarity in the provisions of the Local Government Code and how the lack of implementing guidelines has caused confusion and conflicts among parties involved. Consequently, they have raised the urgent need first to define the functions and responsibilities of various environmental bodies such as the DENR and the PCSD, and second, to assess their impact on the local government's environmental initiatives. In particular, some respondents in San Vicente commented that the case on the communal forest need to be resolved. Futhermore, they stressed the importance of unifying the provincial and municipal policies on communal farming with the national policies of the DENR.

Impact of knowledge about a depleted/degraded natural resource on the performance of the ideal behaviors

Doer respondents in general realized that there is a serious degradation of natural resources and this realization motivated them to engage in a positive environmental action. Doers not only accepted personal responsibility for the care of the environment, but also influenced others to be involved in environmental action. They pointed out that part of the reason which motivated them to protect the environment was to ensure a good future for their children and the coming generations.

On the other hand, non-doers, while acknowledging that the environment is not as good as it once was, believed that the state of their immediate environment is not really grave. Consequently, they did not feel the urgency to do something about the environment. It was observed that non-doers were more inclined to adopt a fatalistic view, that is, what will happen will happen. Nonetheless, they were convinced that unless alternative sources of income are provided, people will continue to exploit the resources in the same way they are doing now.

Benefits that motivate the performance of ideal behaviors

LGU decision-makers in both doer and non-doer municipalities and by the doer and non-doer community members recognized a number of benefits that could be derived from the performance of ideal behaviors (*see Chart I*). Among the most important benefits they have identified are the reduction of illegal activities, the efficient and equitable use of local resources, improved socioeconomic and health condition of the community, and increased local government revenues.

Among community members, the sense of satisfaction for having helped is at the top of the list of benefits that could be gained from the performance of ideal behaviors. Also included among these benefits is a happy family due to the promise of abundant harvest and increased income. Similarly, community members found the approval and admiration by others and being recognized (*kilala*) as equally gratifying gains. On the more practical side, community members identified easier access to loans, having access to services from line agencies, acquisition of

knowledge, and improved skills in communication and public relations as gainfully useful proceeds emanating from the performance of ideal behaviors.

Disadvantages that hinder the performance of ideal behaviors

Participants of the study also acknowledged that the performance of ideal behaviors carried with it a considerable amount of risks and disadvantages while it provided them many benefits. Of the undesirable consequences that participants have experienced from doing environmental actions, the most widely recognized included the demand of such undertaking on their time and family resources, the removal of a potentially profitable source of business from logging or illegal methods of fishing, and its potential for creating conflict among community members and making enemies of each other (*marami ang kalaban*).

Characteristics of persons active in environmental affairs

Persons active in environmental affairs have been observed to possess a number of distinguishing traits and characteristics and participants of the study have recognized these qualities (see *Chart H*). To doer opinion leaders, a person who is active in environmental affairs is one who is involved in an environmental project, not engaged in an illegal activity. Such a person obeys environmental policies and ordinances. Moreover, he/she is a member of a *samahan*. Most importantly, he/she exhibits a willingness to put in time for association activities.

Doer community members described a person active in environmental affairs as one possessing a number of the following desirable characteristics. First and foremost, such a person belongs to the community and one everybody can identify with. In the words of the respondents, this person is "small like us," yet one who does not resort to illegal activities. Furthermore, this person exhibits not just a concern for the community and the good of the majority, but of the quality of the environment for the next generation. He/she is law-abiding and obeys rules and ordinances while actively participating in community affairs such as patrolling the area and reporting violations. To the respondents, an equally vital quality of this person is incorruptibility and integrity. In other words,

he/she is not swayed by bribe money (*lagay*) or personal requests (*pakiusap*) especially by influential members of the community (*padrino* system). On the more practical side, this person has the ability to solicit support from the government; and influence others to join a *samahan*. Finally, as an active member of a *samahan*, he/she is involved in an environmental project.

Non-doer opinion leaders characterized a person active in environmental affairs as one who monitors and reports violations, is a member of a *samahan*, and attends seminars on environmental protection and management.

Interestingly, to non-doer community members, the picture of a person active in local resource management is one who is not so poor and deprived, as well as sociable and outgoing rather than shy or withdrawn. To this group of respondents, a person active in local resource management refrains from doing actions that destroy the environment but a doer who always matches his/her plans with actions. He/she attends *samahan* meetings and has knowledge and skills to share. Respondents of this group observed that a person active in environmental affairs often has been a victim of natural-disaster. This person is involved in environmental projects, and, finally, he/she possesses a global outlook.

The role that social pressure/social norms plays in doer and non-doer behavior

Participants of this study viewed invariably the way social pressure/social norms influences doer and nondoer behavior. Doer LGU decision-makers as well as doer and non-doer opinion leaders rated social approval and maintenance of smooth interpersonal relations crucial factors in influencing people's involvement in environmental management.

By contrast, doer and non-doer community members stressed the need for members of the *samahan* to play down the tendency to maintain smooth interpersonal relations and to gain social approval if the rules and guidelines for local environmental protection were to be implemented effectively. To these respondents, monitoring and actual reporting of violations require personal disregard of blood or social relations. Nevertheless, they considered the importance of tactfulness and diplomacy in handling cases of violations and apprehensions.

Perceived barriers/obstacles that hamper active participation in environmental issues/concerns

Participants of this study have pointed out that active participation in environmental issues/concerns has been undermined by a number of negative factors (see *Chart J*). To LGU decision makers, one of the detriments to active participation in environmental concerns is the fear of reprisals when violators are "big people." For the most part, this fear has prevented the effective apprehension of violators and allowed the proliferation of other violations. On the personal side, the lack of understanding of one's role in an association, the perception that the environmental task is not urgent, and the lack of will to bring about changes have proved equally deleterious to the community's environmental undertakings. Added to these problems are the lack of funds and technical support staff. As well, the non-dissemination of information about environmental policies and laws, the inconsistencies in the actions of government units (such as between the DENR and the local government), and the absence of regular follow-up by government representatives on the initiatives taken by the community residents have all conspired to dampen people's enthusiasm to participate actively in environmental affairs.

Opinion leaders for their part considered lack of time, absence of personal commitment, lack of funds and inadequate logistics, and lack of qualified support staff as obstacles to active participation in local resource management.

Among community members, meanwhile, the perception that environment policies apply only to "small people," and that government officials are also engaged in illegal environmental practices have proved to be a deterrent to active participation in environmental concerns. Respondents in this group also pointed to the daily concerns of survival such as the absence of alternative sources of income and the absorption in basic day-to-day affairs as contributing to the people's lack of enthusiasm to spare time, money, or materials for community involvement. To the respondents, aggravating this problem is the ordinary community members' own belief that the environment is for people to exploit. On the one hand,

people lack appreciation for the gravity of the environmental problem which gives them no sense of urgency to engage in a positive behavior toward the environment. On the other hand, their experiences of failure in community projects and the feeling that "there is nothing [I] can do to change the situation," fills them with a sense of overwhelming powerlessness and helplessness which prevents them from fully involving themselves in any environmental undertakings.

Perceptions of self-efficacy in performing ideal behaviors

In assessing their own performance in relation to environmental tasks, non-doer community members reported that without solid support from the local government, they cannot possibly engage in activities that will make a difference to the state of the local environment. They disclosed that they can barely fend for themselves and are no match to people of means and power--those who have motorized boats, four-wheel drive vehicles, arms and bodyguards. Besides, they felt that there were some projects in the past that did not work and were subsequently abandoned. Given these experiences, they would, according to them, much rather give all their time and energy to their own family's subsistence needs.

Doer community members, on the other hand, showed interest and determination when their own immediate neighbors, close friends and relatives got involved in the *samahan*. Convinced of the need to work together to solve a common problem and to do something for the future of their own children, they decided to join the association and somehow found strength in the presence of others.

Skills needed to perform ideal behaviors

In the performance of ideal behaviors, participants of the study realized that a number of skills are needed (see *Chart K*). LGU officials and community members underscored the importance of a set of skills necessary for people to perform ideal environment behaviors. LGU decision makers stressed the need for skills training in a variety of areas such as presiding community consultations and meetings, reading and comprehension, interpersonal relations, technical expertise or know-how in environmental projects, program management, generating revenues for

environmental programs, sensitivity towards local norms and culture, critical thinking and problem-solving, and oral communication.

Similarly, community members emphasized the importance of training for skills in the aspects of community organizing, interpersonal relations, oral communication, conducting meetings, time management, problem-solving, assertiveness, networking, program management and leadership, technical know-how in environmental projects, and in using a two-way radio communication system.

Gender differences in the factors that motivate actions toward the environment

In assessing the factors that influence behavior toward the environment, male and female participants of the study revealed some divergences in their perceptions which appeared attributable to gender differences. These divergences were observable in the responses of the participants using the following criteria for their evaluation: (3 = Crucial, 2 = Important, 1 = Helpful).

In assigning the relative importance of several factors such as (1) the existence of environmental laws, (2) the enforcement of such laws, and (3) the technical support services and training in influencing actions toward the environment, women, in general, rated them as **crucial**. Men, in general, rated these three factors **important**. Women community members rated the maintenance of smooth interpersonal relations **important** while men rated this factor **helpful**. (*See Chart B*).

Women compared the environment to a child who needs special care and attention in order to grow healthy and strong. Men, on the other hand, looked at the environment as a provider and as such deserves care and attention because of the benefits which can be had from nature. Women generally thought that the state of the environment requires immediate attention; men usually viewed the problem of the environment as still within tolerable limits. Women readily accepted the care of the environment as every individual's responsibility; men generally expected that other people and groups work together and do their share in taking care of the environment (*see Chart L*).

Women emphasized the skills of team work and cooperation in groups; men generally were oriented towards technical skills training for

each individual.

In the area of development programs, women generally thought of social services such as health and education for their family and children while men generally thought of infrastructure programs, like roads and bridges. While women generally considered livelihood programs as alternatives to farming or fishing; men had in mind industry programs like silica mine, pearl farm, and ecotourism.

In making any commitment to participate in projects that demand time, money or materials, women considered seriously how time and resources for children and spouse will be affected by the planned participation. By contrast, men readily committed to participate and did not consider time for spouse and children a constraint to involvement in environment conservation projects.

Effective and efficient channels of communication

In *Chart M*, participants of the study listed the trusted sources of information and currently accessed channels of communication. To many of the respondents, information from local government officials, like the barangay captain, council members, municipal mayor, purok president, or the barangay tanod are considered reliable. Information about the environment coming from outside their community is acceptable, but respondents insisted that this has to be given in coordination with barangay or municipal officials. While radio is the most common channel of communication, soap opera is the most popular radio show. News, commentary, public service broadcasts, and basketball are the other favored shows.

In rating media personalities, the people's choice of an announcer or media spokesperson depended on the following criteria: experience in media work, knowledge of current public issues, a good sense of humor, willingness to accommodate public service requests, has a following or solid audience, and leads a "clean life".

Attitudes/opinions about the fish sanctuaries

Men, in general, were more knowledgeable than women about the construction, boundaries and technical details of the sanctuary established

in their locality. Both men and women, however, knew about the purpose for the establishment of a sanctuary. Locally, the sanctuary is referred to as the *paitlogan ng isda* (where fish breeds) or *pinuy-anan sa isda* (where fish takes shelter).

The members of fisherfolk associations themselves petitioned for the creation of a fish sanctuary in their community. The decision came about after several meetings in which they discussed the nature and purpose of a fish sanctuary, the benefits to be gained from it, and the responsibilities members had to take. Members generally abided by the rules or policies on the sanctuary formulated by the association members themselves.

Local association members monitored and reported violations of the fish sanctuary guidelines. Monitoring entailed putting in time to patrol the area regularly. Minor violations were directly dealt with by those who patrol the area. Major violations, however, were reported to the local police through the barangay captain or the Resource Management Center (RMC) staff. The availability of a two-way radio hastens the apprehension process. However, in places where no radio system is available, violators sometimes go scot-free.

