

## Chapter 3

# MAKING PCRA RESULTS USEFUL IN CRM PLANNING



The results of PCRA serve various purposes. They are used in producing baseline information (in the form of coastal area profiles) essential for CRM planning. They are also used to measure performance indicators for project monitoring and evaluation. These two applications are discussed below. Other applications, such as in community development and empowerment, warrant further study and development by CWs as they apply the PCRA methods.

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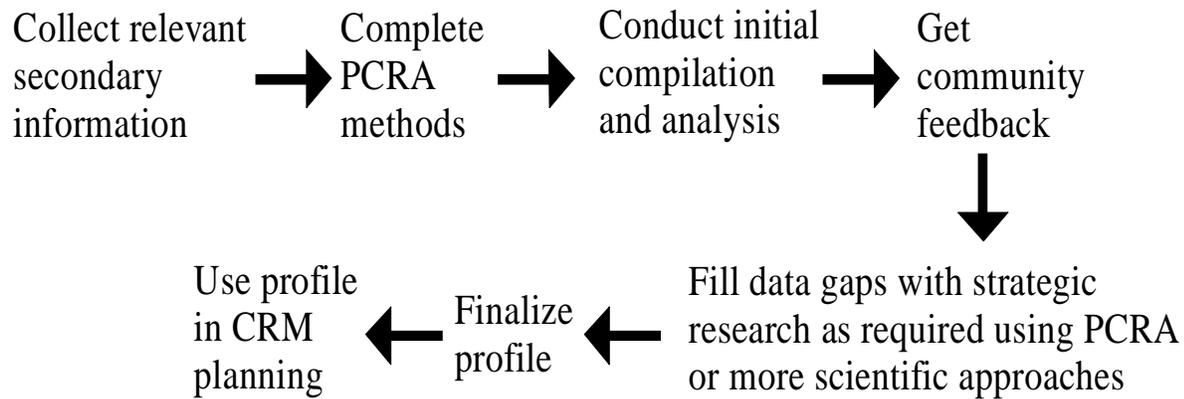
*The coastal area profile is one of the most important outcomes of PCRA.*

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### **Producing a coastal area profile**

The coastal area profile, a document which presents the results of PCRA field methods in ways that will assist CRM planning decisions, is one of the most important outcomes of PCRA. The basic descriptive information provided by profiles is useful, but the value of a good profile lies also in the compilation and analysis of the information it provides. One kind of information — for example, decreased levels of live coral cover — must be considered in relation to other kinds of information — for instance, low fish harvest and high siltation rates — to help ensure that the process results in meaningful conclusions which point to problems and opportunities for CRM. Often, ecological and other environmental factors must also be considered in association with socioeconomic variables, thus providing useful conclusions regarding such factors as the conditions of various habitats, potential for fisheries production, and social constraints that hinder the CRM process.

A profile should be produced using a process that facilitates and encourages feedback from local resource users (Fig. 3.1). A good general procedure is to conduct a preliminary analysis of the PCRA results and produce a draft profile for community review, feedback, verification and correction. In an appropriate setting with community members, the main points and findings of the draft profile can be presented and



**Fig. 3.1 Steps in producing a coastal area profile.**

reviewed. It is helpful to explain the analyses of findings concerning constraints and opportunities, since fishers can validate or question many of the basic assumptions. Once fishers have validated the findings of the field assessment activities and the subsequent analysis, you can then take the local feedback into consideration in producing the final version of the profile.

Using the finalized profile in CRM planning completes the process of making PCRA useful in CRM (Fig 1.1). This is when local feedback can help, since local resource users are more likely to consider in their planning decisions information that they helped generate than information that comes from outside sources. If other stakeholders have also had significant input, a profile can serve as the common reference for all involved in planning. If all

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stakeholders feel their knowledge and opinions are considered, the profile can also help catalyze the planning process. When the final version of the profile has been completed, distribute copies to all stakeholders and begin motivating them to join in CRM planning.

An outline for a comprehensive coastal environmental profile is presented in Table 3.1.

