COMMUNITY MAPPING MANUAL FOR RESOURCE MANAGEMENT

COMMUNITY BASED FOREST MANAGEMENT Office (CBFMO) of the Department of Environment and Natural Resources (DENR)

ENVIRONMENTAL SCIENCE FOR SOCIAL CHANGE (ESSC)
COMMUNITY MAPPING MANUAL
FOR RESOURCE MANAGEMENT

COMMUNITY BASED FOREST MANAGEMENT
OFFICE (CBFMO) OF THE DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
(DENR)

ENVIRONMENTAL SCIENCE FOR
SOCIAL CHANGE
(ESSC)
Community Mapping Manual for Resource Management

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FOREWORD

Economic development and natural resources utilization strongly affect the life, culture and future of our communities. Recognizing the primacy of the community's voice in decisions concerning human and ecological welfare, we have always encouraged community participation in environmental management.

We also believe that sustainable development without sustainable communities is impossible. We acknowledge communities as users and beneficiaries of our natural resources and confer on them the responsibility of looking after the environment. The process of community resource mapping is designed to give our communities a stake in their future. It is a mechanism which provides a venue where upland and rural communities can articulate their concerns about environmental development and natural resource-use.

Through rigorous field testing, various groups working on people-oriented forestry, community-based forest management and ancestral domains rights, developed this Manual on Community resource Mapping. Spearheading this project is the Institute of Environmental Science for Social Change. Also valuable in its development are the inputs provided by the Philippine Working Group on Community-Based Natural Forest Regeneration, a multi-disciplinary and multi-sectoral group of volunteers, committed to the cause of community-based environmental management.

This manual is another vital tool in the arsenal of community-based natural resources management. This is a necessity for development planners and environmental policy-makers to push farther the frontiers of people empowerment and community-based resources management. Important information about the circumstances, needs and aspirations of our communities combined with the technical know-how of our resource mapping technicians are valuable for environmental officers in the creation and implementation of programs and services truly beneficial to communities. With environmental responsibility conferred on both the communities and the government, we are confident of a collective commitment for effective environmental management towards sustainable development.

VICTOR O. RAMOS
Secretary
ACKNOWLEDGEMENTS

The development of this manual owes its success to many communities who have struggled to articulate their life and needs. Particular thanks goes to the communities of Manayag, Bukidnon; Dupinga, Nueva Ecija - Aurora and Sagada, Mountain Province, who have allowed us to use their community maps in this manual so that other communities may establish their own resource management agreements with government. Lucio Padua, Datu Nestor Menaling, Lorna Baringgay and Mayor Tom Kilip are but a few of the community representatives we would like to thank.

Over the past few years as this work has emerged we are especially grateful to USAID, with special thanks to Mr. Delbert McCluskey. We would also like to appreciate the core support received from the Ford Foundation in support of opportunities to collaborate with communities and government, especially Dr. Mary Rocelis.

The manual substantially benefited from the work of the Philippine Working Group on Community Forest Management and Natural Regeneration, whose members during their many visits to communities left their families for days on end and sought to understand and improve communications on government programs. The commitment of Romy Acosta, Director of CBFM and the backup of all his staff greatly encouraged this work. The comments and reviews of Dr. Ernie Guiao and Dr. Bruce Harker of NRMP and of Marlea Munoz of the Secretary of DENR have been invaluable.

We would like to thank Charles Mooney for editing and Jonathan Pilien for the layout and endless drafts, Jojo Parreno, Donnie Rolle for developing the maps and charts and the research staff who took up the discussions: Gilbert Braganza, Eric Bruno, Andres Ignacio, Ruth Ignacio, Karen Lawrence, Gary Tengco, Gussy Villareal. We would like also to thank John Ray dela Cruz and Rowena Sorriaga who facilitated and supported the process. Our final thanks goes to Geba Printing Press for printing this manual.

Peter Waipole
I. INTRODUCTION

The reason our uplands and coastlines are increasingly unproductive is that communities in these areas are poor and have no legal rights. Being individuals and communities without rights they are without authority and are easily exploited; they cannot be held responsible for the condition of the environment where they live.

To empower the community is to acknowledge them as rightful residents of the land and users of the resources, and by making them part of the larger society. Acknowledging their role in society is to enhance their sense of responsibility for the environment. Even though these communities may be distant from the major towns, when empowered, they are no longer marginal, irrelevant and forgotten by society. They will in fact become central to society, with critical roles to play in the balanced environment that is needed to supply resources, especially mountain water, to the towns and cities.

Communities using traditional practices share among themselves the experiences of the area and of many generations. In the course of their survival they have learned from their mistakes and now recognize the bounty and poverty of the land. Community understanding comes slowly through customs, but is scientific in analyzing what is for the best. Migrants come to share these marginal lands and find in their struggle with the land and water other ways to survive. All of these can be shared in a picture of the landscape, revealing the history, practices and personal stories, and can be documented to become an accepted procedure.

The community forester or environmental officer of the area needs to visit and imbibe this communal experience before he/she imparts the programs and services of government if they are to benefit the people. One who comes from outside needs to listen to the community and see what they see. Only then can he/she relate the experience to what he/she has to offer to the particular community given their circumstances and aspirations. By drawing a map of their own area as they tell their story, the community provide a significant document that is of use both to them and to the forester or the environmental officer whose task is to support them.

The purpose of this manual is to help CENROs, PENROs, ENROs, NGOs to assist communities in documenting their land use and resource management through community mapping.
A. What is Community Mapping?

Community mapping focuses on the social and agroforestry practices of the people, out of which, zones of activity emerge, including boundaries with other communities. Disputes may seem too many and too difficult to clarify in one small area let alone a whole municipality or province. Yet, much of the conflict can be resolved by the different parties themselves if government authority is not seen to be in a hurry or intent on using its authority to influence a decision. Though the ideal cannot be attained, compromise should always be on the side of the community and the least powerful. In helping different communities become aware and interested, government actions can spread among communities without huge financial support.

Confirmation of a community’s effort to be involved can be easily gained by an officer who has internalized the intent of the government’s Social Reform Agenda (SRA), the purpose of which is to ensure no one is marginalized. Time needs to be taken to facilitate meaningful discus-
sions with community members. It is important to encourage the young and old people, the men and women to speak and to draw the map, for they all have different experiences with the land and have different roles to play. One has to elicit their concerns, acknowledge their work experience, and get them to sketch these on sheets of plastic with marker pens as they explore every stream, ridge or cove. When a group participates freely and openly in such an activity, the individuals unconsciously organize their thoughts and their actions as a community. The map gives them something to hold, to show to others and say this is where and how we live. The mapping can be accomplished in the course of a long afternoon and evening together and verified during a later visit.

The approach is to borrow this community map (as some form must always be returned to the community) and digitize it so that in more technical surroundings, cartographers may relate it to topographical maps of NAMRIA. The topographical maps may be smaller and more exact in measurement, but they do not contain the depth of information and knowledge of resources and culture contained in a community-generated map.

The objective is to retain the value of both maps so that government can appreciate that community’s understanding (as well as their potential responsibility for managing the area), while the community has had the opportunity to present their life and practices without the limitations of a topographical map. Neighboring communities are then more easily encouraged to draw their own maps.
and relate them to the initial community involved. All of this helps document the resources and establish the different areas of responsibility by which the different groups can be granted management rights under appropriate management programs.

B. This Manual

The manual is for the staff of CENROS, PENROS, ENROs and NGOs who have already had training in community mapping and are continuing to work with communities. The intention here is to eliminate the mystique of socio-cultural data and analysis, while laying them out as a comprehensive map that is without technical language. The community knows more than any local official, but the credibility of the officer springs from the fact that he cares and is committed to help connect the community with assisting government programs. The community mapping process helps develop this credibility. The skills required are a humble sense of leadership, an honest interest in people and a genuine intent to serve. What is not required is an imposition of power to get the community to conform to government programs.