The sanctuary also reinforced the territorial behavior of association members. For instance, association members can drive away a *dayuhan* (stranger) from their fishing ground by claiming that the area is still part of their sanctuary (even when it is not). The term *dayuhan* is used by *samahan* members in a limited, exclusivistic sense to refer to anyone who does not belong to the immediate fishing group and is therefore considered a member of an outgroup. In this context, *dayuhan* refers to others who live in an adjacent upland, lowland, or coastal sitio or barangay who are not in the in-group of local fishers.

Attitudes and opinions about development plans

Participants of the study generally viewed development programs as sources of opportunities for employment, economic advancement, and basic infrastructure services such as transportation, roads and bridges. LGUs emphasized that development programs should not be done at the expense of the environment. However, respondents recognized that there

are trade-offs to development, like erosion, siltation, and pollution. Study participants were in accord in stressing that development programs must benefit a greater number of people and should strictly adhere to the environmental impact system.❖

A. Assessment of Factors which Influence People's Involvement in Environmental Management Classified by Doer-Nondoer Category (GreenCOM Study, Palawan Sample, May 1996)

	DOERS			NONDOERS		
FACTORS	LGU	Opinion Leaders	Community Members	LGU	Opinion Leaders	Community Members
1. Values, beliefs and practices	C	C	C	H	C	C
2. Understanding of environmental laws	C	C	C	I	C	C
3. Existence of environmental laws and ordinances	C	I	C	I	C	I
4. Enforcement of environmental laws and ordinances	C	C	C	I	I	C
5. LGU support	C	C	C	I	C	C
6. Access to appropriate technology	C	C	I	I	C	I
7. Access to technical support services and training	C	C	C	I	C	I
8. Access to credit, financing	C	I	I	I	I	I
9. Personal investment of time, money and materials	C	C	I	I	C	I
10. Approval/support of family or influentials	I	C	I	H	C	I
11. Maintenance of smooth interpersonal relations	C	C	H	H	C	I
12. Increased family income	C	C	I	H	C	I
13. Traditional folk beliefs	H	I	H	H	H	H

Legend: C = Crucial, I = Important, H = Helpful

B. Assessment of Factors which Influence People's Involvement in Environmental Management Classified by Gender and Sources of Data (GreenCOM Study, Palawan Sample, May 1996)

	Women			Men		
FACTORS	LGU	Opinion Leaders	Community Members	LGU	Opinion Leaders	Community Members
1. Values, beliefs and practices	I	C	C	I	C	C
2. Understanding of environmental laws	I	C	C	C	C	I
3. Existence of environmental laws and ordinances	I	C	C	I	I	C
4. Enforcement of environmental laws and ordinances	I	C	C	I	I	C
5. LGU support	C	C	C	C	I	C
6. Access to appropriate technology	I	C	I	I	C	I
7. Access to technical support services and training	I	C	C	I	C	I
8. Access to credit, financing	I	I	I	C	I	I
9. Personal investment of time, money and materials	I	C	I	I	C	I
10. Approval/support of family or influentials	I	C	I	I	C	I
11. Maintenance of smooth interpersonal relations	I	C	I	I	C	H
12. Increased family income	I	C	I	I	C	I
13. Traditional folk beliefs	H	I	H	H	H	H

Legend: C = Crucial, I = Important, H = Helpful

C. Assessment of Factors which Influence People's Involvement in Environmental Management Classified by Location and Sources of Data (GreenCOM Study, Palawan Sample, May 1996)

	Barangay/Upland			Poblacion/Coastal		
FACTORS	LGU	Opinion Leaders	Community Members	LGU	Opinion Leaders	Community Members
1. Values, beliefs and practices	I	C	C	I	C	C
2. Understanding of environmental laws	I	C	C	C	C	C
3. Existence of environmental laws and ordinances	I	C	C	C	C	C
4. Enforcement of environmental laws and ordinances	C	C	I	I	C	C
5. LGU support	C	C	C	C	C	C
6. Access to appropriate technology	I	C	C	I	C	I
7. Access to technical support services and training	I	C	C	I	I	C
8. Access to credit, financing	I	C	H	C	C	I
9. Personal investment of time, money and materials	I	C	I	C	C	C
10. Approval/support of family or influentials	I	C	I	I	C	I
11. Maintenance of smooth interpersonal relations	I	C	I	I	C	H
12. Increased family income	I	C	I	I	I	I
13. Traditional folk beliefs	H	I	H	H	H	H

Legend: C = Crucial, I = Important, H = Helpful

D. Actual Behaviors of a Doer LGU: San Vicente, Palawan (GreenCOM Study, Palawan Sample, May 1996)

STAGE 1: DECIDE TO PARTICIPATE/COMMIT

- Concern over deterioration of natural environment
- Sangguniang Bayan passes resolution for creation of Technical Assistance Office under the Office of the Mayor
- Commit resources/funds for proenvironment projects and activities
- Hire consultants and specialists
- Establish Resource Management Center
- Develop Strategic Environment Plan for San Vicente (SEP-SVP)

STAGE 2: ORGANIZE

- Municipal Mayor issues executive order for implementation of SEP-SVP
- Municipal Mayor enters into agreement with all barangays (10) of San Vicente
- Multidisciplinary teams conduct rapid rural appraisal (RRA) in all 10 barangays
- Present RRA output before barangay constituents for validation
- Conduct public hearings on environmental issues and concerns

STAGE 3: PLAN

- Conduct participatory planning workshop with representatives from national government agencies, provincial offices, Pos and municipal officers
- Formulate comprehensive framework plan for San Vicente
- Develop work program and budget of all municipal departments and special projects such as SEP-SVP
- Prepare work program and budget based on RRA results for all 10 barangays
- SB enacts resolutions requesting Pagdanan Multipurpose Cooperative, Inc. (PMCI) to waive the rights over a 5,000-ha forest within PMCI's

former concession area to the municipality of San Vicente for the purpose of a communal forest
- SB endorses Revised Comprehensive Zoning Ordinance (Land and Water Use Regulations) of San Vicente for reference and approval of Palawan Council for Sustainable Development

STAGE 4: IMPLEMENT

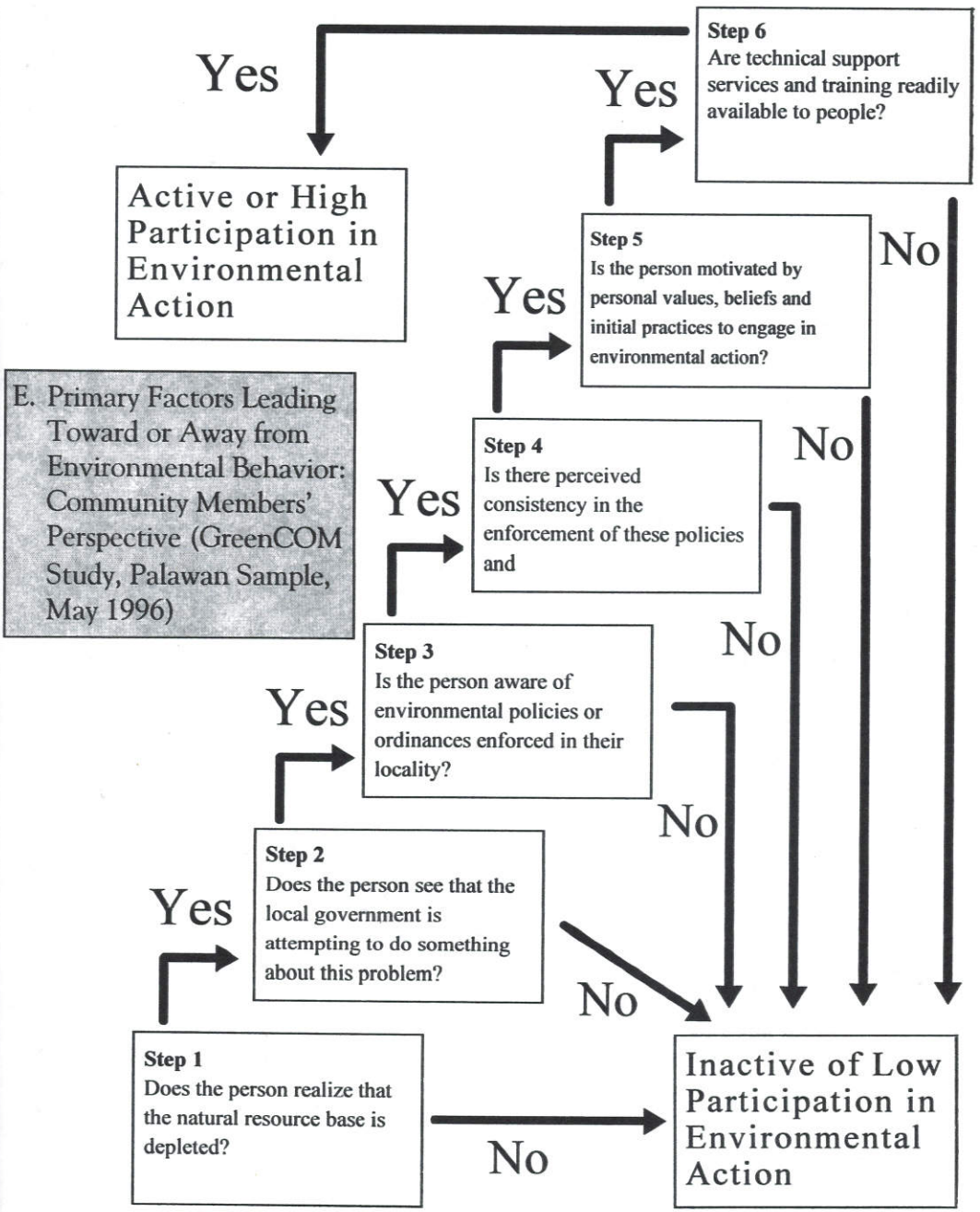
- Field community organizing specialists to five barangays (Caruray, Port Barton, Sto Niño, New Canipo and Binga)
- Expand program coverage to rest of barangays (New Villafria, Poblacion, New Agutaya, San Isidro and Alimanguan) as radiation areas
- Organization of 92 small working groups, 15 purok working groups, 34 sition associations and three federations
- Enable people's organizations to engage in activities for the protection and management of resources (e.g., reforestation, fish sanctuaries, artificial reefs, agroforestry, FADs)
- Operate logging activities in communal forest (Operation presently suspended pending resolution of illegal logging case filed by provincial DENR against coordinator/operator)
- Delegate coastal and forest resource protection to designated Bantay Dagat and Bantay Gubat at the community level
- Penalize people engaged in illegal coastal and forest activities
- Resolve conflicts related to resource use and environmental issues

