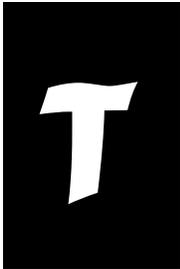


Chapter 1

INTRODUCTION



This handbook is designed to serve as a guide for people who work with local coastal resource users to promote sustainable development in coastal communities. It presents various ways by which the important environmental and social characteristics of the coastal area can be learned, recorded, and better understood by those involved in community development. In so doing, it can help facilitate the early, useful and meaningful involvement of coastal resource users in the development of coastal resource management (CRM) plans that encompass their communities' and adjacent resources. The goal is to see participatory coastal resource assessment (PCRA) become an integral component of CRM.

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This chapter introduces the important terms and concepts related to PCRA and includes background notes on CRM as well as an introduction to PCRA. A detailed discussion of specific PCRA methods is presented in Chapter 2. Chapter 3 offers guidelines for making PCRA results useful to CRM projects.

An overview of coastal resource management

The exact nature of CRM varies from place to place, but some basic characteristics can be identified. In its broadest sense, the term “coastal resource management” refers to the wise use of coastal resources to promote sustainable development in coastal areas. By “coastal resources” we refer to the natural resources found in coastal areas, including individual species such as fish as well as the complex habitats and ecosystems that support them. Coastal resources also generally include other often important resources such as those with archaeological, historic, sacred, or gender-specific significance.

In maximizing the utility of coastal resources, much of the management effort is devoted to regulating human behavior and activities in coastal areas. Successful management requires multi-sectoral collaboration and strong community participation. In the context of the Philippines and

the Local Government Code of 1991, CRM focuses on integrated management which allows local and national government agencies to work most effectively with NGOs, research institutions, private businesses, and resource user organizations (e.g. fisherfolk associations).

CRM can be represented as a cycle of information gathering, institutional development, planning, and implementation. Each phase of CRM has several associated activities (Fig. 1.1). This handbook describes those methods designed to help community workers (CWs) work most effectively with fishers and other coastal resource users during the information gathering phase of the management process. Nevertheless, because all phases of the process are interrelated, this handbook might also help, at least indirectly, in the other three phases, most notably in encouraging community development activities associated with institutional development.

The information gathering phase of CRM can be divided into four general activities as shown in Fig. 1.1. The PCRA methods discussed in this handbook can be helpful in all four of these activities; so far, however, they have been applied predominantly in baseline assessment.

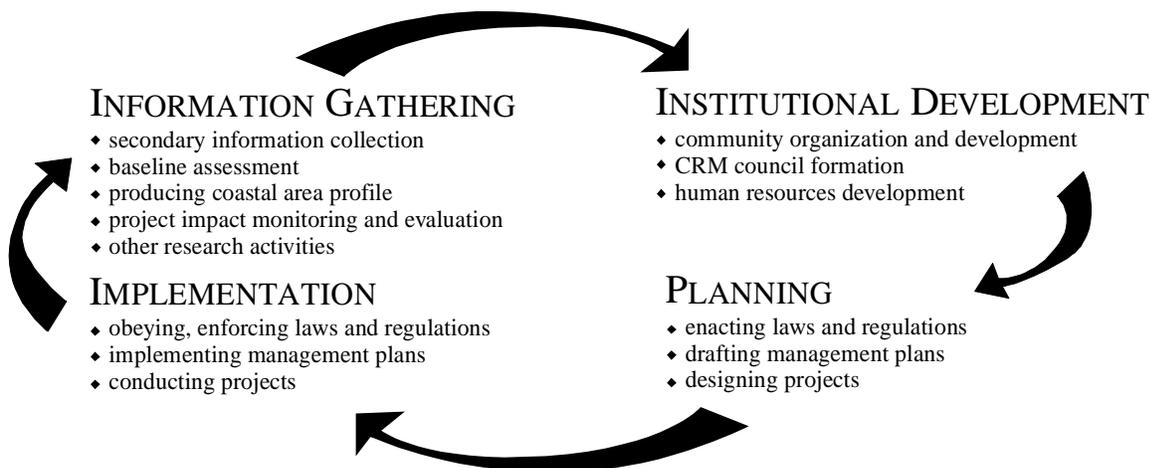


Fig. 1.1 One way of representing the cyclical process of CRM.

The participatory coastal resource assessment process

Resource assessment, or what some call resource analysis or appraisal, is accomplished primarily to facilitate the numerous decisions that must be made in planning and implementing successful CRM.