As a process directly linked to the Community Based Forest Management Program, the maps produced can be used in the validation of Ancestral Domain Management Plans (ADMP) (DAO96-34) and Community Resource Management Framework (CRMF) (DAO96-29). Community mapping is an initial output and is the basis for developing a management plan, specifically the Annual Work Plan (AWP) and the Resource Use Plan (RUP). It has broader applications in relation to land use planning and at other levels of government action. It will evolve into a very comprehensive tool for monitoring in detail with communities the sustainability of the environment and the stability of the people.

The manual is intended to complement field training and is not intended as a substitute. GOs and NGOs may well use the manual, but recognize its limitations. Following the manual alone will not give the necessary experience. This has to be gained through dialogue with the community, facilitating their documentation perceptions of the environment, and understanding how they relate to the land. The different phases are presented in some detail, but are not to be laboriously followed. They should be seen as indicating acceptable output for the different elements of the community-based resource management programs. Working with the community must continue far beyond what this manual outlines.

What does all of this add up to? It is not just one community getting a chance to tell its story, nor an official meeting the quota for government programs. Community mapping must be understood as a part of a much-needed movement, calling for participation and responsibility from communities, while seeking for care and service from government, so that we have a sustainable environment through joint leadership with commitment.
II. CBFMP and COMMUNITY MAPPING

Executive Order 263 establishes Community Based-Forest Management (CBFM) as the national strategy to ensure sustainable development of the country’s forestlands and to achieve social justice. Through the CBFM Program (CBFMP), the government aims to enable upland and forest dwellers to exercise their rights and responsibilities as frontline managers of the country’s forest lands. DAO 96-29 provides the guidelines for implementing the concept of CBFM, that is "people first and sustainable forestry will follow". As explained in the CBFM Strategic Action Plan (MC 97-13):

Only when communities in and near the forestlands commit themselves and undertake sustainable management will the remaining natural forest be protected and managed, denuded lands rehabilitated, and degraded forests developed. As such, CBFM demands a shift away from traditional, regulatory-oriented forestland management towards a developmental and service-oriented one. It creates new roles and responsibilities for DENR and local government units, and presents new opportunities for the private sector - both profit and non-profit organizations - in forest land management. It highlights the urgent need for DENR to transform itself into a service-oriented organization. It requires radical changes in the way DENR manager and field personnel regard and work with forest dependents whom CBFM recognizes as the agency’s co-managers of the country’s forestlands. More importantly, it demands drastic changes in the way DENR defines, plans and carries out its forest management functions.
The key activities in support of CBFM are outlined in four stages of program implementation: (1) preparatory, (2) diagnostic and PO formation, (3) planning, and (4) implementation (Appendix 1). The concrete output per stage, which are appropriately the CBFM key result areas, are also provided in the framework. DAO 96-29 and the CBFM Strategic Action Plan further describe these stages that are the CBFM Implementation Framework. The stages are described briefly below, and in the following chapters, they will be discussed in greater detail as they relate to community mapping.

The **preparatory stage** focuses on the creation of local institutional arrangements by which LGUs enter into a partnership with DENR in pursing CBFM. Specific activities include the identification of potential sites, planning for how best to assist communities and planning for accessing support resources and services. The partnership between field-level DENR and LGUs may be formalized through a memorandum of agreement. The **diagnostic and PO formation stage** begins when the DENR-LGU partners receive an application for CBFM from community representatives and the deployment of CBFM fieldworkers to the site. The objective is to assist the applicants in their own community profiling, perimeter survey and situational analysis, and with the processing of requirements for CBFM application. Through community mapping and participatory rural appraisal techniques, that are also used for organizing purposes, the formation or strengthening of a CBFM-focused people’s organization is facilitated. While the diagnostic stage is in progress, the **planning stage** has already started. The PO is assisted to undertake small group planning activities eventually leading to a Comprehensive Resource Management Framework (CRMF). The CRMF contains the PO's vision, commitment and indicative strategies for sustainably managing and utilizing the forest resources. In the **implementation stage**, the POs carry out the affirmed CRMF and the accompanying Annual Work Plan (AWP), which contains the Resource Use Plans (RUP).

There are three modes of CBFM implementation in the basis of land tenure and depending on who undertakes resource management planning. The first involves the recognition of ancestral domain claims of indigenous peoples through the issuance of CADC/ CALC. This mode grants IPs management and utilization rights to resources found in their areas through the affirmation of Ancestral Domain Management Plan (ADMP). The second mode consists of management and utilization of forest resources by migrant communities and IPs who opt for this scheme and are granted a CBFM Agreement (CBFMA). The third mode consists in the management of and individually-
claimed lands by families who are granted individual access and use rights through Certificate of Stewardship (CS), an individual sub-leases. Under CBFM, the awarding of CS has to be endorsed by the people's organization, which has been granted a CBFMA over the larger forest area.

**Figure 1** Linking CBFM Implementation with Community Mapping Process indicates how community mapping integrates with the different stages of CBFM implementation. **Figure 2** outlines the complementing community mapping activities and the four stages of CBFM. The identification of CBFM sites and units may be done along with the networking and initial consultations phase of community mapping. Community profiling, boundary delineation, and situational analysis are achieved during the data preparation, site analysis and community interaction and community mapping phase. Finally, small group planning and consolidation of the CRMF and RUP activities may be initially conducted during the validation and feedback phase. (A more detailed presentation of community mapping activities, elements and concerns can be found in **Appendix 2** Community Mapping Process Framework).

One of the objectives of community mapping in the CBFMP strategy is to document the community's socio-cultural relations with their environment, including land use and domain boundaries. But, more importantly, the community mapping process allows communities to meaningfully participate throughout the CBFM implementation. The mapping process enables communities to generate, impart and use their knowledge of their own areas in developing strategic resource management plans. DENR in partnership with LGUs and other community support groups can better respond to ground-based realities of community forest resource management by facilitating community mapping.

**SIGN POSTS**

*What is government’s orientation to maps and mapping activities in relation to resource management programs?*

*How can community mapping serve as the integrating element of existing community resource management and government programs?*
Figure 1: LINKING CBFM IMPLEMENTATION WITH COMMUNITY MAPPING PROCESS

CBFMP Implementation Framework

IEC
DENR-LGU PARTNERSHIP
LANDUSE PLANNING

INFO DISSEMINATION

POTENTIAL CBFM AREAS
CBFM MGMT. UNITS

COM APPLICATION FOR CBFM

PROFILING
COMMUNITY MAPPING

SITUATION ANALYSIS

SMALL GROUP PLANNING
CONSOLIDATION OF DMU

RESOURCE USE PLANNING
ANNUAL WORKPLAN PREPARATION

IMPLEMENTATION

CO/EC/TA/M&E/Documentation

PERIMETER SURVEY

INTERN RESOURCE USE

INTERIM RESOURCE PERMIT

AFFIRMATION

AFFIRMATION ISSUANCE OF AFFIRMATION

TIMEFRAME (Assume 5-10,000/has)

PREPARATORY STAGE

DIAGNOSTIC AND PC FORMATION STAGE

PLANNING STAGE

IMPLEMENTATION STAGE

Community Mapping Process

PHASES
Network/Initial Consultations
Data Preparation
Site Analysis & Community Interaction
Community Mapping
Technical Integration
Validation/Feedback

ACTIVITIES
* Consultation with key personalities
* Establish working relations with groups/organization
* Collection of accessible maps
* Collection of secondary socio-economic data
* Interaction w/ key personalities/groups
* On site visit
* Establishing working relations w/ groups/PC's
* Orientation of activity
* ID of contact
* Mapping
* Dialogue
* Verification
* Fill up data gaps
* Identify critical conflict points
* GIS overlay
* Data updating
* Technical analysis
* Meetings
**Figure 2: CBFMP OBJECTIVES AND COMMUNITY MAPPING COMPLEMENTING ACTIVITIES**