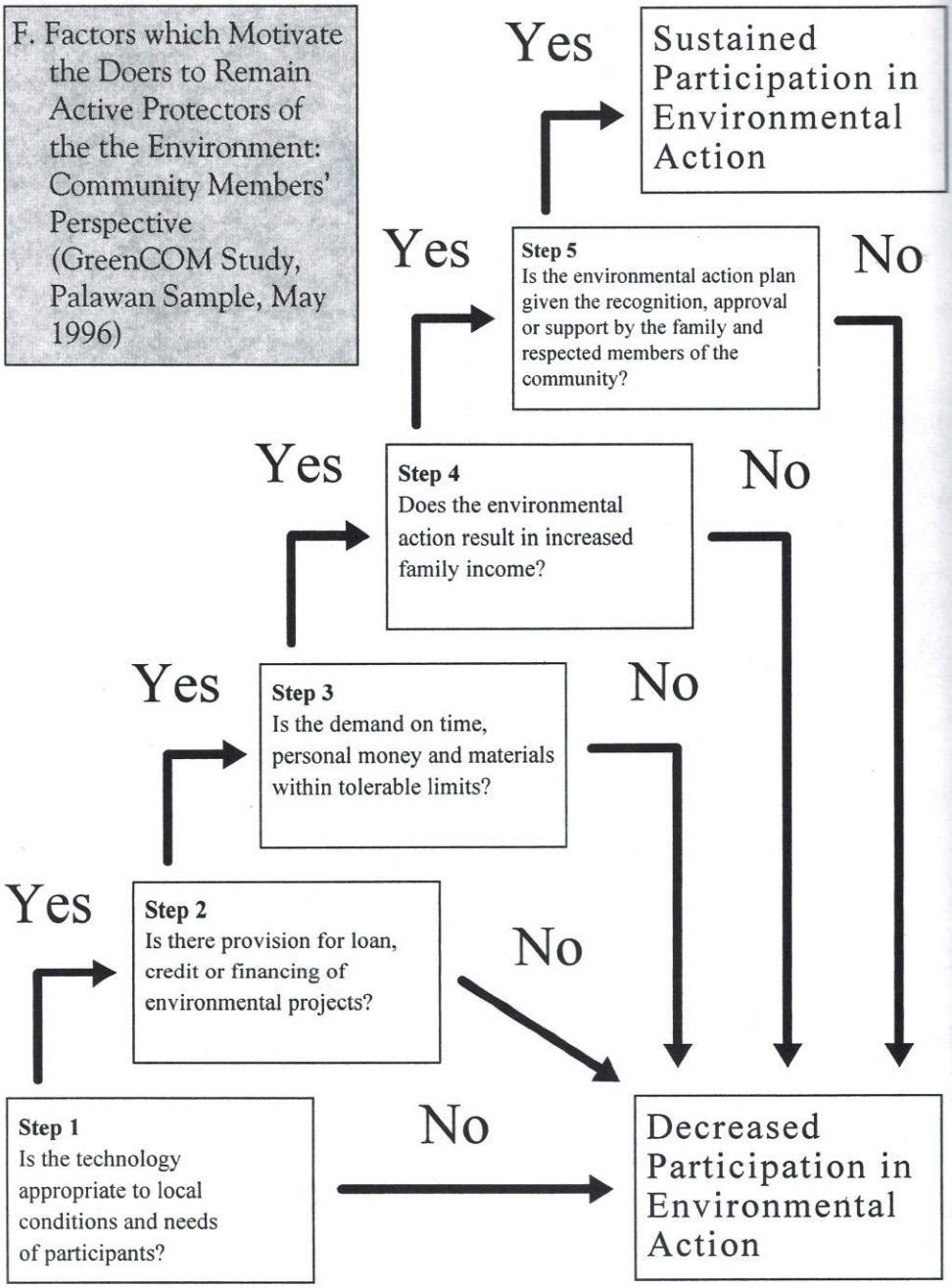
STAGE 5: MARKET

- Municipality collects income from logging operations in communal forest (Presently on hold due to case in court)

STAGE 6: MONITOR PROCESS AND IMPACT

- Limited follow-up and monitoring activities by RMC personnel due to lack of material and human resources


E. Primary Factors Leading Toward or Away from Environmental Behavior: Community Members' Perspective (GreenCOM Study, Palawan Sample, May 1996)
Step 1
Does the person realize that the natural resource base is depleted?
Yes
No
Step 2
Does the person see that the local government is attempting to do something about this problem?
Yes
No
Step 3
Is the person aware of environmental policies or ordinances enforced in their locality?
Yes
No
Step 4
Is there perceived consistency in the enforcement of these policies and
Yes
No
Step 5
Is the person motivated by personal values, beliefs and initial practices to engage in environmental action?
Yes
No
Step 6
Are technical support services and training readily available to people?
Yes
Active or High Participation in Environmental Action
Inactive of Low Participation in Environmental Action


F. Factors which Motivate the Doers to Remain Active Protectors of the the Environment: Community Members' Perspective (GreenCOM Study, Palawan Sample, May 1996)
Yes
Sustained Participation in Environmental Action
Yes
Step 5
Is the environmental action plan given the recognition, approval or support by the family and respected members of the community?
No
Yes
Step 4
Does the environmental action result in increased family income?
No
Yes
Step 3
Is the demand on time, personal money and materials within tolerable limits?
No
Yes
Step 2
Is there provision for loan, credit or financing of environmental projects?
No
Step 1
Is the technology appropriate to local conditions and needs of participants?
No
Decreased Participation in Environmental Action

G. Actual Behaviors of Community Members Involved in Resource Management: San Vicente, Palawan (GreenCOM Study, Palawan Sample, May 1996)

STAGE 1: DECIDE TO PARTICIPATE/COMMIT

- Express concern over destructive methods of fishing
- Inquire from RMC personnel and/or active members of the community what can be done to protect and manage local resources
- Convince other fisherfolk to attend barangay meetings on environmental issues

STAGE 2: ORGANIZE

- Constitute organization
- Elect officers
- Accept responsibility to protect and manage local resources (e.g., conduct sea patrols, report violators)
- Organize work groups within association
- Invite others to become members
- Coordinate with LGU representatives designated to carry out environmental programs and policies

STAGE 3: PLAN

- Pass resolution submitting work plan and budget to municipality
- Ask Municipal Mayor to officially designate members as Bantay Dagat
- Consider income-generating activities to minimize pressure on sea
- Obtain LGU support

STAGE 4: IMPLEMENT

- Assign members to monitor specific areas of the bay
- Coordinate with barangay and municipal officials on program activities
- Carry out activities based on work plan (e.g., construct Ars, establish fish sanctuary)
- Report violators)
- Hold continuing education meetings

STAGE 5: MARKET

- Contribute a portion of income from fish catch to association's environmental activities (e.g., purchase of bouys, construction of Ars)

STAGE 6: MONITOR PROCESS AND IMPACT

- Meeting among members to discuss progress on ongoing projects and outcome of monitoring activities

H. Characteristics of Persons Active in Environmental Affairs as Described by Doers and Nondoers (GreenCOM Study, Palawan Sample, May 1996)

DESCRIPTIONS GIVEN BY	
DOERS	**NONDOERS**
OPINION LEADERS	
• involved in environmental projects like tree planting, fish sanctuary	• monitors and reports violations
• not engaged in illegal activities	• member of a local proenvironment association
• obeys policies and ordinances	• attends seminars on environmental protection
• member of people's organization	
• willing to put in time	
COMMUNITY MEMBERS	
• is small like us but does not engage in illegal activities	• is not so poor or deprived
• thinks of common good, not just personal interests	• is not shy and withdrawn
• is concerned about the quality of environment for the next generation	• avoids activities that destroy the environment
• obeys rules, ordinances	• matches plans with actions
• patrols the area and reports violations	• attends association meetings
• is not swayed by *lagay, pakiusap, padrino* system	• has knowledge and skills to share
• receives logistical support from the local government	• has prior experience of disaster like flood
• does environmental activities like tree-planting, constructing ARs	• plants trees, constucts ARs and other environmental activities
• seeks membership in environment-oriented local association	• has a global outlook (*pangkalahatan na pananaw, hindi pansariling kapakanan*)
• persuades others to be involved in environmental activities	

I. Perceived Benefits from Being Active (GreenCOM Study, Palawan Sample, May 1996)

AS MENTIONED BY	
DOERS	**NONDOERS**
L G U	
• reduction of illegal activities	• people participation means savings in local government's personnel costs
• equity of benefits from resource use between big and small fisherfolk	• well-cared environment attracts more tourists
• communal forestry provided lumber for domesic use	• improved health conditions
• coordination between Pos and LGUs in environmental management leads to efficient use of human and material resources	• more projects will be developed
• more job opportunities	• increase in local government revenue
• improved socioeconomic condition in locality	• more job opportunities
	• improved socioeconomic condition in community
COMMUNITY MEMBERS	
• able to assist in minimizing illegal activities	• approval and admiration of local residents
• help others in attaining renewability and sustainability of resources	• feeling of satisfaction for having helped
• make family and others happy due to promise of abundant harvest and increased income	• better access to services from line agencies (DOH, DENR, DSWD)
• *kilala* (being recognized)	• can easily secure loan
	• added knowledge, learnings
	• improved skills in communication, public relations

J. Perceived Barriers to Participation in Environmental Protection and Management (GreenCOM Study, Palawan Sample, May 1996)

INTERNAL FACTORS	EXTERNAL FACTORS
L G U	
• fear of reprisals when violators are big people	• lack of funds
• lack of understanding about the process towards being active in environmental management	• lack of qualified technical staff
• degree of deterioration of natural environment is perceived not to merit urgent response	• no dissemination of information about environmental policies and laws
• frame of reference is a highly degraded environment (like Cebu) and not a best possible scenario which results in a reactive rather than proactive environment behavior	• inconsistency in the actions of government units (e.g., local government and DENR)
• lack of will to effect changes	• no regular follow-up by government representatives on initiatives taken by community
OPINION LEADERS	
• lack of time	• lack of funds, inadequate logistics
• no personal commitment	• lack of qualified staff
COMMUNITY MEMBERS	
• utilitarian view of the environment ("the resources are ours for the taking")	• in-migration; increase in population
• farming/fishing is the only means of livelihood for the the family	• lack of coordination between LGU and line agencies
• belief that: environmental policies are for "small" people to obey, "big" people can go around these; government officials are themselves engaged in illegal activities	• cultural practices/values: *lagay, palakasan, pakikisama, utang na loob*
• no clear understanding of the complexity of the environmental problem	• no access to social, technical and support services
• absorbed in day-to-day basic concerns	• no logistics for basic facilities/equipment to protect the environment
• no time, money and resources for community involvement	• experiences of failure in community projects
• sense of powerlessness/helplessness ("there is nothing I can do to change the situation")	
• no sense of urgency to engage in environmental behavior	

K. Skills Needed to Be Active in Environmental Management (GreenCOM Study, Palawan Sample, May 1996)

LGU OFFICIALS SHOULD HAVE:

- Skills in the conduct of consultations with local people, other government officials, agency representatives
- Reading and comprehension skills to understand provisions related to the environment
- Interpersonal skills--diplomacy, smooth interpersonal relations (SIR)
- Technical know-how of any of the strategies or activities related to environmental protection and management
- Program management skills--planning, organizing, staffing, leading, controlling
- Skill at generating revenues for environmental programs
- Sensitivity towards the role of sociocultural factors in environmental management
- Critical thinking and problem-solving skills
- Oral communication skills--how best to impart knowledge about the environment

COMMUNITY MEMBERS SHOULD HAVE:

- Community organizing skills
- Interpersonal relations--tactfulness, diplomacy SIR
- Oral communication skills
- Skills to conduct community meetings
- Time management
- Problem-solving skills
- Assertiveness training
- Ability to coordinate with members of the association, local government officials and provincial/national agencies tasked to handle the environmental agenda
- Program management and leadership skills
- Technical skills on any of the programs, strategies, and activitieds related to environmental protection and management
- Training on the use of two-way radio communication system

L. Gender Differences (GreenCOM Study, Palawan Sample, May 1996)

Women and men do not differ widely in their assessment of various factors that influence environmental behavior. However:	
WOMEN	**MEN**
INFLUENCING FACTORS	
• women in general rated Crucial the factos: existence of environmental laws; enforcement of laws; technical support services and training	• men in general rated these three factors Important
• women community members rated smooth interpersonal relations (SIR) Important	• men community members rated SIR Helpful
CONCEPT OF ENVIRONMENT	
• women generally think that the state of the environment require immediate attention	• men usually view the problem of the environment as still within control
• women readily accept the care of the environment as one's own responsibility	• men generally demand that other people and groups work together
• women liken the environment to a child that needs special care and attention in order to grow healthy and strong	• men look at the environment as a provider and that it deserves care and attention because of the benefit enjoyed at present and in the past
SKILLS NEEDED	
• women emphasize the skills of team work and cooperation	• men generally are oriented towards individual skills training (technical)
DEVELOPMENT PROGRAMS	
• women generally think of social services for their children (e.g., health, education services)	• men generally favor infrastructure development programs (e.g., roads, bridges)
• women generally think of livelihood programs as alternatives to farming or fishing	• men usually think of industry programs (e.g., silica mine, pearl farm or ecotourism
• women's participation in projects that demand time, money and materials is generally worked out with spouse and children	• men readily commit participation in programs that demand time, money and materials and not consider time for spouse and children a hindrance

M. Preferred Channels of Communication (GreenCOM Study, Palawan Sample, May 1996)

1. Mass Media

Radio	DZRH (Manila) DWRM (Manila) DZMM (Manila) DWBL (Manila) DYPR (Palawan)
Preferred Programs	Drama News Commentary Public Service Basketball
Reading Materials	*Liwayway* *Komiks*
Video	Beta or VHS films shown in local video houses
2. Local government units	DENR RMC Municipal Mayor's Office Barangay Council
3. Individuals	Municipal Mayor Sangguniang Bayan member identified with environmental programs Barangay Captain Purok President Leaders of samahan RMC field personnel Priest Teacher

PERSPECTIVES ON ENVIRONMENTAL AWARENESS AND ACTIONS: A COMPARATIVE STUDY OF TWO LOCAL GOVERNMENT UNITS[1]

Enrique G. Oracion

WHY DO TWO NEIGHBORING COMMUNITIES relate differently to the environment where they are located? And why is one community more able than the other to develop and maintain a sustainable and community-based environmental program? In order to answer these questions, a comparative analysis of the local officials' perceptions about programs and concerns related to environmental protection and management was conducted on two local government units in northern Palawan, specifically San Vicente and an adjoining municipality. This adjoining municipality, is in the eastern side of northern Palawan while San Vicente is in the western side. Both municipalities have coastal and marine areas.