**Presenting numerical information.** Interviews and

**Table 3.1 Outline for the coastal environmental profile of CRMP Learning Areas.**

List of Tables
List of Figures
List of Acronyms and Abbreviations
Acknowledgments
<b>I. Introduction</b>
A. location
B. physiognomy or any short description of the area/geography
C. historical background
D. summary of issues
E. objectives
F. scope
G. general definitions, if any
<b>II. Physical Features</b> ( <i>include data by municipality, use maps or tables or any visual where appropriate</i> )
A. land area
B. topography
C. hydrology
D. soil
E. land uses
F. climate
<b>III. Natural Resources</b> ( <i>should have visuals; include species, area,</i>

*condition)*

A. mineral resources

B. forest resources

C. coastal resources

1. mangrove

2. seagrass

3. coral

4. seaweed (*if present; may also be included in fisheries*)

5. fisheries

6. others (*beaches, endangered species, etc.*)

**IV. Socio-Political Setting** (*include tables, charts, graphs, etc.*)

A. political/administrative boundaries

B. demographics (*per municipality*)

1. population size, density, distribution and growth rate

2. household (*number, members/nuclear or extended*)

3. age and gender composition

4. urban and rural distribution

5. education

6. labor and/or employment, income

7. religion and/or ethnic groups

8. dialects

C. health, sanitation and medical care

D. settlements (*type and ownership*)

E. roads, transportation and communication, other related infrastructure or support systems (*e.g. cooperatives, fishing ports*)

**V. Economic Sector** (*per municipality, per barangay when appropriate*) — *use maps, tables, charts, figures*

A. fisheries

1. capture fishes

a) capture methods (*fishing gear, types of boats and no., ownership*)

b) no. of fishers

c) catch per unit effort

d) catch per species (*weight*) per gear

e) historical trends in catch levels and composition (*species caught, market value, production levels*)

2. aquaculture

a) cadastral maps to depict fishpond areas by municipality/*barangay*

b) areas eligible for reversion

c) mariculture types and production levels by municipality/

*barangay*

d) historical trends in production

B. tourism

1. classification and location of existing and potential tourist areas
2. no. of employees per activity
3. revenues generated
4. description of environmental, social, cultural impacts

C. industry

1. types of industry and location
2. no. of employees per industry
3. revenues generated
4. description of environmental, social, cultural impacts

D. others (*e.g. agriculture, forestry*)

similar parameters as above

**VI. Institutional and Legal Framework**

A. introduction

B. current state of the Philippine Coastal Zone Law (*includes related policies/laws*)

C. local government (*provincial, municipal, barangay, other GOs*)

1. types, structures
2. development plans/activities or projects
3. budget allocated for ICM