<table>
<thead>
<tr>
<th>Stages</th>
<th>CBFMP Objectives</th>
<th>Community Mapping Phases</th>
<th>Complementing Activities</th>
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</thead>
</table>
| **Preparatory Stage**   | 1. Informing and educating DENR officials, LGUs, and the general public about CBFMP.  
                             2. Establishing institutional linkages and agreements between the DENR and LGU.  
                             3. Verifying or identifying potential CBFMP areas based on forest and land use plans.  
                             4. Selecting and prioritizing CBFMP areas by visiting general areas.  
                             5. If necessary, developing an initial memorandum of understanding between LGU and DENR. | Networking and Initial consultations                    | a. Facilitating series of meetings between key local DENR personnel and LGU members to clarify CBFMP objectives and strategies.  
                                                                                 |                                                   | Initial Mapping                                                      | b. Facilitating discussions in the barangay and municipal levels regarding their relationship with the areas resources.  
                                                                                 |                                                   |                                                                     | c. Facilitating initial mapping activity with local DENR and LGU locating and identifying communities and resources.  |
| **PO Formation and Diagnostic Stage** | 1. Encouraging participation of local communities in CBFMP.  
                                        2. Starting community organization building or strengthening if already exists.  
                                        3. Defining the conditions (social, economic, natural resources, etc.) relevant for planning.  
                                                                                 |                                                   | Site Analysis and Community Interaction                       | b. Conducting series of meetings with community leaders and members as a means of clarifying CBFMP objectives and strategies.  
                                                                                 |                                                   |                                                                     | c. Conducting visits with community members to areas identified by the community as relevant to their history, culture and livelihood (rivers, boundaries, forest areas, hills and peaks, etc.).  
                                                                                 |                                                   | Community Mapping                                               | d. Facilitating community mapping activity with community leaders, elders and members.  
                                                                                 |                                                   |                                                                     | e. Discussing with community members issues and concerns based on the drawn map.  |
| **Planning Stage**      | 1. Assisting the POs in preparing their a. Community Resources Management Framework (CRIFF).  
                                        b. Resource Use Plan (RUP);  
                                        c. Annual Work Plans (AWP) and if applicable, in securing interim resource use permits (RUP). | Validation and Feedback                                   | a. Facilitating discussions with community leaders and members on the accuracy of technically transferred community maps.  
                                                                                 |                                                   |                                                                     | b. Identifying resource management options the community is willing to pursue.  
                                                                                 |                                                   |                                                                     | c. Developing with the community ways of improving the community maps' accuracy and utility.  |
| **Implementation Stage** | 1. Perceiving the AWP and issuance of permits.                                     |                                                       | a. Reviewing the AWP and balancing livelihood activities.  |
III. COMMUNITY MAPPING IN THE PREPARATORY STAGE

The objectives of the preparatory stage in the CBFM implementation are:

- to inform and educate DENR officials, LGUs, and the general public about CBFMP;
- to establish institutional linkages and agreement between the DENR and the LGU; and
- to identify and to select CBFMP areas. During this stage, it is emphasized that working relations must be established with concerned community members leading to a more collaborative effort in preparing for CBFM implementation, Figure 3.

The achieving of these objectives can be assisted by an initial mapping activity with key LGU and local DENR personnel. The community mapping process establishes linkages between DENR and LGU, the identification and selection of CBFM sites, and other communities that could be potential CBFM implementers.

A. Networking and Initial Consultations: Establishing DENR and LGU Linkages

The CENRO or ENRO

- Meets and discusses with the PENRO the CBFM to (1) clarify issues that may be raised due to previous experiences and confusion with other DENR programs, and (2) to identify possible areas where CBFMP may be implemented.

- Meets with key LGU personnel such as the Mayor, the Sangguniang Bayan, ENRO, the Barangay Captains, and the Kagawads. With the help of the PENRO, discusses the CBFMP, its goals, strategies and objectives, and seeks their assistance in presenting the program to communities to the level of sitios.

B. Initial Mapping: Identifying CBFM Sites and Locating Communities as CBFM Implementors

Community mapping starts with the identified forest lands with the help of a control map, with the permanent and non-permanent allocation of forestlands such as NIPAS areas, CADCs, proclaimed watersheds and
Figure 3: ACHIEVING PREPARATORY STAGE OBJECTIVES THROUGH INITIAL CONSULTATIONS

CBFMP Implementation Framework

- IEC
- DENR-LGU PARTNERSHIP
- LANDUSE PLANNING

Actions (DENR-LGU & Others)

Timeframe (Assume 5-10,000 days)

Milestones

1. Inform & educate DLNR officials, LGUs and the general public about CBFMP
2. Establish institutional linkages between DENR-LGU
3. Identify potential CBFMP areas
4. Select CBFMP areas

Community Mapping Process

- Networking/Initial Consultations

Elements
- Objectives
- Schedules
- ID of output
- Community interaction

Concerns
- Clarify level of commitment

Phases
- Consultation with key personalities
- Establish working relations with groups/organization

Discussions among Local DENR Office
- CBFM
- General mapping of forest land, communities & open access areas

Memorandum of Understanding Between DLNR and LGU
reservations. The critical question is: Where are the "open access" areas?

Non-permanent allocation such as the TLAs, PLAs, and CSCs (all leases) have to be identified. The difference between the total forest lands and the permanent and non-permanent allocation are considered "open access" areas, where de facto community management must be recognized. If there is an existing approved or draft Forest Land Use Plan at the municipal or provincial level, this can be used as a starting point.

An effort to form an overview on Provincial land use, issues and responses can easily be done by overlaying a plastic sheet on a provincial map and circling the social, infrastructural and environmental concerns. Then on a different sheet, the government programs, other initiatives and areas of need for further responses and emerging opportunities can be indicated, Figure 4.

- During the meeting with LGU and DENR key personnel, facilitate a mapping activity with all the people present as an introductory exercise by trying to locate natural resources and sitio-level communities that are utilizing or managing these resources.
- Using a provincial or municipal map covered with plastic, participants can discuss their issues and concerns regarding possible CBFMP implementation in the area and try to identify potential areas on the map and possible strategies.
- Facilitate the development of an initial or tentative Memorandum of Understanding (MOU) between the LGU and the DENR indicating levels of commitment in implementing CBFMP.
- Schedule with the barangay captain a meeting with sitio leaders and members of sitio/s identified during the mapping activity.

**KEY WORDS**
- Community
- Programs
- Open access
- Clarify
- Facilitate
- Level off
- Mapping
- Strategy
- Memorandum of Understanding
- Resource Management
- Sitio involvement

**SIGN POSTS**

What reputation does the DENR have in the area?

Has there been any conflict between the local DENR and the LGU in terms of implementing resource management projects?

Does the LGU have the staff and capability to work with local DENR staff?

What forms of assistance and support does the LGU need in order to establish appropriate working relations?

Given the history of working relations between the DENR and the LGU in the area how should I facilitate a process of trust and openness? What approach may be helpful?
Figure 4: PROVINCE OF NUEVA VIZCAYA MANAGEMENT NEEDS
## CONCERNS AND RESPONSES

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<th>Concern</th>
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<tbody>
<tr>
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<td>1b</td>
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<td>COMMUNITY NOT GETTING BENEFITS FROM ELECTRIFICATION PROJECT (NAIAT DAM)</td>
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<td>PROPOSED CBFM PROJECT</td>
</tr>
<tr>
<td>17b</td>
<td>PROPOSED CBFM PROJECT</td>
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</tbody>
</table>

*Under CBFM, there are alternative ways in which the CBFM Agreement can be transferred to individual use. As a group, the community through its representative organization (PO or PO federation) signs the agreement (CBFMA) with DENR. Because the PO has the right to manage, it has the power to allocate portions of the land to a smaller clan, group or individual. The sub-lease agreement can then be issued to legitimate claimants within the CBMA area. Violation of the sub-lease agreement is subject to sanctions, which the PO itself can enforce. This allows for the inclusion of the Governor's interest to support tree for legacy in other parts of the Province.