From May 12 to 27, 1996, twenty nine heads of local government offices, comprising 17 males and 12 females were interviewed. Of this total, fifteen respondents came from San Vicente, the community which has pursued a Strategic Environmental Plan-San Vicente Project (SEP-SVP) and is considered, for purposes of this study, a "more environmentally active" municipality. Fourteen were local government officials from the adjoining town, a municipality considered "less environmentally active" as it has not generally pursued a unified environmental agenda for its constituency. More males rather than females head the government offices which would explain the greater number of male over female respondents particularly in San Vicente. The table below shows the distribution of the respondents by the offices they represented.

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[1] This paper is based on the data gathered by the author in San Vicente and by Susan Gavino who conducted the interview in the comparison municipality in Palawan. A detailed version is contained in the final report submitted to the Academy for Educational Development-Environmental Education and Communication Project (AED-GreenCom) which funded the research through a grant from USAID.

Table 1: Distribution of respondents by offices represented

San Vicente		Comparison Municipality	
Male	Female	Male	Female
Mayor	Municipal Council	Mayor	Local Government Operation
Municipal Council (2)			
Municipal Planning and Development	Municipal Social Services & Development	Municipal Council (3)	Human Resource Manager
Municipal Treasurer	Municipal Engineer	Municipal Planning and Development	Municipal Social Services & Development
Municipal Health	Municipal Assessor	Municipal Agriculture	Municipal Social Services
Municipal Agriculture	Municipal Registrar	Municipal Environment and Natural Resources	Municipal Registrar
Municipal Environment and Natural Resources			Municipal Accountant
Local National Police (under the DILG)			Municipal Budget Officer
Municipal Accountant			

The respondents were asked the same questions during the in-depth interviews. These interviews were conducted either at the respondents' respective offices or at another place they themselves chose at a time they considered most convenient. Questions were asked both in English and in the local dialects understood by the respondents (e.g. Tagalog, Cebuano, Ilonggo).

Data gathered from this study show that the respondents from the comparison municipality are older with an average age of 45.2 years, than those of San Vicente, with an average age of 42.8 years. Generally, the males are 14 years older (50.9 years) than the females (37.1 years). This difference in age may imply that prominent positions in the government, usually political, are held by older residents, especially male, particularly in remote traditional communities like San Vicente and the comparison municipality All of the respondents are married and are generally degree holders, but female respondents had more years of schooling than their male counterpart. While all the female respondents have finished college, the four male respondents from both municipalities were only elementary and high school graduates. These male respondents were also generally older and may have been elected to their positions because of their prominence in the community. Despite being only undergraduates, these officials are able to hold public office because elected positions are not covered by civil service rules on educational qualifications,

All respondents are Catholics, except for one male respondent of San Vicente who is a Jehovah's Witness and two female respondents of the comparison community who are Baptists. Majority of the respondents from San Vicente are migrants from other provinces like Cebu, Cavite, Cagayan de Oro, Bicol, Panay, Leyte, Samar and Zamboanga del Sur while, those of the comparison community are from Negros Occidental and from other towns in Palawan and the city of Puerto Princesa (but the parents of the latter were migrants from other provinces). The respondents from the comparison municipality have been residents of this town longer ($\bar{x}$ = 21.93 years) than those of San Vicente ($\bar{x}$ = 8.85 years).

Data reveal that respondents from the comparison community have been in their present positions in the local government unit for about

4.64 years compared to 4.15 years of those from San Vicente. This fact also indicates that the local government officials of the adjacent municipality have been in government service longer than those of San Vicente (13.78 years and 12.9 years, respectively).

The same data also show that the local government officials of San Vicente are not as involved in community organizations as those of the adjacent community However, the local officials of this adjoining community did not generally describe themselves as active in these organizations. It is likely that the duties of all these local government officials do not allow them much time to be involved in other community activities aside from their official functions. Table 2 summarizes some characteristics of the local government officials of San Vicente and the adjacent community.

Table 2: Some characteristics of local government officials of San Vicente and the Comparison Municipality

Characteristics	San Vicente		Comparison Municipality	
	Male	Female	Male	Female
Number of Respondents	10	5	7	7
Age	49.8	35.8	52.0	38.43
Civil Status				
Single	0	0	0	0
Married	10	5	7	7
Education (Years)	13.0	14.2	12.7	13.7
Religion	Catholic Jehovah's Witness	Catholic	Catholic	Catholic, Baptist
Years of Residence	6.9	10.8	22.71	21.14
Place of Origin	Puerto Princesa, Cebu, Cavite, Cagayan de Oro, Bicol, Palawan, Aklan	Leyte, Ormoc, Zamboanga del Sur, Samar, Palawan	Puerto Princesa, Negros Occidental, Palawan Province	Puerto Princesa Palawan Province
Years in present position in public office	4.9	3.4	3.86	5.43
Years in public office	13.8	12	15.14	12.43
Active Membership in community organization (Number)	0.4	1	1.43	0.86

Awareness of Environmental Conditions and Problems

Generally, the local government officials of San Vicente and the comparison municipality could not agree whether their respective environmental conditions are damaged or not. For example, respondents from the comparison municipality who are exposed to the same environmental condition considered their environment (both coastal and marine) as both damaged and not damaged. Those who perceived it as really damaged considered the role of human activities in the destruction. These respondents pointed out examples of damaged conditions such as soil erosion during rainy season, destruction of the coral reefs, and decrease in supply of fish and fingerlings. They believed these conditions have affected the local economy negatively (*may kahirapan*).

Meanwhile, respondents from San Vicente assessed the environmental condition of the community in terms of the effects of the interventions made by the local government. Although they also considered the environmental condition of San Vicente as either partly devastated or rehabilitated, most of them claimed that the abusive use of resources is gradually decreasing because of environmental programs such as rehabilitation projects and preventive programs which have been initiated in the community. In other words, according to the respondents, if it were not only for the interventions being undertaken, the deterioration of the environment of San Vicente would have become as serious as the situation before the environmental program was introduced.

Both communities blamed the destruction of their environment on illegal cutting of trees and *kaingin* in the forest areas, illegal fishing, and over-fishing in the marine areas. Illegal fishing includes the use of cyanide and dynamite which damage the corals and other marine life while over-fishing is caused by purse seiner and other devices, like compressor and electrical lights which are commercial in scale. These devices do not only capture young fish, but also destroy the corals. Although the abuse of environmental resources, particularly the use of dynamite, cyanide, and compressor had been reduced in San Vicente, the practice continues to proliferate in the adjoining town.

According to the respondents, these illegal activities are not only done by residents of the community, but also by migrants. It was reported that recent arrivals in the community usually open a forest area for farming by "slash-and-burn" method. Meanwhile, some of those who engage in illegal fishing are reported to be transient fisherfolk who do not stay long in the community. A respondent from the adjoining community said that they come from Mindoro and Cavite and from other provinces. This is also true in the case of San Vicente.

This observation, however, has little bearing on the two communities' assessment of the seriousness of the problem. The local government officials of both municipalities did not consider the environmental problem serious (*walang masyadong problema*), particularly when they compared their situation with other places. Those who said that the condition is all right (*ayos pa*) cited figures such as the forest cover is still 75% to 80% intact and coral areas within three miles from the shoreline are "okay." Therefore, according to the respondents from the comparison municipality, the condition is not really that alarming as the situation in other provinces like Cebu. According to them, the condition has not yet reached a critical stage when resources would be very scarce and life would become very difficult. Both respondent groups indicated that there are still resources available and pointed out that something is being done to check the deteriorating condition. However, they believed that the condition will inevitably worsen if no interventions are introduced immediately.

Realization of Local Environmental Functions

The local government officials of both San Vicente and the comparison municipality are aware of the existence of the Local Government Code of 1991 and of several changes which have taken place in both municipalities since its implementation. In particular, the respondents mentioned the devolution process and its effect on local funding. This process has also placed several offices from the national level under the local administration, a move which has financially burdened the local governments.

One of the provisions of this Code is the protection and management of environmental resources. In response to this provision, the local government of San Vicente established its environmental program known as Strategic Environmental Plan-San Vicente Project (SEP-SVP) whose over-riding strategy is community-based resource management. All local government units, barangay officials, and representatives from the people's organizations were involved during the data-gathering (rural rapid appraisal) and planning stages of the program.

However, similar efforts have yet to be undertaken in the comparison municipality In fact, the local government officials of this community could not agree among themselves whether the local environmental functions are already in place. Moreover, respondents reported that although the legislative body of the comparison municipality tried to do the task, it is faced with the problem related to the varying interpretations of the provisions of the Local Government Code. This awkward state of affairs is exemplified by the number of different offices managing several environmental projects being undertaken in the adjoining town. In addition to poor coordination, these environmental projects, according to the respondents of this community, are further hampered by either the lack of funds or, if there are any, by the delay in their release. Respondents from the comparison municipality claimed that the previous administration, more than what the present has ever accomplished, had initiated more projects, a number of which concerned the environment.

Needless to say, there are lots of gray areas in the local government environmental functions that have to be resolved. For example, the mayor of San Vicente pointed to the alleged interference of the Department of Environment and Natural Resources (DENR) on the activities of the local government related to the operation of its environmental program, like the communal forest project, which resulted in a court case. Meanwhile, some respondents of the comparison municipality are disappointed with their local officials for allowing the provincial government to take over the local mining activities which have been supposedly devolved. In their perception, the "local government units are given the responsibility to take care of their own environment, but without the authority" to manage their

own programs even if this is mandated by the local government code. It is the widespread belief that unless these conflicting interpretations of the local government code are clarified, the community's development programs have little chance of succeeding.

Local government officials of both municipalities are aware of the applicability of national policies and laws on the environment of San Vicente and the adjoining municipality. According to the respondents, these policies serve as basis for their actions if no local ordinances are available. For example, among the legal initiatives that have been undertaken in these areas is the introduction of laws on the total log ban, prohibition of illegal activities in the forest, illegal fishing with the use of dynamite and cyanide, and the prohibition of commercial fishing in municipal waters. All local ordinances passed by San Vicente and the comparison municipality have similar concerns except one. While the adjacent town established communal fishing grounds where all fishing activities, as long as they are legal, are allowed, San Vicente established fish sanctuaries where the "no fishing policy" is imposed. According to the respondents of both municipalities, they have ordinances prohibiting the use of compressor, strong electrical lights, cyanide, and dynamite in fishing, and illegal cutting of trees.