D. non-governmental organizations involved in ICM

1. names
2. types of activities
3. funding levels
4. future plans

E. community organizations

1. names
2. types of activities
3. funding levels
4. future plans

**VII. Management Issues and Opportunities** (*include stakeholders and appropriate analyses*)

A. environmental

B. economic

C. political/institutional

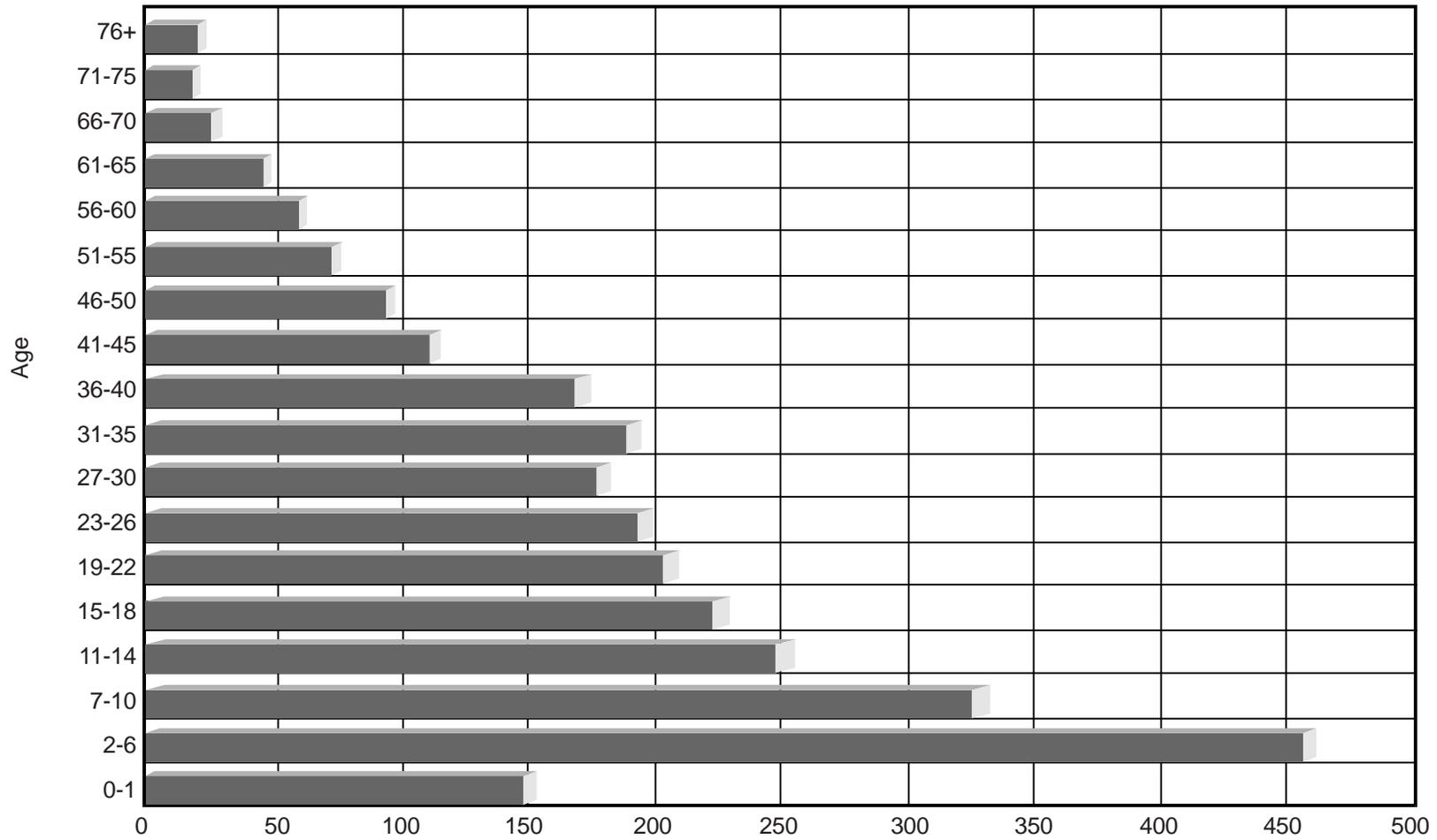
household surveys can generate a huge amount of numerical or quantitative data. These data must be compiled and then presented in a way that is easy to understand and is relevant to CRM planning.

Two important methods of presenting numerical information in coastal area profiles are tables (Fig. 3.2) and bar graphs or histograms (Fig. 3.3). When using tables, you can combine different kinds of primary data, such as the number of fishers in each community divided by the annual catch in each community, to produce additional informative values

*Interviews and household surveys can generate a huge amount of numerical or quantitative data.*

Community	Total catch metric tons (mt)	Catch (mt)	Catch as % total	No. of fishers	Ave. total catch per fisher (mt/yr)
Tarunayan	163.3	2.9	1.8	160	1.02
Manaburi	91.8	54.9	59.8	55	1.67
Umalagan/Pier	48.7	22.1	45.4	32	1.52
Nasuduan	43.6	22.9	52.5	40	1.09
Makirawa	14.7	10.6	72.1	37	0.40
Martape	13.5	6.3	46.7	13	1.04
Buenavista Centro	12.0	3.1	25.8	19	0.63
Mandaragat	10.5	5.6	53.3	59	0.18
Bagong Sikat	5.0	1.8	36.0	25	0.20
Tagnipa	2.7	2.4	88.9	5	0.54
Masagana	1.0	0.5	50.0	10	0.10
Tagabinet Centro	0.8	0.4	50.0	3	0.27
Pagkakaisa	0.4	0.2	50.0	6	0.07
Baruang	0.2	0.1	50.0	1	0.20
Total / Average	408.2	133.8	32.8	465	0.88

**Fig. 3.2** Sample table of numerical data showing fish landed in Ulugan Bay by community (Ulugan Bay Foundation, Inc. survey data, 1992).