### PROVINCIAL WIDE CONCERNS

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</tr>
<tr>
<td>NO ROAD SYSTEM TO HEART OF AMBAJUDIO</td>
</tr>
<tr>
<td>MAJORITY OF STA. FE. GOVT. RESERVATION</td>
</tr>
</tbody>
</table>

### LEGEND

- **PROVINCIAL BOUNDARY**
- **MUNICIPAL BOUNDARY**
- **MAGAT WATERSHED FOREST RESERVED**
  - Proclamation no. 773, June 26, 1989
  - Amended by Proclamation 374, Feb. 20, 1989
- **CASECAHAN WATERSHED**
  - Proclamation no. 130, August 11, 1987
- **ISSUES**
- **ILLEGAL LOGGING**
- **AFFECTED RESOURCES:**
  - **FOREST**
  - **WATER**

### REFERENCES

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  - Sheet nos. 2507, 2508, 2510
- Nueva Vizcaya - Gold
- TWG Workshop, Badian, Sulu, Fe. R. Vizcaya
- May 3-5 1996
- PHILIPPINE WORKING GROUP VISIT
- DIALOGUES WITH LUPA, DENR & MOA
- Nueva Vizcaya, December 2-3 1997
IV. COMMUNITY MAPPING IN THE DIAGNOSTIC STAGE

Figure 5 illustrates how the diagnostic stage objectives are achieved through the community mapping activities. The data preparation phase generates a profile or database of the sitio and the larger community. Site analysis and community interaction provide initial situation analysis and perimeter survey. Finally, community mapping gives not only the community's appraisal of its resources and management capabilities, but also an indication of the level of consensus and collaboration needed for organizations building.

A. Data Preparation: Profiling the Community

After identifying the sitios most suited for the program, there is a need to get a more complete understanding of who the sitio members are and to acquire a sense of how to facilitate the succeeding activities with them. To prepare for sitio profiling, an initial database is important. The database consists of technical maps, relevant statistics, and related documents. To generate the database, the following must be carried out:

- Acquire maps, preferably at a scale of 1:50,000, NAMRIA, DENR control maps and project site maps and maps from other related agencies such as the Bureau of Soils and Water Management (land use and vegetation).
Figure 5: ACHIEVING DIAGNOSTIC STAGE OBJECTIVES THOUGH COMMUNITY MAPPING

CBFMP Implementation Framework

COMM APPLICATION FOR CBFMP

DIAGNOSTIC AND PO FORMATION STAGE

PO formation, profile, community maps, CFMA

PHASES

Data Preparation → Site Analysis & Community Interaction → Community Mapping

ACTIVITIES

- Collection of accessible maps
- Collection of secondary socio-economic data
- Interaction w/ key personalities/groups
- On site visit
- Establishing working relations w/ groups/PO's
- Orientation of activity
- ID of context
- Mapping
- Dialogue
- Verification
- Fill up data gaps

ELEMENTS

- Demography
- Vegetation
- Topography
- Land Use
- Livelihood/scan.
activity
- List of groups
- Initial socio-demographic profile
- Establishing rapport
- Contextual analysis
- Historical data
- Identifying areas to focus
- Participation of sectors
- Indigenous knowledge & management skills
- Perceived conflict areas
- Perceived mgt. options
- Community perceptions
- Conflict points and areas of constraint
- Maximum participation & articulation
- Group dynamics
- Facilitative/directed dynamics
- Sensitivity
- Proper data mgt.

CONCERNS

- Hypothesis building
- Initial strategy
- ID of possible conflict points and areas of constraint

(c) Encourage participation of local communities in CBFMP
(b) Start community organization building or strengthening
(c) Define existing conditions relevant for planning
(d) Obtain a CBFMA

Data Preparation → Site Analysis → Community Mapping
- If barangay maps exist, obtain copies.
- Gather information on the population, community's economy, health conditions, and migration from either the barangay, municipal, or provincial offices.
- Get updated on the community's history from either local offices or academic institutions.
- If existing, acquire a copy of the area's development plan from either the municipal or provincial planning and development office.

B. Initial Consultation with the Community: Situation Analysis

During this phase, the aim is to develop an understanding of the socio-cultural character of the community. Various methods in Participatory and Rapid Rural Appraisal complement the community mapping activity since the strategies used enable greater participation in community mapping.

It is useful to undertake an initial site visit to gain familiarity with the culture of the community and the features of its environment. A site visit will be an opportunity to introduce and explain community mapping and the activities that will be undertaken, and to establish rapport and trust with the DENR and community.

**BEWARE!**
Avoid using technical maps while conducting site analysis and ocular surveys. The use of such maps at this stage may significantly determine the community's perception on community mapping and the whole mapping process. Consult the technical maps only after you return from the field.

a. To get an insight into the area during the initial visit, the following activities are important:

- Go to the sitio and present to the community the CBFMP, discussing more intensively the program details and objectives, and how they can respond to the needs of the community.
- Visit with community leaders important cultural landmarks such as burial grounds, ritual areas, and traditional meeting places.
- Visit with community leaders areas that signify joint community undertakings such as bridges, roads, school buildings.
- Visit selected geographic locations such as mountain peaks, ridges, river and stream junctions that define the area (it may be adequate to choose a vantage point that allows you to view these features especially if the landscape does not allow easy travel).
- Visit with community leaders areas
of different land use practices and vegetation types, and important resource sites such as water sources and crop drying areas.
- Identify boundaries and related features.
- Identify possible areas of conflict with neighboring communities.
- Discuss with the community their existing traditional or cultural practices for managing their forest and land. Find out, during your interaction with community leaders and members, who among them are dependent on the use and management of the forest focusing your attention on their needs and concerns.
- At the end of your visit, schedule with the community the time and place where community mapping will be held.

**KEY WORDS**
- Landmarks
- Traditional practices
- Resources
- Neighboring communities
- Boundary features
- Individual and collective sources of income
- Community organization
- Expressed problems, needs and issues
- Perceived opportunities
- Documenting
- Translating
- Spokes person
- Signing
- Date
- North/up orientation

b. **To prepare for the community mapping activity:**
- In consultation with the community, identify participants for the community mapping activity, with the following as guidelines:
  - For the purpose of manageability, 12 to 15 participants interacting on the map is a good number, but all the community maybe around to observe and give inputs.
  - Participants who have community responsibilities (such as leaders), those who are acknowledged as persons of integrity (such as elders), and those who possess indepth knowledge of the area and the people.
  - Make sure there is an adequate representation of women.
- In consultation with the community let the participants take on specific responsibilities such as:
  - **Documentor:** responsible for taking down notes of the activity and ensuring attendance.
  - **Translator:** to assist in interpreting local terms and other aspects of the culture.
  - **Spokesperson/Coordinator:** point person in the community (usually the sitio leader or elder) to assist in encouraging participation from the community (not to dominate the process).
C. Community Mapping: Perimeter Survey and Land Evaluation

This is the most critical part of the series of activities because the information gathered during this phase is essential for the planning stage. It is during this phase that the community gains a sense of empowerment and ownership of the process. At the end of the activity, the community must be able to discuss perceived management options based on the information drawn on the community map. Following are the guidelines for the activities during this phase:

a. Before the actual mapping activity

- Upon arrival in the community, the community mapping facilitator must go directly to the community leader (either the tribal leader or the sitio leader) for a courtesy call. He can then proceed to the venue of the Community Mapping (CM) activity. All community participants may not have gathered before your arrival, therefore, while waiting, take the opportunity to make those already present to feel at ease by initiating conversation.