Respondents from the comparison community reported two ordinances which are not found in San Vicente: one, the regulation which requires the location of rice mills away from residential areas because of pollution; and two, the prohibition on washing of chemical sprayers in rivers. For its part, San Vicente has developed a proposed land and water use for a zoning ordinance in connection with the Environmentally Critical Areas Network (ECAN) project presently in progress. Similarly, the adjacent municipality is involved in ECAN which is actually a province-wide project. ECAN delineates areas in the community according to their uses and prohibits any illegal utilization of resources in these areas.

Except for one official who had personally encountered an incident involving a breach of the local environmental law, the local government officials of San Vicente and the adjoining town are surprisingly unaware of any laws or policies that run counter to their own policies on sound environmental management. Yet, it was evident in San Vicente, for

example, that the quarrying of sand and gravel and the operation of silica mining in the shoreline through open pit system had worsened erosion and siltation problems in the area. The same problem is also experienced in the comparison municipality. These environmental problems have attracted negative reactions from the community in San Vicente.

Respondents of both communities differed markedly in their views regarding the issue of responsibility over environmental problems. On the one hand, the local government officials of San Vicente considered the task of solving environmental problems as the responsibility of the people and the community. They explained that such task is the major responsibility of the people because they are directly affected by the consequences of environmental problems like the scarcity of resources. However, they stressed the need for the community to be supported by the local government unit in order to enhance its capability to implement environmental programs.

On the other hand, although the respondents from the comparison municipality believed that solving environmental problem is the task of the government, they were not convinced this was the sole responsibility of the local government unit. Most of them mentioned the role of line agencies such as the Department of Environment and Natural Resources (DENR) and the Community Environment and Natural Resources (CENRO), and the support of the local agencies like the Philippine National Police (PNP), and the Municipal Agriculture Office (MAO) in solving environmental problems. Respondents from the comparison community believed that these government agencies are the most responsible organizations because they are mandated by law. Just recently, both municipalities of created the Municipal Environment and Natural Resources Office (MENRO) to monitor and regulate environmental activities in their respective areas.

Sectoral Participation in Environmental Affairs

In terms of community participation in environmental affairs, respondents of San Vicente considered their local government unit, the members of their community, and their people's organizations as active in the enforcement of environmental ordinances. Their claim is supported by

the number of apprehensions and cases of violations against illegal fishers and loggers filed by authorized agencies such as the Philippine National Police and by community members and people's organizations who monitor and report the violations. However, the respondents of San Vicente also explained that some violators who were not constant offenders or who did not commit a grave offense were not apprehended outright. They were either given lectures on environmental awareness or made to promise not to commit the same violation again. This information supports San Vicente's position that policing the environment also includes the task of making people aware of their responsibilities.

Although the respondents of the adjoining municipality claimed, in general, that the local government unit in their town is active in enforcing environmental ordinances, they did not describe the involvement of the community members, the non-government organizations, and the people's organizations. Their responses revealed that the enforcement of environmental ordinances in this town relied so much on the activities of the concerned government agencies. Such an attitude takes largely for granted the fact that the absence of support from the community could hamper the strict and serious enforcement of ordinances. By and large, these observations tend to cast doubt on the ability of the local government unit of the comparison municipality in enforcing local environmental ordinances.

As mentioned earlier, most of the environmental projects in San Vicente have been implemented in coordination with the people's organizations in specific barangays. Respondents from this municipality stressed that project implementation came only after members of the community had been organized to actualize and to maintain projects considered appropriate to the local conditions. Most of these are in the marine areas and include projects such as the construction of fish-attracting devices, the establishment of fish sanctuary, development of artificial reefs, the introduction of fish cage technology, and other related projects. The only major project reported in the upland areas of San Vicente includes the designation of a communal forest where regulated forest use could be done by the people's organizations in the area and reforestation, particularly in individual farm lots not suited for agriculture use.

All of these projects mentioned above were initiated by the local government of San Vicente through the Resource Management Center (RMC) and other agencies in the municipality like the Municipal Agriculture Office (MAO) and the Second Palawan Integrated Area Development Project (SPIADP). Results showed that these projects had some success, particularly in the aspect of decreased illegal activities. Still, some respondents believed that much has yet to be done before one could really say with certainty that these projects are successful. For example, the operation of the communal forest for commercial disposal was reported as a failure. However, the failure was attributed not to the reluctance of the community to accept it, but to the intervention by the provincial office of the DENR which questioned the legality of cutting forest trees in the communal forest for commercial purposes. A case of illegal logging is now filed in court against two personnel of the Resource Management Center (RMC). The operation of the communal forest project has been stopped and the beneficiaries, particularly the Tagbanwas in the area who were involved in its operation, have been adversely affected by this negative turn of event Respondents involved in the communal forest project reported that these people have already started enjoying the benefits brought by this project such as increased income.

On the other hand, environmental projects in the comparison municipality are being managed by specific government agencies in the municipality like the Department of Environment and Natural Resources (DENR), the Community Environment and Natural Resources Office (CENRO), the Municipal Environment and Natural Resources Office (MENRO) and Municipal Agriculture Office (MAO). These projects include forest seedling distribution, communal forest, reforestation, hillside farming, mangrove reforestation, communal fishing ground, and dam construction. Yet, the local government officials of this town generally considered these projects unsuccessful because, according to them, these did not only solicit rejection from the community but also lacked supervision, monitoring, follow-up, and maintenance due to lack of funds. Some respondents reported that a number of residents in the area rejected projects like mangrove reforestation because these would obstruct their shell gathering activity. It was also reported that no specific community

organizations are actively involved either in managing the projects mentioned or in their implementation.

As far as community support for government environmental programs is concerned, the small fisherfolk and farmers of San Vicente, who have shown their concern for preserving nature through sustainable use, have been cited by the respondents as the most ecologically-aware sector. However, respondents also mentioned that some small fisherfolk and farmers were involved in illegal activities. It has been widely observed that dire needs (*pangangailangan at kahirapan*) usually force these people to resort to environmentally damaging practices. Meanwhile, those whose single personal interest is to make more money through environmentally-deleterious practices have been cited by the local government officials of San Vicente as the sector most unsupportive of any environmental initiatives. Included in the respondents' list of unsupportive groups are commercial fisherfolk and big business people who are also engaged in illegal activities, like illegal logging and the use of prohibited fishing equipment. In the same way, respondents from the adjoining municipality have also drawn a similar list identifying the groups least supportive of environmental projects.

Perceived Benefits and Barriers

Respondents generally considered the economic benefits for the people and the local government units as the favorable gains that can be expected from solving environmental problems. Local government officials of both municipalities believed that the success of the environmental programs will lead to sustainable use of resources and consequently increase people's employment opportunities and income on the one hand, and the local government revenues on the other.

To the respondents from San Vicente, however, these benefits could only be realized after investing substantial amount of money in environmental projects. They believe this would leave the local government in a financially vulnerable situation. As a result, some oppositions have emerged from sectors of the community who do not have a favorable opinion of the environmental priorities of the local

government. For instance, the community-based resource management program of San Vicente became an issue against the mayor during the last election because the opposition party claimed that the program was a failure and a waste of money. The election victory of the incumbent mayor, however, suggested that these environmental issues were not taken seriously by the electorate. According to some respondents who were closely involved with the program, the mayor's reelection further encouraged him to pursue his environmental program.

As the data reveal, the local governments of both the comparison municipality and San Vicente face many obstacles in their efforts to enforce ordinances aimed at solving environmental problems. Foremost of these barriers identified as common to both municipalities is the lack of funds which ultimately led to other problems such as the lack of personnel and transportation and communication facilities to run after violators. Lack of funds also created problems related to the filing of cases in courts against violators. Some respondents perceived a lack of support from the government in this endeavor. Moreover, the respondents also pointed out that people in the community have lost trust in the capability of the local government to run after violators because the officials concerned have been slow to respond to reports. Respondents attributed their respective government's inability to mobilize its resources to the crippling financial problems besetting both municipalities.

Respondents of both municipalities have also pointed to the community members' ignorance of environmental laws as another barrier to solving environmental problems. They observed that there are community members who simply do not understand the process of complying with requirements to legalize their use of resources, for instance, the cutting of trees for domestic use. In their observation, people have negative perceptions of environmental programs because they do not understand the adverse consequences of indiscriminate and unregulated use of environmental resources. Moreover, it was also pointed out that there are community members who refuse to report illegal activities because they are either related to the violators or are afraid of reprisals, especially from "prominent" individuals. The latter response could be attributed to the community members' desire to maintain social ties with

relations of all types as well as to the fear for their lives if they come into conflict with "powerful" people. These particular reactions from the community point to the urgent need to make people understand and internalize all environmental issues and concerns.

Attitudinal barriers are seen by San Vicente respondents as further posing a challenge in solving environmental problems. These are manifested in the lack of personal commitment to and knowledge of environmental issues among community members, and in their unwillingness to work with people coming from another cultural background. Respondents from San Vicente observed that there are community members who hold a negative attitude toward some environmental projects because these are run by individuals who belong to other ethnic groups who are new in the community (for example, community organizers coming from Cebu). Furthermore, the respondents pointed out that there are people who are more concerned with their own personal interest rather than with the welfare of the community in general. As mentioned earlier, economic constraints have been identified as the single factor underlying the people's tendency to abuse nature. Their need to augment their income consequently lead them to resort to environmentally-damaging activities such as *kaingin*. The Batak and Tagbanwa indigenous cultural communities as well as the migrants, given their economically vulnerable situation, are particularly notorious for these environmentally deleterious practices.

Problems of a political nature further complicate the whole situation. For instance, ordinances or projects could not be enforced or implemented because of some political problems such as the involvement in illegal activities of some local government officials who take advantage of their political power to gain access to valuable natural resources. Partisan politics has also undermined support for environmental programs. For example, programs supported by one political party cannot expect to be supported by the opposing party Misunderstanding with the mayor was also reported as one reason for the divided support of projects in the adjoining town.

Needed Skills, Technology and Support Services

In the area of skills, technology, and other support services necessary for the successful management of environmental projects, respondents of both San Vicente and the adjacent town stressed that their local government officials as well as the individual members of their respective communities must be knowledgeable on environmental conditions and must understand the effects of human activities on the environment. Such skills are believed to be vitally necesary in making these individuals willing and personally committed to work for the protection of the environment. Both groups of respondents believed that the ability of local officials to effectively implement environmental laws and policies largely depends on their knowledge of environmental issues and concerns since such knowledge will enable them to act accordingly with commitment and personal concern. Respondents from the adjoining municipality in particular deemed it crucial that every local official is familiar with his functions either as an executive, a legislator, or a manager in order to maintain proper coordination with other offices and thereby avoid overlapping of functions. In the same vein, both groups of respondents underscored the importance of the local officials' willingness and ability to initiate consultations and dialogues with the people in order to gather feedback from the community. Most of all, the respondents stressed that a local official must be just and fair in all his actions and avoid politicking as much as possible. The same skills were also reported to be immensely useful in implementing sound environmental management decisions and practices. Generally, the respondents believed that knowledge of the present circumstances and the ability to see the consequences of present actions should be considered by local officials as basis for decision making.

The local officials of San Vicente and the adjacent town agreed that a number of important factors have to be taken into account in order to make their respective communities active in environmental protection and management. Foremost of these factors is the introduction of appropriate technology which could enhance the livelihood projects of the community and consequently draw people away from harmful

environmental activities. It is widely perceived that the acquisition of livelihood skills is necessary in order that alternative means of making a living could be found without further destruction of environmental resources through over-use. A second factor calls for regularly organized training and seminars to facilitate the transfer of technology. The third factor is making financial assistance accessible to the people in order to help them start any livelihood program. The fourth factor is the improvement of transportation and communication facilities in the two municipalities in order to provide mobility for the people and facilitate the marketing of products in and out of the community.