Resource assessment involves gathering and analyzing environmental, ecological, social and economic information about the management area.

Resource assessment is most useful in CRM when the information collected and analyzed helps managers to understand the past, present and potential usefulness of coastal resources, and identifies limits and opportunities for coastal resources to contribute to environmentally sustainable economic development in coastal areas.

PCRA focuses on resource assessment from the perspective of local coastal resource users. Scientifically acquired information is also very useful and important during resource analysis, but the type of information gathered by scientists differs from that obtained from coastal resource users, and the techniques to acquire the information are also different.

The methods described in this handbook will help accomplish resource assessment that involves the extensive participation of local resource users (e.g. fishers) in gathering and analyzing information to be used in management planning. PCRA involves the integration of the wisdom and knowledge of local fishers and resource users with the technical expertise of other people or groups — NGOs, universities, research institutions and LGU staff — involved in the management process. Its rationale is simple: Coastal communities, because of their dependence on coastal resources, can offer important perspectives on which resources are important, the changes in resource availability and harvesting success, and the problems and issues that can deny the community the benefits of resource use.

In PCRA, local coastal resource users are assisted to arrive at a common understanding of environmental and ecological information concerning the coastal environment to be managed and the

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natural resources found there. In addition, members of the coastal community also gather and document social and economic information about the local coastal resource system and examine ways by which coastal resources have been used in the past and are used at present, and how they could be most effectively used in the future.

Clearly, PCRA is a multifaceted process. It has several interrelated components, including the following:

1. gathering of documented information;
2. direct observation of and participation in assessing the local coastal resource system;
3. purposeful gathering of local knowledge;
4. generation of local feedback (primarily from local resource users) on information collected; and,
5. integration of all information generated in the first four components into a document called "coastal area profile," which serves as an important information source during participatory planning (Fig. 1.2).

Coastal area profiles are an important outcome of the initial PCRA process. The coastal area profile is a

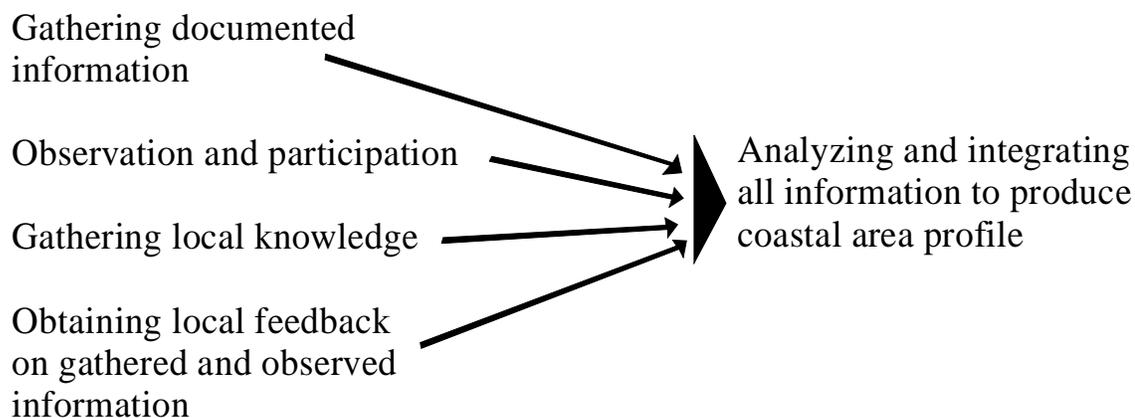


Fig. 1.2 Key steps in the PCRA process.

document that presents in an organized and integrated form all the results and information gathered in resource assessment activities. Note that in producing a profile, in addition to information generated from PCRA field methods, one considers information from a variety of other sources (Table 1.1).

This handbook considers only the participatory methodology; the knowledge and skills required to contribute from a technical or scientific point of view are not described here. There is no doubt that proficiency in scientific disciplines such as biology, ecology and economics is helpful in preparing a profile. Nevertheless, for the practical needs of many

planning situations, purposefully using the PCRA methods discussed in this handbook as one's primary or sole source of information can still result in the production of high quality profiles.