- Once the participants assembled, check if they are satisfied and comfortable with the venue of the activity. It is good, if possible, to
work outside with the view of the area.

- Once there is a consensus, the facilitator can proceed with leveling-off in terms of the purpose of the activity and the expectations of the participants. The following points must be emphasized:
  - In the past, different people (whether government officials or visitors) have come to the area with a pre-set definition and description of the area and the needs of the community. This activity is different because it is now the community who are to describe in their words and from their own experience the situation in their area and their needs.
  - Contrary to common belief, anybody can draw a map. One does not have to be highly technical to illustrate an area that he or she is already very familiar with. The community members know the area best and therefore, they are in the best position to make a plan to complete the diagnostic stage for CBFM.
  - The map to be produced belongs to the community. It is not the final map because they validate and revise the map overtime.
  - The original maps are to be returned to the community.
  - The map is not scaled and it simply represents the basic features of the area.
  - The map is not used for purposes of “formalizing” boundaries but is helpful in clarifying the extent of the community’s domain of activities. Two different community maps are presented in order to see the variance and creativity of community. Refer to Figures 6 and 7.

b. Community Mapping Proper

- Ask the participants what feature of the map they want to begin with, whether roads, rivers, existing settlements or others that they identify.
- Ask them what color and symbol they want to use to represent the features and draw these on a sheet of manila paper or plastic.
- Remind them of the assigned roles and encourage them in initiating the activity.
- Once the activity has begun, it is important to remember that you are only a facilitator. Try to draw out from the community their own perception of their area with simple questions with the least intervention possible.
- Do not make any suggestions as what to do. Carefully inquire about their history and cultural activities through the spokesperson or coordinator.
- Inquire as to where neighboring
Figure 6: AKPIG RESOURCES
SITIO MIRANDA, POLOMOLOK, SOUTH COTABATO

MT. MATUTUM

PLAZA SITIO MIRANDA

AMLANGAY CREEK

AKNABAL CREEK

(AKPIG) IMELDA HILL

N

S

LEGEND

SUBA (CREEK)

SPRING

SPRING BOX

MAIS

GULAYAN

KALASANGAN

KAPE

FRUIT TREES

PINYAHAN

KAWAHAN

Drawn by: SITIO MIRANDA COMMUNITY
SEGTEMBER 1998
Box A: Understanding Maps

The community map usually has at its center the village (Figure 7) or this may appear at the site of the map (Figure 6) from which the map spreads out toward higher lands. The community may initially give greater space to the location of their houses or basic crops, but then move on to show where main activities, other seasonal resources and critical seasonal subsistence occur.

The focus of the map is one of experience and therefore gives the greater space to where the community is more involved and spends most time. Such areas are usually viewed from above. Marginal activities and associated areas are given little map space though extensive in land area. Such areas are often of a higher elevation and viewed horizontally. This is how the community's sense of scale is usually presented: the map expresses more a sense of quality rather than area quantity.

Roads linking the barangay to the municipality proper are an important line of direction as are old logging roads through the area. Equally important are the rivers and streams as most life and daily activity is tied to them. For indigenous communities, rivers and streams are their highways and their point of reference for identifying and placing resources and cultural sites or important landmarks. These features may often demark the unit areas of management. Forest boundaries are approximately drawn using rivers and ridges as reference. The rivers, as drawn, may not reflect the actual topographical curves for they walk straight along the river bed, as it bends.

Rivers and/or ridges are the usual way of crossing the landscape. This is the community's sense of direction: the map expresses purposeful direction rather than cardinal orientation (N.S.E.W.).

Community's sense of distance is often a matter of time not kilometers, and of frequency of visits and activities. If rattan collection is an activity, estimates of getting to the area may then reflect the activity of collecting itself, or may reflect the seasonal accessibility and nature of the terrain. This community sense of distance is often an expression of management activity.

Detail is the function of importance, or what the perceived interest of those visiting an area is. Communities often do not record rotational fallow, because either they feel officials will only take action against them or it is viewed as not of interest to those seeking greater development for the area. Yet such areas are critical to sustaining communities through difficult months when their basic food source may generally run out.

The range of information placed on these maps is a matter of how it is suggested to the community, all the facets of community life, their relations and practices need to be presented. Ritual areas may not be considered related to resources because the activity does not directly result in a product. However, rituals are keenly related to the gathering of resources in the immediate area, and many times to the acceptability of setting out on different activities. Likewise the broad range of community issues affect their interpretation on the environment.
Figure 7: COMMUNITY AND INTEGRATED MAPS
SITIO MAHAYAG, ST. PETER, MALAYBALAY, BUKIDNON

LEGEND
- SAL DAIRY (MULCH)
- LALIT (SAWYER FOREST)
- PUNILAS (PRIMARY FOREST)
- HATOBANAN (SECONDARY FOREST)
- UMAB / LUBAS (GRASSLAND)
- WANG (RIVER)
- ANCESTRAL DOMAIN BOUNDARY
- KALASAK (OLD LOGGING ROAD)

SOURCES:
1. OLMCO TOPOGRAPHIC MAP
2. NARBA AERIAL PHOTOGRAPHS
3. COMMUNITY MAP
4. SWEDISH SPACE CORPORATION
5. DRING BASED ON 1987 SPOT SATELLITE IMAGES

SCALE 1: 120,000

ENVIROMENTAL SCIENCE FOR SOCIAL CHANGE
FEBRUARY 1995

1987 SPOT MAP
communities are and what signifies the boundary with them.
○ Try to focus their attention on the activity by asking simple guide questions regarding the features on the map or stories about cultural landmarks.
○ Always encourage the members to participate. Be careful of persons who may dominate the activity. Try to balance the dynamics by constantly inviting the participants to work on different parts of the map.
○ Always write comments and answers in a notebook as reference for coming discussions.
○ Get everyone to sign the map and put the date.

C. Wrapping up the Activity

○ At the end of the activity, let the community step back and look at the map in its entirety.
○ Ask them to carefully look at the map and try to see if there are any corrections that need to be done.
○ Allow them to ask each other questions and clarify points.
○ Facilitate a discussion on what are the meanings and important features of the map.
○ If the community is satisfied with the map, discuss with them the succeeding activities in the process: the Technical Integration Phase and the Validation, Field Verification, and Feedback Phase.
○ Answer questions they may have regarding future activities.
○ Assist them in developing the place and schedule for the validation, field verification, and feedback phase.
○ Remind them that for the validation, field verification and feedback phases, other community members may participate.
○ Identify with them persons who can assist you in conducting field verification activities.
○ Before leaving, express your gratitude for their cooperation and hospitality.

KEY WORDS
- Information
- Rapport
- Trust
- Facilitate questions
- Sensitivity

SIGN POSTS
Are the existing government information and data on the community adequate?

How is existing data and new information generated with the community to be integrated in coming up with the more useful set of information?

What difficulties were encountered in the process of getting information? What can be done to address these?

In doing site analysis, was the community mapping facilitator able to listen to the community and understand their interaction with their environment?

Which was more difficult, starting the community mapping activity or ending it?

Why? How can these difficulties be addressed?
V. TECHNICAL INTEGRATION OF COMMUNITY MAPS AND TOPOGRAPHICAL MAPS

The community mapping activity gives crucial information on the community's perception of the area. The information in the community maps can be very detailed, and this is exactly the value of such information because it is from the people who know the area best. The community can already use the maps they have made to make plans and draw up strategies for the management of their resources. These maps have to be reproduced in a size and form that can be used by the community, DENR and other government staff.