It is interesting to note that some local officials of the comparison municipality have thought of having technical consultants from other places in order to assist the local government in developing its own environmental program. They have probably realized, as the San Vicente officials have, that there is a need to learn from other people who are experts in the field of environmental resource management. According to a Sangguniang Bayan (SB) respondent who was directly involved in the planning,this was actually the experience of San Vicente when the municipal government started with its environmental programs. Consequently, consultants from other existing environmental projects, like the Central Visayas Regional Project (CVRP) were invited to assist in the establishment of SEP-SVP. In fact, most of the community organizers of San Vicente came from Cebu who were formerly involved in the environmental program of that province.

Gender Differences on Environmental Issues

Male and female local officials differed generally in their views on environmental issues depending on the degree of their involvement in environmental work. Those who are more active in environmental programs assigned the responsibility of protecting the environment to the people in the community who will be directly affected. On the other hand, the less active male and female officials attributed this task to the concerned agencies, the DENR and other local government units as these agencies, according to them, were given the functions and authority by

law. Although all respondents pointed out that financial constraints on the part of the local government created barriers to efforts toward solving environmental problems in their respective municipalities, the more active males added the lack of environmental knowledge among the people and some government officials as another contributing factor. Females who are more active also cited that this lack of knowledge often accompanies the negative attitude of some people toward environmental programs.

Less active males and females, for their part, pointed out that due to poverty, some people might have violated some environmental laws in order to make a living. Because of this, they suggested that people must have skills in other forms of livelihood technology so that they could augment their income or find alternative means of deriving income. Although both sexes believed that environmental knowledge is needed to make people effectively involved in environmental management, more active males also thought that people must develop personal concern and commitment for the undertaking.

More active males and less active females also differed in their views regarding the skills that they think local government officials must have so that they could effectively implement environmental laws and policies. While the more active male believed that political will and legal knowledge are necessary, the less active females believed that managerial skills, particularly in environmental management, have to be given more concern. The same holds true with the responses of both more active females and less active males.

Furthermore, more active males and females believed that a local government official must have foresight in implementing sound environmental management decisions and practices. They described such official as having the ability to see the future scenario based on the actions about the environment he/she is going to make now and the consequences that will follow if he/she is not going to make such decisions today about the environment. This also requires the official to be knowledgeable in environmental issues in order to do the task effectively. Foremost for this group of respondents is that a local official must be socially conscious in his/her decisions and, in making such decisions, must always consider the benefits that people will get from them.

Barangay-Poblacion Differences on Environmental Issues

While all respondents generally assessed their respective environmental conditions as not really damaged, there were barangay respondents from the comparison municipality who considered their environment to have been destroyed by indiscriminate human activities. But these respondents remarked that something could still be done to prevent the worst. Meanwhile, the poblacion respondents, particularly those who compared their situations with badly damaged provinces like Cebu, and basing their evaluation on the effects of the environmental intervention programs they had undertaken, assessed their situation as not serious.

It was observed that poblacion respondents also have a different explanation of their assessment of the environmental condition if examined by municipality. The respondents of San Vicente felt that the decrease in illegal activities in their locality restored their environment. But the respondents of the adjoining town did not see the drastic effects of some illegal activities on their environment. In other words, they did not perceive the environmental problem in their municipality as serious.

Barangay respondents of the adjacent town observed that the community members have done little to curb environmental deterioration and even remarked that these people also are engaged in illegal activities. This observation is expected because no people's organizations have been institutionalized in the barangay level which could significantly help in the implementation and monitoring of some environmental projects as reported earlier in this paper. By contrast, the poblacion respondents of the adjoining municipality believed that the community members have contributed something to check environmental degradation with projects such as tree planting, cleanliness drive, and reporting of illegal activities.

In general, barangay respondents have observed that there are community members who are afraid to report the violations because of possible reprisals, particularly when those involved are perceived to be powerful in the community--politically and economically. They also mentioned that some individuals were disappointed due to the delayed responses of the government to act on their reports or request for

assistance. And all these reasons probably resulted to the lack of interest among some community members to be further involved and are considered as barriers to the implementation of environmental programs.

Meanwhile, local government officials of San Vicente residing in the barangays have observed that ethnocentric attitude also hampered the implementation of environmental programs. They explained that some early residents in the community had a negative attitude toward the program particularly when they saw this as a threat to their traditional way of utilizing the environment, or when they felt overpowered by the newcomers in the control of their affairs. It was also reported that the high salary received by environmental workers of the local government drew negative comments from those who have been in the government before these workers were hired.

Generally, the poblacion respondents of the comparison municipality observed that the community members are positive in their responses to the implementation of environmental programs and enforcement of environmental laws and policies. But the barangay respondents noticed that community members were negative at the outset, but later accepted the programs. Nevertheless, respondents believed there will always be community members who will resort to illegal activities just to pursue their personal interest.

Probably, because the barangay respondents of the adjoining town realized the failure of the community to be actively involved in environmental work, they believed that the people need leadership skills to organize themselves and be united in solving environmental problems. Those from the poblacion suggested that they learn income-generating skills which could help them find alternative ways of making a living, particularly those engaged in illegal activities. These efforts must be coupled with enough environmental awareness and determination to really do their share in environmental protection and management.

Meanwhile, respondents of San Vicente and the adjoining municipality differed in their views on what skills local government officials need in relation to environmental work. Barangay respondents of San Vicente believed that local government officials must consider the people foremost in whatever environmental programs they would envision. Their

counterparts in the adjacent town mentioned about the need for skills in the conduct of public hearing to get people's sentiments. Both respondents, however, emphasized the need to develop persuasive skills to motivate people and resolve conflicts. As well, they stressed the importance of legislative skills which could plan, implement, and enforce ordinances which could benefit more people.

The poblacion respondents of the comparison municipality were more concerned with the need for local government officials to be familiar with their functions. They believed that government officials must have good educational qualification. Moreover, they stressed the need for their officials to have the ability to plan programs and manage them, as well as to improve their technical knowledge about environmental work. On top of these, they expected their officials to be sincere and firm in upholding whatever the law mandates. These skills were also mentioned by the poblacion respondents of San Vicente who also stressed the need for their officials to have the foresight and the wisdom in the exercise of their authority especially in relation to environmental endeavors.

Generally, both barangay and poblacion respondents from the adjacent town felt the need for financial assistance from outside sources in order to improve their project's capabilities in terms of personnel, technical, and material support for their environmental work. The poblacion respondents of San Vicente saw the necessity of providing the people with livelihood technology, particularly food processing. The barangay respondents, on the other hand, opted for agricultural technology which will not only increase food production, but will also strengthen efforts aimed at preserving the environment.

Factors that Determine Involvement in Environmental Management

Several factors related to environmental work derived from existing studies were presented to the respondents in order for them to determine the degree of influence these factors have in getting people to be actively involved in environmental management (refer to Table 3). Of all these factors, only approval and support from family and influential people were considered by the local officials of San Vicente as important while the rest

were considered as crucial. However, the degree of how crucial these factors were could also be determined when the weighted mean of their ratings is examined.

For example, it was observed that local officials of San Vicente considered local government support as a very crucial factor. This is logical because they considered environmental protection and management as the major responsibility of the community. For them, in order for people to take an active role, support from the local government must be available and this must include technical, material and financial assistance. In fact, it is shown that these officials rated second access to appropriate technology and technical support services and training. These local officals also considered equally vital the understanding of people about environmental problems. The data show that it is the task of the local government to make people aware of the seriousness of environmental problems and to support their initiatives in protecting and preserving the environment.

The local government officials of the comparison municipality considered only the above mentioned factors as important and helpful. Foremost among those which they rated important is access to credit and funds which they believe could make people active in environmental work. The local officials of this town also considered personal investment in terms of time, money and materials important for motivating people while the local officials of San Vicente thought of this factor as crucial. Furthermore, respondents from this adjacent town, unlike those of San Vicente, did not consider highly social relationship and an increased family income as factors which could enhance people's participation. In general, however, both groups of respondents believed that all these factors, including traditional folk beliefs, are relevant. Their varied experiences about environmental management could possibly explain the different ratings they made.

The respondents from the adjoining community mentioned financial matters in their ratings more often than the respondents from San Vicente. This may suggest that the respondents from this town considered financial constraint as a reason for their inability to establish some environmental projects or for the failure of other projects.

Furthermore, it underscores the necessity to plan environmental programs which allow people access to financing. Since the support from the local government unit as a factor is rated second in importance by the respondents, this may be translated as either providing the people directly with funding or assisting them in securing funds from outside sources.

Male and female doers did not differ in the rating they made on the relevance of some factors in influencing one's involvement in environmental management, except on their ratings on enforcement of environmental ordinances and social approval of significant others (refer to Table 3). It is in the responses of non-doers that some differences are explicit. Foremost, male non-doers considered access to credit and understanding of environmental problems as crucial to make one active, a factor their female non-doer counterparts deemed important. They also differed in what they considered as important or helpful. Male non-doers rated values, beliefs, practices, and social approval only as helpful, while the female non-doers rated the same as important. And while maintenance of smooth interpersonal relationship and increased family income are considered as important by the male non-doers, these are considered only as helpful by the female non-doers.

In terms of residence, the poblacion respondents believed that people must have access to credit or funds and must have personal investment in terms of time, money, and materials to start their own projects. But according to them, these have to be reinforced also by their understanding of environmental problems. They considered these three factors, together with local government support, as crucial. Meanwhile, barangay respondents believed that support from the local government unit is more crucial than access to credit and funds which they considered only important.

Table 3 shows a comparative picture of how the respondents, categorized as more active and less active (by gender), and in terms of their residence, rated the factors believed to influence one's involvement in environmental activities.

Table 3: Factors influencing people to be actively involved in environmental management

FACTORS	DOER			NON-DOER				
	M	F	C*	M	F	C*	URBAN	RURAL
1. Values, beliefs and practices.	C	C	C	H	I	H	I	I
2. Understanding of environmental problems	C	C	C	C	I	I	I	C
3. Existence of environmental laws and ordinances	C	C	C	I	I	I	I	C
4. Consistent enforcement of laws and ordinances	I	C	C	I	I	I	I	I
5. LGU support	C	C	C	I	I	I	C	C
6. Access to appropriate technology.	C	C	C	I	I	I	I	I
7. Access to technical support services and trainings	C	C	C	I	I	I	I	I
8. Access to credits and funds.	C	C	C	C	I	I	I	C
9. Personal investment in terms of time, money and materials	C	C	C	I	I	I	I	C
10. Approval and support of family and influential people.	C	I	I	H	I	H	I	I
11. Maintenance of smooth interpersonal relationship	C	C	C	I	H	H	I	I
12. Increased family income.	C	C	C	I	H	H	I	I
13. Traditional folk beliefs.	H	H	H	H	H	H	H	H

C* - Combined
Ratings: C - Crucial, I - Important, H - Helpful

Summary and Recommendation

The study shows that the community members' perceptions of the conditions of their environment can influence the actions of the local government unit. However, the problem is not so simple as initiating environmental policies because the existing priorities, technical knowledge and skills, resources both human and financial coming from within and outside the community, as well as available opportunities and supports from the people can also affect the viability of environmental programs. Similarly, economic and political climate may be barriers to the development of the program. It has been established that not everyone can be expected to possess similar environmental awareness and priorities which could influence and motivate ecologically-sound conduct.

One of the most important findings of this study is that an effective political leadership with a clear vision and mission to sustain the environment for the future is vital. In this context, leadership means the ability to influence others either directly or indirectly to support the programs of the local government on environment. Yet, although the importance of quality leadership cannot be overstressed, it is the democratic approach to environmental programs which is considered more crucial for the success of environmental initiatives. It has been widely accepted that popular support from the people will ensure that the program will be self-sustaining even when the political leader is no longer in office. It is the people themselves who will take the initiative and responsibility, regardless of the person in office, to make the program work. After all, it is the community members themselves who will either benefit from the success of their project or be disadvantaged when something goes wrong.It is an accepted fact that getting popular support depends on developing a positive environmental awareness and social consciousness among the people who will initiate positive individual actions toward the care of the environment. Therefore, the involvement of people's organizations or non-government organization sin the planning process, implementation, and monitoring is a vital component of every community-based resource management program. The organization becomes obligated to achieve results and be responsible for its project's sustainability.