**Fig. 3.3** Sample bar graph showing age distribution of Ulugan Bay residents (Ulugan Bay Foundation, Inc. survey data, 1992).

such as average annual catch per fisher.

It is also helpful to present numerical data as a percentage of a total value, e.g., the percentage of the total catch each community produces. Bar graphs and other graphs have two axes or dimensions, which make numerical information more visually informative. The size of the bar in a bar graph visually shows the magnitude of important values and facilitates comparison, for example, between the number of dependent children in an area and the number of adults who are responsible for their support.

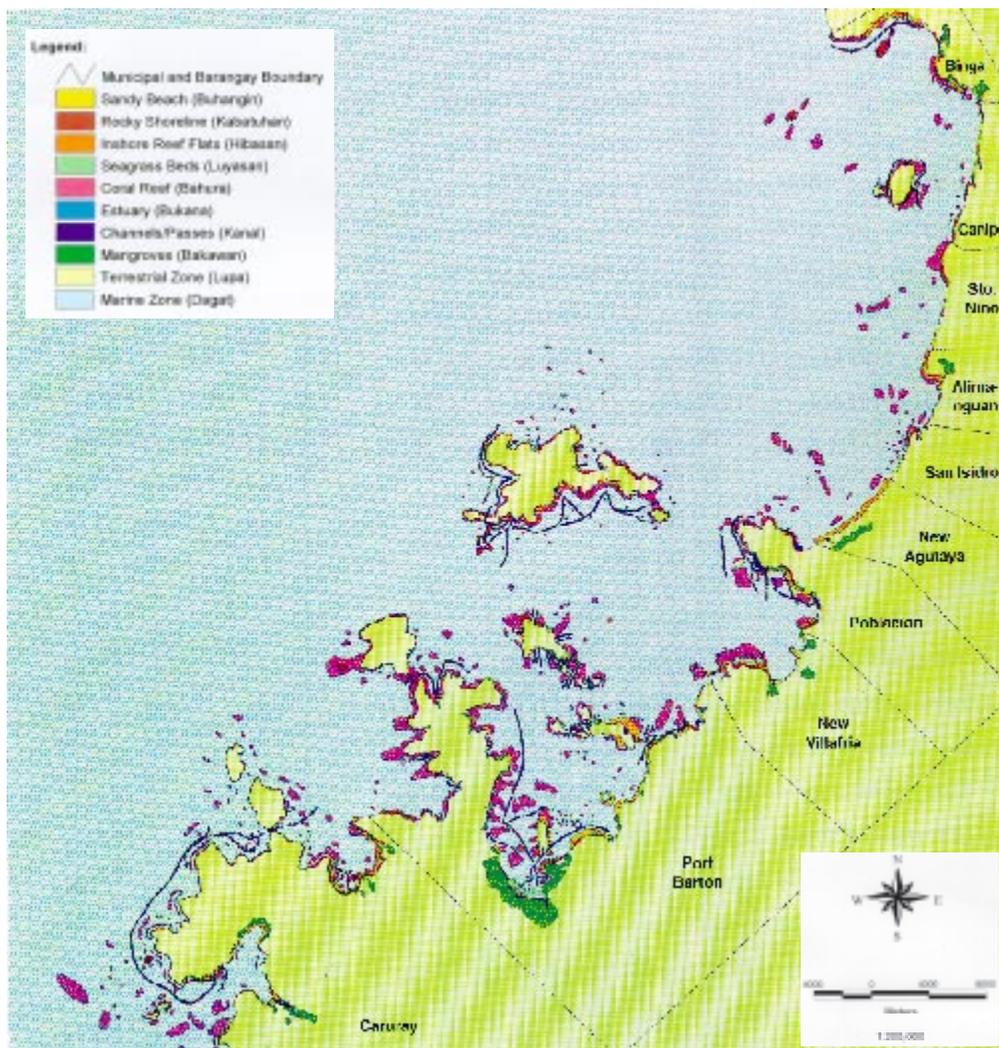
**Making composite thematic maps.** After completing PCRA mapping methods, the CW will have a large collection of various kinds of maps. For the purpose of producing a coastal area profile, it is often helpful to create new maps by combining and refining the maps made by local resource users, and combining locally produced maps with maps produced by experts such as NAMRIA. For instance, one can combine group-produced maps of mangroves and group-produced maps of coral reefs with a map that shows locations of scientific study sites to produce a thematic map of selected coastal habitats and study site locations (Fig. 3.4).