The maps now need to be presented in a form that is understood and acceptable to government requirements. Since community maps lack technical reference, they need to be represented on a technical map to be considered valid. This process is significant because information from the communities are directly integrated with formal government data. On one hand, the knowledge and information from communities are being affirmed, while on the other hand, the quality of government data is being enhanced. The technical integration process aims to continue community data and technical maps, without losing the value of data contained in either.
Community maps are different. They do not possess the technical characteristics of scale, but they show relations between physical features also known as topology. Technical maps also possess this characteristic, but they lack the high level of detail of particular socio-cultural importance found in community presentations and which is essential to management. The commonality of features in technical and community maps makes it possible for the community data to fill a technical map and still retain the socio-cultural relations important to the community. Once this integration is achieved, a fairly accurate and detailed map of the area is produced.

Depending on the resources available, two methods are suggested in integrating community and technical maps - manual and computerized. The former is the most basic process. It can be employed by any cartographic unit without the aid of computers. Computerized maps maybe preferred because of the versatility offered in editing, archiving and reproduction. The ability to present several such maps for a larger area management overview, for example, in a municipality, is possible.

A. Manual Process

It is important that you study the community and technical maps at length before the integration. Remember that these maps are two different ways of representing the same area and it is most important to find the features that are common to both maps. Once these common features are located, integration becomes possible because these features become the control points for transferring the community data onto the technical map.

The process of map integration involves placing significant features of the community map onto their corresponding locations on the topographic map. Since the features of the community map are usually relative, the task of the cartographer is to estimate as accurately as possible the points, distance and areas depicted in the community map. This is where knowledge of the area and of the community mappers’ perception of space is most valuable and the more of this knowledge the cartographer has at hand, the more accurate the estimates and relocation of community features. It is therefore most ideal for the cartographer to be part of the community mapping activity or to have visited the area.

a. Identifying Common Features

Community maps possess more detail than technical maps. For example, community maps show not only the major rivers but also all the smaller streams and creeks, many of
which are not present on technical maps. The community usually has most, if not all, of these streams or rivers on the community and technical maps. It is important to note that rivers on a community map do not follow the same curves and proportionate lengths as on technical maps due to the absence of scale and direction of the former.

**IHOY!**

A manually integrated map is just as accurate as a computer integrated one if you are careful to follow the guidelines.

Don’t be discouraged if you do not have the technical equipment to computerize the maps. Hi-tech is not what this is about, rather how to have the community express their perceptions in a form that can be understood by others.

Once a direct relationship between the major rivers is established it then becomes possible to “fill-in” smaller streams not included in the technical maps due to scale limitations. This is done by identifying the values on the technical map by means of the uniform indentation of the elevation contours. Contour lines that curve towards the point of higher elevation or contour value signify a valley and the likelihood that a stream is present. On the other hand, contour lines that curve towards a point of lower elevation or contour value signal a mountain ridge, which usually acts as a divide that separates two catchments. As illustrated in Figure 8, smaller streams can be filled-in by tracing them in along the valleys.

Once smaller streams are identified on the technical map, the next task is to identify which of these streams correspond with the stream identified on the community map. These streams and their juncture then serve as control features and points for defining the boundaries of other features such as resources and land use. Other common features that can be identified include mountain peaks, roads, and bridges. These additional features
further support the integration of the technical and the community maps. The more the features correspond, the greater the level of accuracy that can be achieved.

b. The Manually Integrated Map

Once all the common features have been identified, the next step is to compose a base map from the technical data and with a more detailed set of streams and other features given importance in the community map, such as roads, village locations, and landmarks. This is done by using standard tracing paper placed over the technical maps and using a technical pen to trace the features. This process is a standard in the manual method of map preparation. Label the streams, peaks, roads and other landmarks with the names from the community map so that you have a map with a more updated and comprehensive understanding of the community. Once an integrated base map is made, other themes from the community map can be more easily transferred to the technical map because the control points and features between the two maps have been established.

The common features on the two maps may distinguish different areas on the technical map for further use. For example, a community map may indicate that two streams and a road bound a farm area. These features become the same division on the technical map thus distinguishing the area as a manageable block. If there are other features present, it may be possible to give a further level of accuracy on the particular themes of interest. The same approach can be used in identifying the boundary of community activities.

B. Computerized Process

The computerized process for community map integration involves the following steps: digitizing, editing, and plotting. Digitizing involves tracing a map on a device called a digitizer (digitizing tablet and a special pointing device called a “puck”) that is connected to a computer and allows traced lines to be stored in the computer as digital data. The computer must have a digitizing program installed. This program controls the digitizer and allows for the manipulation of inputted digital data. Another piece of equipment is a plotting device, which is a type of printer connected to the computer. This allows the user to output maps in hard copy form.

There are two maps to be digitized: the community map and the corresponding topographical map(s). Both have to be digitized so that both sets of data are in the computer and can be merged. The general steps involved are the same for both. Which
Box B: Integrating Maps

Communities have rational influences on the interpretation of environment, so it is not correct to say that community maps are not scientific; rather, their map has a different perspective, that if understood, can be rationally related to technical maps to serve a joint purpose.

With this understanding, the information from the topographical map can be traced out. Instead of tracing elevation lines, far simpler lines identify where the watershed divide occurs. By putting the topographical map beside the community map, major streams can be identified and the community map can be twisted to follow the direction of these lines. Tributaries and major ridges can be identified giving an area definition to the community information. An integrated community map is then obtained by warping the elements of the community map according to the direction and existence of the technical map either manually or using Geographic Information System software. Using the same symbols from the community map, information in the topographical map can be greatly enhanced and corrected. The resulting map then needs to be validated by the community.

From printed forest satellite image maps, the same area can then be identified. After which, validation of forest cover can be gained from the knowledge of the community on the ground.

The presence of community members during the field verification, with their knowledge of and familiarity with the area, is great help in identifying features drawn in the community map and locating it on the technical map. Viewed from a vantage point, boundaries of forests can approximately be drawn using roads, rivers and ridges as reference point. The use of Global Positioning System (GPS), altimeter and compass are also of valuable help during the activity.

Figures 7 and 8 are too small for details to be read, but the intention is to show the limited topographical map data in the light of the community’s understanding. Here the streams and ridges from the community data are related to topographical map data along with other features and may now be presented for validation by the community.
maps should be digitized first really depends on the cartographer and the needs of the project. Once knowledgeable of the process, it takes about two days to take the relevant data from topographical maps for about twenty square kilometers. The following discussions describe the important stages in the process.

a. **Studying the Community Map**

- Before beginning the digitizing process, it is important to be familiar with the area on the map and the symbols used. This is accomplished by studying the topographic maps of the area in question.
- Community members may not share the same technical spatial concepts of size, shape, or direction. It is, therefore, necessary to understand how they perceive these and how they are depicted on the community map.
- Feature symbols should also be carefully studied as these may sometimes relate to size, shape, or direction in addition to location. In terms of direction, it is important to know how the map is oriented. Generally, community members can agree on what is "up" on the map, but this may or may not relate to a technical direction such as "north". Usually, this means facing up its main valley.

### KEY WORDS

- Trace
- Overlay
- Warp
- Legend
- Manual integration
- Computerized integration
- Level of accuracy
- Control points and features
- Digitizing

b. **Digitizing the Community Map**

- Prepare the community map for digitizing by taping the map on the digitizing table following community's normal sense of direction.
- Calibrate the digitizer using a preferred real-world coordinate system such as inches or millimeters.
- Digitize tic marks so that the map can be re-referenced if edits are needed.
- Trace all the features depicted on the community map with the puck. For symbols depicting the same feature, select one which is clear and understood by the community and use this as the standard symbol and copy for all occurrences of the same feature.
- Once a map is digitized (stored in the computer) it can be edited, re-oriented, manipulated, or plotted.
c. Editing the Community Map

After a community map is digitized, it is usually plotted and presented to the community for corrections or at the time when already integrated with the topographical maps. Other questions the cartographer may have regarding the accuracy of certain details are also noted and these are later verified in the field. Corrections are then made to the digitized map and re-plotted for a final round of validation and plotting.

d. Digitizing the Topographic Map(s)

Topographic maps are used as the technical reference for matching and locating features depicted on the community map.