But some questions need to be resolved first. What are the priorities of the local government unit? Should it sacrifice the environment for the sake of economic development which comes in the form of infrastructure and disturbance of the natural processes? Who will benefit and how many will be affected? Ideally, development efforts must always include policies aimed at maintaining a balance between the use of natural resources and the conservation of the natural ecosystem. Furthermore, their products must benefit not just the elite but the majority of the population.❖

ROLES OF COMMUNITY-BASED FISHERIES MANAGEMENT AND MARINE RESERVES IN COASTAL FISHERIES

Angel C. Alcala

THE PARTICIPATION OF ORGANIZED COMMUNITIES in the management of coastal resources has gained worldwide acceptance as one of the viable strategies in managing dwindling fishery resources (see Scura et al. 1992, Ruddle 1994, Pomeroy 1994). There exist some examples of successful management of coral reefs and mangroves and their fisheries by communities that have been empowered as day-to-day managers of these resources (Alcala and Vande Vusse 1992, Alcala, pers. obs.). But it is not generally known that each of these successful examples incorporates a marine reserve, which is defined as an area of the marine environment protected from all forms of exploitation. This is probably so because the establishment of marine reserves for enhancing fish yields and building large spawning stock biomass is a relatively new development in fishery management. Even though marine reserves were established much earlier for other purposes (Polunin 1983), their use in fishery management is more recent (Alcala 1981, 1988, Alcala and Russ 1990).

This paper discusses the roles of organized and empowered communities and marine reserves in the management of coastal fisheries, with special reference to the Philippines. It will attempt to show the advantages of the community approach and the need for the establishment of marine reserves in the management of coastal fisheries

Community-Based Fisheries Management (CBFM)

Community-based approaches have been used in the management of agricultural and other land natural resources in many parts of the world, but these initiatives were not applied to marine and coastal ecosystems until much later (see Pomeroy 1994). The popularity of CBFM approaches has been brought about by failures of government management arrangements characterized by control, monitoring and surveillance by

central authorities, which forced people to seek other solutions to the worsening problems of fishery depletion and natural resource degradation (Williams 1994). This is especially true in Asia and the Pacific region where fisheries provide a source of livelihood for large numbers of people and where community participation is an essential part of traditional fisheries management. Acheson and Wilson (1996) have argued that fishery management practices of tribal and peasant societies are generally successful because they are consistent with fisheries biology and the chaotic nature of marine resources.

There are several features or components of CBFM projects (see for example Ferrer et al. 1996). However, in my view, a highly successful and sustainable fisheries CBFM project may be characterized by the establishment of (1) viable organization or organizations in the community, (2) a working marine reserve protected by the community, (3) sources of livelihood, usually based on coastal resources, (4) networking arrangements with local, national or international organizations and agencies, and (5) a capacity-building program. Based on these criteria, it is estimated that about 50% of the 20-odd community-based coastal or fishery projects in the Philippines can be considered successful. In contrast, projects employing the top-down approach, mostly government-led, were failures.

The relative success of CBFM projects (conducted mostly by the private sector and educational institutions) may be traced to the organized communities whose stakeholder members had developed a sense of being proprietors and claimants of the resources (Walters 1994). As already stated, these communities have been empowered, through the CBFM approach, as the day-to-day managers of their fishery resources. The role of government in the empowerment process is to support the development of effective CBFM regimes by stakeholders of fishery resources (Alcala and Vande Vusse 1994).

Marine Reserves

Marine reserves have been established the world-over for two major reasons insofar as fisheries are concerned, which are (1) to enhance fish

yields in fished areas adjacent to the reserves (non-reserves) and (2) to protect a critical spawning stock biomass in order to ensure supply of recruits to fished areas via larval dispersal (see Russ and Alcala 1996 for literature review). Other objectives include protection of biodiversity or the environment (e.g. coral reef) in order to make the area attractive for ecotourism. Alcala and Russ (1990) have argued that control of fishery effort through marine reserves is one of the few viable options for management of shallow-water marine fisheries in countries like the Philippines, where about 10-15% of marine fish production is supplied by coral reefs (Carpenter 1977, Murdy and Ferraris 1980, McManus 1988). Another benefit of marine reserves is the protection of a minimum spawning stock biomass that will guard against recruitment overfishing (e.g. Bohnsack 1990, 1993, Roberts and Polunin 1991, 1993).

There is evidence, though limited, that populations of fished or target species in reserves replenish those species in areas adjacent to reserves through movements of adult fish, otherwise known as "spillover effect" (see for example reviews of Davis 1989, Roberts and Polunin 1993, Dugan and Davis 1993, Rowley 1994). The first evidence comes from our work at Sumilon Marine Reserve in central Philippines where we demonstrated a significant decline in catch rates and total catch for coral reef fish after the reserve which had been protected for 10 years was heavily fished. This suggests that movements of fish from the reserve to the non-reserve (fished area) enhanced fisheries yield (Alcala 1988, Alcala and Russ 1990). The second evidence consists of a demonstration of increased catch rates for snow crabs in a fished area surrounding a Japanese reserve protected for years (Yamasaki and Kuwahara 1990). The third evidence comes from our observations in another marine reserve on Apo Island, central Philippines, where we found significant positive correlations of both mean density and species richness of large predatory coral reef fish during the period of reserve protection in both reserve and non-reserve areas (Russ and Alcala 1996). During the period of nine to eleven years of protection, there was a significantly higher density of these fish in the area closest to the reserve (200-300 m). Movement of fish from marine reserves to adjacent non-reserves is the subject of study by several investigators (see Russ and Alcala 1996 for literature citations).

The second objective of establishing marine reserves, that is, protecting a critical stock biomass to ensure supply of recruits to fished areas away from reserves via larval dispersal, has not been confirmed by our studies. However, it is known that larvae of coral reef fishes from protected areas may be transported by ocean currents over distances of tens or hundreds of kilometers (Frith et al. 1986, Doherty and Williams 1988). Such effects of marine reserves would be true over a long term.

The Sumilon Marine Reserve, occupying about 25% of the 50-hectare coral reef of Sumilon Island in central Philippines was established in 1974. Fish yields from fish traps, hooks and lines, gill nets, and spears were monitored for six separate years during the period 1976-1983/84 in the fished area (non-reserve). There was evidence of yields gradually increasing, especially from traps. The annual yields in tons per km^2 increased from 9.7 in 1976 to 14.0 in 1977, 15.0 in 1978, 16.8 in 1979, 14.4 in 1980 and 16.8 in 1983/84 (Alcala 1981, Alcala and Russ 1990). In 1984, the reserve lost its protection and was heavily fished, resulting in the decline of those species constituting the majority of fish yield, mostly caesionids (Russ and Alcala 1989), Alcala and Russ 1990). The result was a reduction in catch rates of 57% for hooks and lines, 58% for gill nets, and 33% for traps, and a 54% decline in total catch (from 36.9 tons/km^2 in 1983/84 to 19.87 tons/km^2 in 1985/86) (Alcala and Russ 1990). Alcala and Russ (1990) suggested that these results were due to migration of adult fish from the reserve to the non-reserve (fished area).

The finding that fishers caught more fish from 75% of the reef area during period of protection than from 100% of the area when there was no protection would seem contrary to common sense. But Beverton and Holt (1957) provides a theoretical explanation for the higher yield during time of protection: at high levels of fishing mortality, as in the case of Sumilon, closing certain areas to fishing as a regulative measure can enhance yield per recruit. However, preliminary modeling of effects on yield per recruit by Russ et al. (1992) indicated that the maximum yield enhancement, assuming random dispersion, was only about 10% and that there is a strong possibility of other mechanisms operating to produce the large enhancement effects reported by Alcala and Russ (1990).

Marine Reserves as a Management Tool

In order to be effective in fisheries management, communities need assistance in such areas as capability building, finance, legislation, and technical arrangements (Scura et al. 1992, Williams 1994). In addition, one technical tool that has been shown to be effective in convincing communities to protect their marine resources and sustaining community effort at management of coral reef fishery is the marine reserve. Marine reserves can be part of the management strategy (e.g. Munro 1995). As illustrations we shall cite the CBFM experience in the Philippines.

The enhanced fish yield in fished areas as a result of the Sumilon reserve natural experiment, already discussed, has convinced several organized communities engaged in CBFM in various parts of the country to include a provision of reserve establishment in their management plans. To my knowledge, many CBFM projects established and maintained reserves for the purpose of increasing fishery yields. But another reason for reserve establishment is to prevent pollution, as exemplified by the rejection of a pullutive industry by the Bolinao, Pangasinan community. Marine reserves are also utilized by organized communities to attract tourists.

This enhancement of fishery yields through marine reserves would encourage subsistence-level fishers to adopt management schemes directed at long-run productivity. It would also convince people of the relevance of coastal resource management (Newkirk and Rivera 1996). Some examples may be cited. The Apo Island Marine Reserve was established in 1982, following the Sumilon model. The community believes that their fish catches doubled after ten years of protective management, and Russ and Alcala's observations (1996) tend to confirm this assessment. Furthermore, the community earns from the use by tourists of the protected area.

Heinin and Laranjo (1996) reported that the establishment of a marine reserve was the rationale for a CBFM project in Danao Bay, Baliangao, on Mindanao Island. this is also true of several CBFM projects in Eastern and Western Visayas (pers. obs.). The continued effort at coral reef protection by the organized community at San Salvador Island, off Masinloc, Zambales, Luzon Island revolves around the marine reserve it

established earlier (Dizon and Miranda (1996). In brief, marine reserves play an important role in the community management of coastal fisheries. All successful CBFM projects incorporate marine reserves (pers.obs.).

Sustainability of CBFM Projects

Of all issues in CBFM, that of sustainability stands out prominently. Pomeroy (1994) expressed his fear that subsistence-level fishers would not accept management schemes with long-run objectives. Sorensen and McCreary (1990) argue that local governments and local communities usually cannot adequately manage coastal ecosystems because of their limited area jurisdiction, limited research capacity, budget constraints, and dominance of parochial interests in local politics. The consequences of these limitations are that either management projects cannot take off at all or they cannot be sustained in the long term.

It is a widely established fact, and one that my own personal experience has confirmed, that parochial or even selfish interests on the part of local politicians have been a major reason for failure of some CBFM projects. Under conditions of unresolved political conflicts, community workers had to abort projects and leave the project areas. Fortunately this does not happen frequently.

The limitations in research capacity and in area jurisdiction, though real, are not unsolvable. These problems have been overcome by training, capacity building, and linking with non-government organizations and academic institutions in a number of cases, resulting in relatively successful CBFM projects.

What matters most in my experience is budget limitation. Generally, partner organizations in CBFM undertakings are prepared to provide financial and technical support for only two or three years, whereas four to five years are usually required for a community to form viable organizations that are capable of formulating and implementing development plans. It also takes about the same length of time to place communities on a solid footing in terms of provision of livelihood opportunities. By coincidence, four to five years are needed for plankton-feeding fish (but eight to eleven years for carnivores) to spill over from

coral reef reserves to fished areas, thereby increasing fish catches of fishers (Russ and Alcala 1994, 1996; Alcala and Russ 1990). These time frames are important guides to partner organizations involved in demonstrating the impact of protected areas (reserves) on the fish catches of fisher communities. As Newkirk and Rivera (1996) state "... concrete gains in a project are the most effective mechanism to convince people about the relevance of CRM." (CRM stands for coastal Resource Management.)