The benefits of participatory coastal resource assessment

If done successfully, PCRA offers at least four beneficial outcomes:

1. important information that would otherwise not be obtained and considered using traditional scientific approaches such as local knowledge of resource locations, is made available for CRM planning purposes;
2. resource management is made more participatory as local fishers and resource users are more intimately involved in an essential first phase of CRM;
3. local users are more likely to participate actively in subsequent phases of the CRM process and contribute to decisions that will be supported by the community;
4. PCRA demonstrates the relevance of the information provided by the resource users and shows how the information is used for management needs.

Thus, PCRA helps create well-informed, supportable, and implementable coastal resource management projects. Simultaneously, it helps empower local fishers and other resource users to productively participate in — and more likely benefit from — these projects.

In specific terms, PCRA methods are advantageous because they:

- produce spatial details (via maps and diagrams) about the coastal area, such as locations of small but productive reefs that are not usually shown in maps or revealed in assessments conducted by outside experts;
- produce temporal details (via trends and seasonal diagrams) about important events (such as seasonal fish spawning aggregations), changed status of resources and emerging issues that are almost impossible for outside assessment experts to discover independently;
- add specific details to general information generated by experts, such as specific information about the relative condition (e.g. old growth, previously logged) and cultural values of areas described by experts as only a single general category of mangrove;

PCRA helps create well-informed, supportable, and implementable coastal resource management projects.

PCRA is most useful in the learning or information gathering phase of CRM.

- facilitate efficient group exercises and verification of collected data;
- uncover gender-specific or age-class distinction in resource use, importance and other perceptions; and
- provide insights on trends in resource abundance and levels of exploitation that cannot be obtained from other sources.

A framework for participatory coastal resource assessment in coastal resource management

PCRA is most useful in the learning or information gathering phase of CRM. PCRA methods help produce outputs that are essential elements of coastal area profiles and CRM project monitoring and evaluation. They also consider a variety of scientific disciplines which reflects the wide range of information areas covered. This is important for generating the baseline information presented in coastal area profiles as well as for measuring indicators of the success of CRM projects.

The framework for using PCRA methods in the information gathering phase of CRM is shown in Table 1.1. Note that several basic types of methods are used repeatedly and in different combinations to produce the numerous different kinds of outputs

that fall into the various profile content headings and project indicator types. These basic methods include: interviews (group and individual); mapping, trend diagrams; identifying and classifying resources and activities; making transects; calendar diagrams; historical trends; identifying stakeholders; integrating information; and obtaining recommendations. This shows the widespread applicability of PCRA methods in CRM. The framework does not depict the contribution PCRA methods make in community organization and development activities. Although it is not the focus of this handbook, the empowerment that usually results from conducting PCRA should always be considered by CWs, and the goal of its achievement is implicit in the following chapter which describes various PCRA methods in detail. Note also that PCRA involves — or at least ideally involves — the collaboration of a number of organizations and agencies.

PCRA process:

- 1. gather existing information;*
 - 2. direct observation and participation in assessing coastal resource system;*
 - 3. gather local knowledge;*
 - 4. generate local feedback; and,*
 - 5. integrate all information into a “coastal area profile.”*
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Table 1.1 Framework for using PCRA methods in the information gathering phase of CRM.

GENERAL PROJECT INDICATOR TYPE	GENERAL PROFILE CONTENT HEADING	SPECIFIC OUTPUTS PRODUCED	PCRA METHODS EMPLOYED ^a	SCIENTIFIC DISCIPLINES CONSIDERED	POSSIBLE COLLABORATORS AND INFORMATION SOURCES ^b
Environmental/ Ecological	Physical Setting	Geophysical overview including land, sea floor, and coastal habitat classifications	Identifying and classifying physical elements of the coastal environment, drawing transects	Geography, geology	DA, DENR
		Overview of coastal forests, rivers and watershed status	Individual and group mapping, drawing timelines, documenting historical trends	Geography, forestry, hydrology, agronomy, ethnogeography	DA, DENR, DPWH, universities, research institutions
		Thematic and locator maps	Mapping	Cartography	NAMRIA, other existing maps
	Climate	Descriptions and diagrams of seasons, rainfall, winds and temperature	Drawing calendar diagrams	Climatology	PAGASA, DA, DENR
	Oceanography	Descriptions, diagrams and maps of bathymetry, current/circulation patterns, tidal flow, waves, water quality, eddies, runoff patterns	Mapping, drawing calendar diagrams, drawing timelines or trend diagrams, documenting historical trends	Oceanography	NAMRIA, PAGASA, MARINA, universities, research institutions
	Important Habitats Coral reefs (all descriptions focus on ecological factors influencing past, current, and potential economic productivity)	Description, diagrams, and maps of coral reefs (or local equivalent), live coral cover, coral and fish diversity, cultured species (or potentials), gear uses and resource issues	Identifying associated resources, mapping, documenting historical trends	Marine biology, ecology, zoology	DA, DENR, universities, research institutions
	Seagrass Beds	Descriptions, diagrams and maps of seagrass beds and other soft-bottom habitats, diversity, fish/seaweed abundance, cultured species (or potentials)	Identifying associated resources, mapping, documenting historical trends	Phycology, marine biology, botany, ecology	DA, DENR, universities, research institutions
	Mangroves	Descriptions, diagrams and maps of mangrove areas, old-growth areas, diversity, fish abundance, cultured species (or potentials)	Identifying associated resources, mapping, documenting historical trends	Botany, estuarine biology, ecology, forestry	DA, DENR, universities, research institutions
Beaches	Length, width, level of disturbance, pollution, erosion	Group mapping, transect diagram, field assessment, trend diagrams	Shoreline and coastal geology	DA, DENR, universities, research institutions	
Estuaries	Fish catch trends, level of pollution, nutrient cycles	Group mapping, controlled fishing, trend or seasonal diagram	Marine and water quality analysis, limnology	DA, DENR, universities, research institutions	