- Trace selected features from the topographic map. These normally include streams, roads, mountain ridges and peaks, and settlements. Trace as many streams and trails as possible since these are usually the best features for referencing the community map.

e. Integrating Maps

- In transferring features from the community map onto the topographic map in preparation for using the computer. The way to do it is to overlay the two maps, or to superimpose the maps such that features on the community map correspond with features on the technical map. The community map can be adjusted to fit the technical map by scaling, reshaping and rotating its features so that it matches the technical map as closely as possible. Bear in mind that these two never match perfectly. Features can then be copied or re-digitized on the screen.
- In case the community is very different from the topographic map even after scaling and rotating to
match features, another way is to display the maps side by side on the screen and proceed with locating features from one to the other using common reference points or features, Figure 8.

- Good reference features for matching are rivers/streams/creeks and roads, which exist on both maps. Sitios and low barangays may be poorly located on technical maps, the source data of which can be fifty years old. From these reference features, the distance and size of other features are estimated. To better illustrate the stages in the process of integrating community maps to technical maps, an example is provided. The main objective of integration is to transform community maps to correspond to a technical map depicting the same area. Figure 8 (Technical Integration of Community Maps) shows the community and the technical maps before integration. The community map shows the areas belonging to indigenous peoples and (migrant) farmers.

The aim of the exercise is to find what areas on the technical map belong respectively to the two groups using the rivers and the roads of both maps as reference features. This figure contains an explanation as to how to conduct the integration process. The final map (Integrated Community Map) illustrates the end result of the integration process after the features from the community map have been transferred onto the technical map.

**SIGN POSTS**

How did the process help in presenting an integrated representation of the area?

What kinds of common control points and features were used from both the community and technical maps?

What difficulties were encountered in translating the community information onto the technical maps?

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f. **Plotting**

- When plotting the map(s), the scale and size of output should be determined beforehand. At this point, color-to-feature assignments may be changed and final line types should be chosen. Check the plotter manual and the software documentation for detailed instructions.
- Do a final check on the map to see if it has a proper legend, adequate referencing, and other cartographic details necessary.
IV. COMMUNITY MAPPING IN THE PLANNING STAGE

The Planning Stage of CBFMP’s implementation process is when the people’s organization in the community is assisted in preparing the various documents required in developing the area’s management plan: CRMF, AWP and the Interim Resource Use Permit (RUP). These documents contain the community’s resource management options and significantly depend on the maps generated from the community activities. Therefore, it is critical that the community maps, once technically transferred, undergo a process of correction and affirmation. Activities such as community validation and field verification of technically transferred community maps have to be conducted. These activities serve as the starting point for discussing resource management strategies. Figure 9 shows the process of facilitating the CBFMP through community mapping.

A. Community Validation

Community validation means having the community check the quality of the technically enhanced maps. More specifically, the activity provides you the opportunity to discuss further details and concerns that are relevant in developing the resource management framework and resource use plans. All the same people who are present do not have to be present again and new participants can join. Below are the guidelines for community validation:

1. To check the validity of the maps with the participants:
   
2. Remind the community of their mapping process and review the past activities with them, making sure they remember the objectives of the activities.

3. Assign a documentor to ensure complete taking of notes.

4. Lay out the digitized community maps.

5. Discuss the elements on the map and assist them in identifying important features that relate to resource use and management.

6. Put up a sheet of manila paper to list their concerns and issues
Figure 9: FACILITATING PLANNING STAGE OBJECTIVES THROUGH COMMUNITY MAPPING

CBFMP Implementation Framework

Community Mapping Process

PHASES

ACTIVITIES
- Consultations
- Meetings

ELEMENTS
- Consensus
- Plan for action
- Strategy for strengthening sectoral relations
- Appropriate management strategy

CONCERNS
- Institutional bldg.
- Networking
- Cultural bio-diversity conflict resolution
- Monitor system
- Support sustainability
- Potentials:
  - Agricstrom domain delineation
  - Watershed mgmt.
  - Forest resource
  - Land Use
  - Tenurial conflict resolution

PLANNING STAGE

To assist PO's in preparing the:

a) Community Resource Management Framework (CRMF)
b) Resource Use Plans (RUP)
c) Annual Work Plans (AWP)
if applicable, the interim Resource use Plan (IRUP)

Community Validation

Field Verification
regarding forest resource use and management, their needs, and options.

- Lay out a plastic sheet over the technically referenced community maps and with thin-sized tip pentel pens, assist the participants to:
  - Correct the map's features
  - Identify areas of resource use
  - Identify areas for potential management
  - Locate dispute or conflict areas

- If the community wishes to focus on particular concerns/features, you may have layers of plastic sheets over the community map for each of the issues discussed so as not to confuse the discussions.

b. To cover the elements of the CRMF, use the following guide questions:

- What are the existing land use and forest cover within CBFMA? What are the extent, status and conditions of these uses and cover?
- What are the problems, needs, and opportunities in the forest land with respect to their protection, development and utilization?
- What are and where are the boundaries of the formal and informal claims and rights on the forest lands within the CBFMA? How are these claims recognized and managed?
- What are the envisioned forestland cover and uses?

B. Field Verification

Field verification is an activity that establishes exact location of the community map's elements. This activity requires the selection of important community landmarks that define the area's coverage. Control points and features identified during the technical transfer phase must also be accurately located. Most likely, the community maps have greater detail and are more up to date than available topographical maps. Hence the need to ground-truth and verify the community maps as well as update government topographical maps.

Field verification activities are similar to those conducted during the initial site visit (Diagnostic Stage) but not as intense. However, proper accomplishment of the activities during this phase not only increases the community map's validity but also helps technical integration.

a. Following are guidelines for field verification and ground-truthing:

- Prior to the activity and with selected community members, locate landmarks and features that may best help identify boundaries, vegetation type, and land use activities.
- Bring together a copy of the digitized community maps and an enlarged topographical map.
SIGN POSTS

The key to the whole activity is consensus; what indicators can be identified to tell you that the community has 'taken over' the process and have acquired a sense of ownership of the maps?

It is very important to lead discussions toward what approaches are needed for enabling the community to discuss in greater detail conceptual and operational management options.

What may be the possible activities for developing the capability of the community's people’s organization?

What may be helpful in sustaining positive working relations with the community?
VI. MATCHING STRATEGIES: CBFM (DAO 96-29) and ADMP (DAO 96-34)

Processes held by the PSTFAD. The guidelines for proceeding in the management of ancestral domain is elaborated in DENR's DAO 96-34. Thus, it is clear that the management of ancestral domains is part of and integral to CBFMP.

Given that CADC is only a recognition and not any of the three forms of lease allowing earnings from public land, there is a need to develop CADC to a management agreement. This discussion is an effort to provide an understanding of how CBFM and ADMP may work and contribute to a cohesive, cost-efficient, and integrative whole. The basic component to both processes is community mapping. The primary spirit guiding both strategies is empowerment. The intention is not to turn these community agreement into bureaucratic or technical quagmires whether through endless meetings or monitoring of the importance of environmental impact area comments.