It is important that, before outside financial and technical support to communities is terminated, all arrangements be made that would allow the organized community to engage in productive livelihood activities on a sustainable basis. This is true of one of the most successful CBFM projects in the Philippines - Apo Island Marine Conservation Project in Central Visayas. The project began in 1981 and its marine reserve established in 1982; community organizing intensified in 1985-86 (Tiempo and Delfin 1991, White 1989, Russ and Alcala 1996). The organized community of 500 people have successfully managed and protected the reserve with little help from their partner agency (Silliman University) for nine years (since 1987). The fishers now report enhanced fishery catches from the non-reserve, and they attribute this increase to the establishment of the reserve. They are happy that the reserve now brings more income to them through perceived increased fishery yield and tourism. We might say that our objective is to establish more successful CBRM projects like Apo Island Marine Reserve.❖

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A NEW SPECIES OF CHIGGER IN THE GENUS *SISECA* (ACARI: TROMBICULIDAE) FROM CAMIGUIN ISLAND, MINDANAO, PHILIPPINES

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Abstract

Siseca gigarara n. sp. is described from specimens collected off a lizard host, *Brachymeles schadenbergi*, on Camiguin Island, Mindanao, Philippines. The genus is rediagnosed and comments on the genus are provided.

DURING THE EARLY 1960s workers for the Bishop Museum, Honolulu, Hawaii, USA and the Silliman University Museum of Natural History, Dumaguete City, Philippines, collected ectoparasites from small mammals, birds, and lizards on many islands in the Philippines. Examination of the ectoparasites has revealed the presence of a new species of chigger in the genus *Siseca*. The holotype is in the collection of the B. P. Bishop Museum (BPBM); paratypes are there and in the Philippine National Acarology Collection (PNAC) at the Visayas State College of Agriculture, in Baybay, Leyte, Philippines. Data on a previously described species, *Siseca rara* are included. Voucher specimens of that taxon are in the BPBM; paratypes are there and in the PNAC. Terminology follows that of Goff *et al.* (1982). All measurements are given in micrometers.

Genus *Siseca* Audy, 1956: 41.
***Siseca* Womersley and Audy, 1957: 268.**

Type species. *Trombicula rara* Walch, 1923: 593.

Rediagnoses. Trombiculini of medium to large size. PTF 7B or 7BS, galeala N. Claw 2-pronged, external claw shorter than internal prong. Chelicerae long with dorsal and ventral subapical tooth. Eyes 2/2. Scutum large and quadrate, with or without slight projection of posterior margin; densely punctate. SB wide apart and inserted close to anterior margin. Sensillae filliform with distal branches. Total body setae less than 45. Legs all 7 segmented, 3 genualae I, an elongate mastitarsala often present.

Audy (1956) proposed *Siseca* to accommodate *Trombicula rara.* Vercammen-Grandjean (1968) relegated *Siseca* as a sub-genus of *Eutrombicula.* Nadchatram and Dohany (1974) reestablished *Siseca* to generic status, while Domrow and Lester (1985) retain species in the Australian fauna in the genus *Eutrombicula.* The generic status of Audy (1956) and Nadchatram and Dohany (1974) is followed here.

***Siseca gigarara* Brown, n. sp. (Figure 1)**

Description of species. Larvae. Idiosoma. Measuring 450×380 in partially engorged specimen. Eyes 2/2, anterior 10 diam., posterior 9 diam., on ocular plate. One pair of humeral setae measuring 65-69; 22 dorsal idiosomal setae, measuring 49-57, arranged in regular rows 6.6.4.2.2; 2 pairs of sternal setae, anterior 36-37, posterior 35-36; 10 preanal setae, 33-36; 4 postanal setae 51-63; total idiosomal setae 42. Gnathosoma. Palpal setal formula B/N/NNN/7B; palpal claw 2-pronged, 18-20 long; galeala N, cheliceral blade (49-52), broad at base, with tricuspid cap; gnathobase punctate, bearing 2 branched setae. Scutum. Punctate with biconcave anterior margin; posterior margin broadly rounded with shallow central concavity; lateral margins with slight concavities; AM base posterior to AL bases; SB far anterior to level of PL bases; PL>AM>AL; PW/SD = 1.24-1.25; sensillae flagelliform with branches on distal 2/3, Scutal

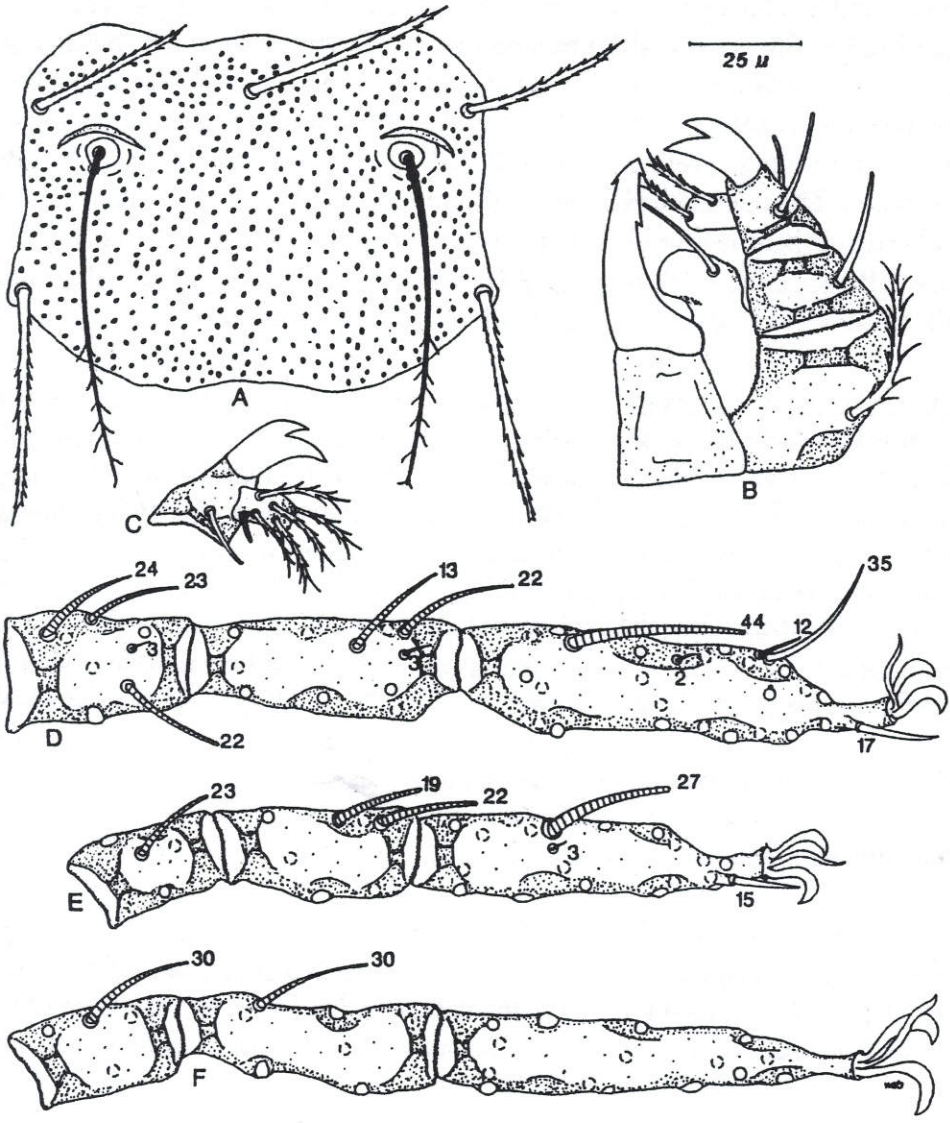
measurements of holotype followed by the means and ranges of 10 paratypes in parentheses: AW 105 (107, 104-108); PW 108 (111, 108-115); SB 75 (76, 74-78); ASB 31 (30, 29-31); PSB 54 (54, 54-56); AP 41 (43, 41-45); AL 39 (41, 39-45); PL 57 (58, 57-61); sens. 75 (74, 68-85). Legs. All 7-segmented terminating in a pair of claws and a clawlike empodium. Onychotriches absent. IP = 923-1050. Leg I: 144-175; coxa with 1 branched seta (1B); trochanter 1B; basifemur 1B, telefemur 5B; genu 4B, 2 genualae, microgenualae; tibia 8B, 2 tibialae, microtibualae; tarsus (90×21), tarsala (44), microtarsala, subterminala, parasubterminala, pretarsala. Leg II: 280-326; coxa IB; trochanter 1B; basifemur 2B; telefemur 4B; genu 3B, genuala; tibia 6B, 2 tibialae; tarsus (70×21), 16B, tarsala (27), microtarsala, pretarsala. Leg III: 330-371; coxa 1B; trochanter 1B; basifemur 2B; telefemur 3B; genu 3B, genuala; tibia 6B; tarsus (90×18), 15B.

Type data. Holotype and 10 paratypes (126660) from Mt. Mambajao, Camiguin Island, Mindanao, Philippines, 5-6 K NE Sangsangan, Catorman ex *Brachymeles schadenbergi*, 20 May 1967 (parasitope and collector not recorded). The holotype is in the collection of the BPBM; paratypes are there and in the PNAC.

Remarks. *Siseca gigarara* can be separated from all other members of the genus by the larger standard data measurements, by the elongation of tarsala I, and II, and by the lack of mastatarsala III. The species name reflects the relative size of this taxon.

Included species. *Siseca rara* Womersley and Audy, 1957: 268. *Diagnoses*. Larvae. Idiosoma. Measuring 410×315 in partially engorged specimen. Eyes 2/2, on ocular plate. One pair of humeral setae; 20 dorsal idiosomal setae, arranged in 5 rows 6.2.4.4.2; 2 pairs of sternal setae; 10 preanal setae; 4 postanal setae; total idiosomal setae 38. Gnathosoma. Palpal setal formula B/N/NNN/7B; palpal claw deeply bifurcate; galeala N. Scutum. Lightly punctate with biconcave anterior margin; with shoulders; posterior margin convex; lateral margins straight; AM base even with AL bases; SB far

Figure 1: *Siseca gigarara* Brown, n. sp. A, scutum; B, dorsal aspect of gnathosoma; C, ventral aspect of palpal tibia and tarsus; D, leg I showing specialized setae (measurements in micrometers) and bases of branched setae; E, leg II as above; F, leg III as above.



anterior to level of PL bases; PL>AM>AL; PW/SD = 0.8-1.0; sensillae filliform, branched in distal one-third. Scutal measurements of means and ranges of 10 specimens: AW 72, 70-76; PW 86, 83-92; SB 47, 45-49; ASB 15, 13-18; PSB 48, 44-52; AP 32, 29-38; AM 37, 32-40; AL 29, 27-34; PL 40, 37-43; sens. 47, 39-54. Legs. All 7-segmented terminating in a pair of claws and a clawlike empodium. Onychotriches absent. IP = 702-752. Leg I: 230-256; coxa with1 branched seta (1B); trochanter 1B; basifemur 1B; telefemur 5b; genu 4B, 2 genualae, microgenualae; tibia 8B, 2 tibialae, microtibualae; tarsus (50×22), tarsala (14-16), microtarsala, subterminala, parasubterminala, pretarsala. Leg II: 222-241; coxa 1B; trochanter 1B; basifemur 2B; telefemur 4B; genu 3B, genuala; tibia 6B, 2 tibialae; tarsus (40×16), 16B, tarsala (11-13), microtarsala, pretarsala. Leg III: 216-219; coxa 1B; trochanter 1B, basifemur 2B; telefemur 3B; genu 3B, geuala; tibia 6B; tarsus (51×16), mastitarsala 42, 15B.

Voucher specimens examined. Leyte Island, from *Callosciurus samarensis (=Sundasciurus samarensis)*, *Mabuya multicarinata* and *Rattus samarensis (= R.r. mindanensis)*. Palawan Island from *Tupaia palawanensis*, *Tragulus nigricans (= T. napu)* and *R. exulans*. Mindanao Island from *Callosciurus mindanensis (=Sundasciurus mindanensis)*. Voucher specimens are in the collection of the BPBM and the PNAC.

Remarks. The specimens examined agree in size, standard data and scutal configuration to *Siseca rara* Womersley and Audy (1957). This taxon has been previously reported from the Philippines by Philip and Woodward (1946) and by Brown and Goff (1988).❖

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