The simplest way to make thematic maps is to trace

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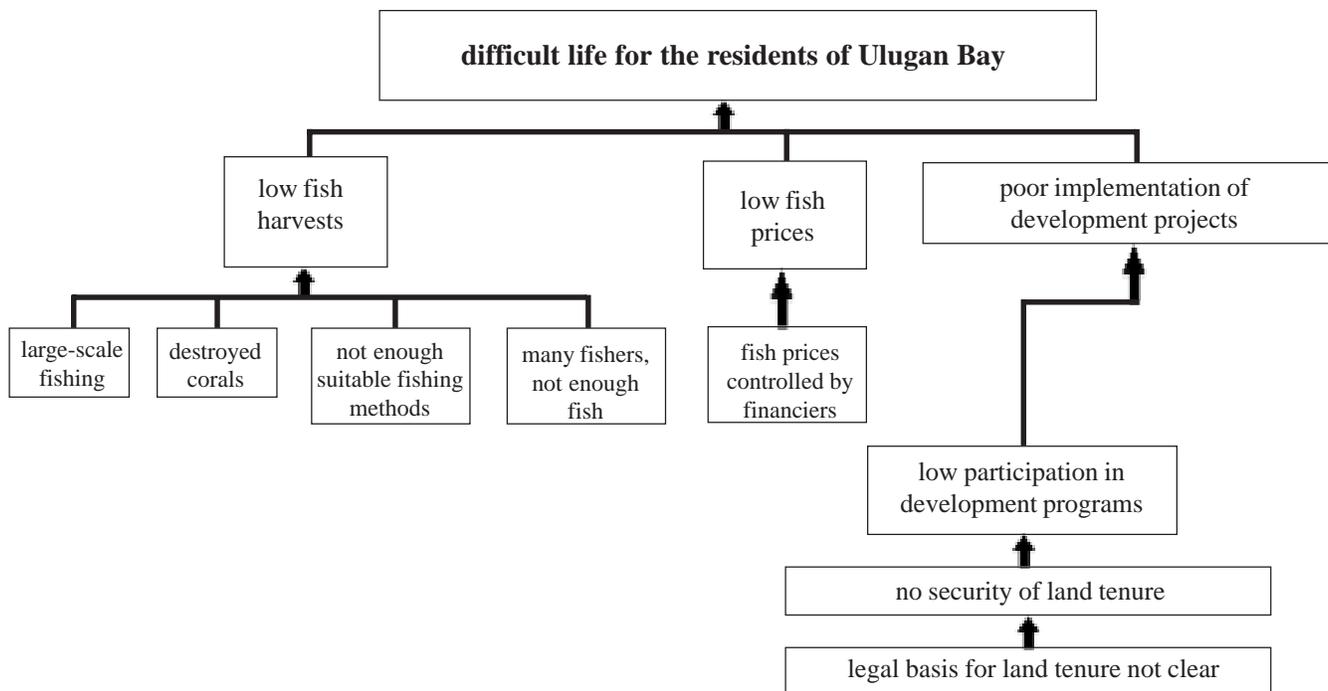
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**Fig. 3.4** Sample thematic map made by compiling several individual maps, including maps produced by local fishers using PCRA methods showing mangroves, coral reefs and other features of San Vicente, Palawan.

onto a single piece of paper elements from two or more separate maps having different elements. Maps drawn to different scales can be redrawn to a common scale using the grid or “scaling” technique. To present signboard maps in a coastal area profile, use photographs, or reverse the grid or “scaling” procedure to reduce the maps to a size that would fit the format of the profile.