A. Areas of Congruence

In both DAO 96-29 and DAO 96-34, there are elements of the program framework that may be identified as common. These elements provide a clear understanding as to the programs' emphasis and directions. These elements also enable a level of
working towards a common framework.

a. Management Units

In both programs, it is very important that community based working groups are established as management units. It is these groups that will facilitate the process and eventually develop the organizational capabilities of implementing the management plan.

b. Delineation of Management Area

Boundary delineation is basic in determining the extent of the management area. In both programs, community mapping is utilized as a means of defining management area coverage before conducting future perimeter survey.

c. Identification of current resource use and pattern

To understand current socio-cultural, political and economic dynamics, community profiling is undertaken. It is also an opportunity to develop a clearer understanding of local and traditional resource use practices. Community profiling also presents an appraisal and evaluation of land and resource use patterns.

d. Identification of Potential Management Areas and Strategies

Both programs emphasize the needs to define potential management activities such as extraction, protection and rehabilitation as well as the areas where these activities will be conducted.

e. Community Resource Workplan

Indicative development and resource use plans indicate the overall management strategy to be undertaken by the community. In this development, the community themselves take responsibility for its implementation by defining the rules, incentives, and sanctions.
f. **Validation**

It is critical that whatever the tangible output the process produces undergoes validation by the community and the affirmation of local agencies involved. This will facilitate political support at the local level and encourage the DENR to provide technical assistance.

**B. Community Mapping Potentials**

The main concern of both programs is participation. It is the objective of DAO 96-29 and DAO 96-34 to provide the mechanisms and legal basis for enabling a process that involved communities. More importantly, it is hoped that through the process, a sense of ownership, accountability, and empowerment is established.

In the similarity between the two programs, the key component in providing integration and stability is community mapping. The use of maps developed through intensive participation of the communities, may be the basis for providing an assessment of current land and resource use as well as defining potential management activities. Not only will the resulting maps define the boundaries, but will also present an occasion for clarifying, validating, and affirming various concerns and issues.

The use of a community mapping approach thus supplies a process for dialogue and discussion which is vital in establishing the socio-cultural context conducive for doing sustainable resource management.
Appendix I: CBFMP IMPLEMENTATION FRAMEWORK (DAO 96–29)

IEC

DENR-LGU PARTNERSHIP

LANDUSE PLANNING

POTENTIAL CBFM AREAS

CBFM MGMT. UNITS

COMMUNICATIONS FOR CBFMS

INFO DISSEMINATION

CO/ECD/Documentation

PERIMETER SURVEY

INTERM RESOURCE USE

ANNUAL WORKPLAN PREPARATION

REVIEW

SITUATION ANALYSIS

CONSOLIDATION OF CBFM

RESOURCE USE PLANNING

IMPLEMENTATION

LAND EVALUATION

Affirmation

Affirmation issuance of Affirmation resource use permit

Agreement issuance of interim resource permit

CBFMA

IMPLEMENTATION STAGE

CO/ECD/TA/M&E/Documentation

MILESTONES

Approved sites; institutional arrangements

PO formation, profile, community maps, CBFMA

CRMF, annual workplan, resource action plan, resource use permits

INSTITUTIONAL SUPPORT MILESTONES

Resolutions; Annual Investment Plans; Ordinance (Budgets); Full time staff designated; Linkages with other agencies;
M & E annual budget; and Fund complementation (e.g., travel/MOE)

INSTITUTIONAL mechanisms within the PO

- financial
- conflict management
- revenue and planning
- benefit sharing
- watershed management
- accountability
- forest protection
- capital build-up

Increased/established livelihood opportunities
Ecologically stable and flush forms and increased forest cover
Well-entrenched ecologically sound FMS

TIMEFRAME

ASSUME 5-10,000/ha

PREPARATORY STAGE

DIAGNOSTIC AND PO FORMATION STAGE

PLANNING STAGE

Source: MC No. 97-13
July 1997
### Appendix II: COMMUNITY MAPPING PROCESS

<table>
<thead>
<tr>
<th>PHASES</th>
<th>Networking/Initial Consultations</th>
<th>Data Preparation</th>
<th>Site Analysis &amp; Community Interaction</th>
<th>Community Mapping</th>
<th>Technical Integration</th>
<th>Validation/Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVITIES</td>
<td>Consultation with key personalities</td>
<td>Collection of accessible maps</td>
<td>On site visit</td>
<td>Mapping</td>
<td>GIS overlay</td>
<td>Consultations</td>
</tr>
<tr>
<td></td>
<td>Establishing working relations with groups/organizations</td>
<td>Collection of secondary socio-economic data</td>
<td>Establishing working relations w/ groups/PO's</td>
<td>Dialogue</td>
<td>Data updating</td>
<td>Meetings</td>
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<tr>
<td></td>
<td></td>
<td>Interaction w/ key personalities/ groups</td>
<td>Orientation of activity</td>
<td>Verification</td>
<td>Technical</td>
<td>GIS overlay</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>ID of contact</td>
<td>Fill up data gaps</td>
<td>Analysis</td>
<td>Data updating</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Identify critical/ conflict points</td>
<td></td>
<td>Technical</td>
</tr>
</tbody>
</table>

| ELEMENTS | Objectives | Schedules | ID of output | Community interaction | Demography | Vegetation | Topography | Land Use | Livelihood/econ. activity | List of groups | Initial socio profile | Participating of sectors | Indigenous knowledge & management skills | Perceived conflict areas | Perceived mngt. options | Issues web | Hydrology | Community map & tech. data | Consensus | Plan for action | Strategy for strengthening sectoral relations | Appropriate management strategy |
|----------|------------|------------|--------------|-----------------------|-------------|-------------|-------------|----------|-------------------------|----------------|------------------------|-------------------|-----------------------------|----------------------|-----------------|----------------|------------------|-----------------|------------------|----------------------|-------------|----------------|----------------------|----------------|
| CONCERNS | Clarify level of commitment | Hypothesis building | ID of possible conflict points and areas of constraint | Community perceptions | Data incompatibility | Institutional bldg. | Networking | Cultural bio-diversity conflict resolution | Monitor system | Support sustainability | Potential: | Ancestral domain delineation | Watershed mng. | Forest resource | Land Use | Tenurial conflict resolution |

**DOCUMENTATION**
Appendix III: MATCHING STRATEGIES OF COMMUNITY BASED FOREST MANAGEMENT (DAO 96-29) AND ANCESTRAL DOMAIN MANAGEMENT PLAN (DAO 96-34)

**DAO 96-29 Process (CBFMP)**
- DENR-LGU PARTNERSHIP
- LANDUSE PLANNING
- POTENTIAL CBFM AREAS
- APPLICATION FOR CBFM

**DAO 96-34 Process (ADMP)**
- PSITFAD Workshop series on ADMP
- Formation of ADMP Working Group
- Community Mapping

**Steps**
1. Conduct information and education campaign activities.
2. Identify legal and policy issues.
4. Collect initial baseline data such as the following:
   a. socio-demographic information
   b. land use activities
   c. identification of existing resources
   d. possible development opportunities
5. Identify ADMPs such as:
   a. agricultural and agro-
      forestry areas
   b. rehabilitation and
      protection areas
   c. forest and reserves
   d. hunting and fishing
      grounds
   e. cultural landmarks
      and sacred places
   f. perennial and
      boundaries
6. The ADMP Working Group will identify activities and strategies to be implemented.
   a. protection
   b. rehabilitation
   c. utilization and extraction
   d. allocation of benefits
   e. sustainable management of natural resources
7. Presentation, validation, and implementation of the ADMPs and forms of working groups.
8. Implementation

**Activities**
- Review
- Approval of ADMP in consultation with the community/development community workshops
- Implementation

**Management Units**
- DELINEATION OF MANAGEMENT AREAS/ASSESMENT OF RESOURCES
- RESOURCES WORKPLAN
- VALIDATION

Source: MC No. 97-13
July 1997
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<thead>
<tr>
<th>ACRONYM</th>
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<td>ADMP</td>
<td>Ancestral Domain Management Plan</td>
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<tr>
<td>AO</td>
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<tr>
<td>AMP</td>
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<td>Bureau of Soils and Water Management</td>
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<td>CADC</td>
<td>Certificate of Ancestral Domain Claim</td>
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<td>CALC</td>
<td>Certificate of Ancestral Land Claim</td>
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<td>CBFMA</td>
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