GENERAL PROJECT INDICATOR TYPE	GENERAL PROFILE CONTENT HEADING	SPECIFIC OUTPUTS PRODUCED	PCRA METHODS EMPLOYED ^a	SCIENTIFIC DISCIPLINES CONSIDERED	POSSIBLE COLLABORATORS AND INFORMATION SOURCES ^b
Environmental/ Ecological (continued)	Lagoons and Bays	Fish catch trends, pollution and contamination	Group interviews, mapping, trend diagrams	Oceanography, water quality sampling, current studies	DA, DENR, universities, research institutions
	Natural Resources (fish, invertebrates, plants, etc.)	Inventories and local classification systems	Identifying and classifying, drawing transects	Geography, ecology, taxonomy	DA, DENR, universities, research institutions, museums
Socio-economic/ Institutional, Resource Users, and Issues	Fisheries	Descriptions, diagrams and maps of production by species, gear, community, assessment of past, current and potential productivity	Identifying species and local names, drawing calendar diagrams, mapping	Fishery science	DA, DENR, universities, research institutions
	Other Coastal Resource Users (e.g. tourism, industries, shipping, etc.)	Description, maps, diagrams of use/production systems, assessment of past, current and potential productivity	Identifying uses and associated resources, drawing calendar diagrams, mapping	Natural resource economics, anthropology	DA, DENR, DTI, universities, research institutions
	Local Resource Users	Descriptions, diagrams of demography, livelihood, community organizations, past, present and potential CRM projects, activities	Household surveys, documenting historical trends, drawing diagrams, mapping	Geography, anthropology, sociology, natural resource economics	DA, DENR, DTI, DSWD, universities, research institutions
	Past and Present CRM	Description, diagrams of LGUs, national agencies, and NGOs and their projects, activities, laws, regulations, etc.	Identifying involved entities, interviewing representatives, documenting historical trends, drawing Venn diagrams, mapping	Political science, geography, natural resource economics, history, anthropology, archaeology	RDCs, all involved government agencies
	Other Stakeholders	Descriptions of composition, local interests and roles in coastal resource use	Identifying other stakeholders, interviewing representatives, documenting historical trends, drawing diagrams, mapping	Political science, geography, natural resource economics	RDCs, all involved government agencies
	Management Issues and Alternatives for Development, Monitoring and Mitigation	Descriptions of current constraints on sustainable CRM	Integrating information, identifying issues, interviewing representatives from all involved groups/sectors	All of the above	RDCs, all involved government agencies
	Recommendations	Description of recommended management interventions	Integrating information, eliciting, formulating and validating recommendations	All of the above	RDCs, all involved government agencies

^a All methods are accomplished through participant observation and interviews with local coastal resource users and/or group workshops.

^b Possible collaborators and information sources listed are in addition to NGOs and local government agencies which should always be consulted first, including agriculture, planning and development, and environment and natural resources offices at the municipal and provincial levels. In many areas, a Regional Development Council (RDC) or its equivalent (e.g. PCSD in Palawan), will also be a good information source and collaborator in information gathering.