**Other useful diagrams.** Numerous other kinds of diagrams can be used to visually present verbal and/or numerical data collected through PCRA methods. One



**Fig. 3.5 Sample flow diagram** showing current situation for coastal resource users of one barangay in Palawan.

useful diagram is a “box and arrow” or flow diagram which shows the relationships between various components, factors or conditions of the coastal resource system (Figure 3.5). These diagrams are often helpful in showing cause-and-effect relationships. They are usually based on discussions on historical trends and the causes of these trends.

**Evaluating coastal resource management opportunities, constraints, issues.** When enough data have been compiled and presented in useful forms, these data can be integrated and analyzed for the purpose of promoting CRM. This is best accomplished by analyzing, both individually and collectively, all PCRA results. The analysis should always be guided by two questions:

1. What aspects of the PCRA results suggest various opportunities or potential for maintaining or improving CRM and sustainable coastal development?
2. What aspects of the PCRA results indicate problems or obstacles for CRM and sustainable coastal development?

This process often involves drawing connections between a number of diverse factors. The strong inter-

relatedness of natural and social phenomena must be considered. Typically, opportunities for improved CRM reflect the potential for profitable enterprises based on coastal resource production, such as mariculture, while the constraints involve a mixture of biophysical and social conditions that hinder the realization of this promised profitability.

The key to effectiveness in management lies in identifying real, feasible economic opportunities, and in elucidating the true, fundamental constraints.

Constraints and problems relate to the past; opportunities relate to the future. Unlike the past, the future offers a variety of options or choices; the pros and cons of each choice should be examined for future CRM systems. Often, the best choice is not clear, and it might be necessary to leave a variety of options open. The analysis must also often go through several cycles or iterations before a sufficiently deep and accurate understanding is obtained. Participatory discussion and feedback sessions are useful, especially when used with flow diagrams such as the one depicted in Fig. 3.5. Flow diagrams can help show the relationships between various environmental and social conditions that are revealed through PCRA.

After the opportunities and constraints are analyzed as discussed above, a set of fundamental CRM issues should be developed. CRM issues are the primary

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factors that must be addressed for CRM to be successful. When possible, these issues should take a positive form and mention the specific opportunities that could be realized once they are addressed. It may be difficult to always make issue statements with real positive elements, however, since constraints often outnumber opportunities and existing constraints often cloud the possibilities for an improved situation.

When the PCRA results are carefully analyzed, most CRM issues can be related to human behavior. CRM issues usually involve unwise human activity in coastal areas and indicate problems in the coastal resource regime or operative system of rights and responsibilities regarding coastal resource use. Other issues might be better characterized as stemming from an absence of positive behavior and not as arising from negative actions. Common issues include open access coastal resource regimes, conflicts between resource users, destructive harvesting methods, and degraded coastal habitats. Once the fundamental CRM issues have been identified, recommendations can be made to initiate the planning and implementation phases of CRM.

**Making recommendations.** Coastal area profiles typically conclude by presenting a set of recommendations intended to serve as initial considerations for CRM planning. Recommendations

are made to address the identified CRM issues. An accurate understanding of the fundamental issues will help in prescribing appropriate recommendations. Often, an issue must be attacked from a number of fronts simultaneously. Thus, to address the issue of open access, a number of activities might be recommended, ranging from institutional strengthening to enterprise development. Good recommendations are highly specific. Instead of recommending enterprise development in general, specific details regarding feasible enterprise options, scales and timetables should be given. Accuracy and specificity can be improved with local participation and feedback as the recommendations are developed.

### **Project monitoring and evaluation**

PCRA methods can be quite useful in defining parameters for CRM project performance (or impact) monitoring and evaluation. If you intend to use PCRA methods for this purpose, the monitoring and evaluation indicators specific to the project should be considered before any field work is conducted. Most projects have environmental, ecological, socioeconomic and institutional indicators that can be measured through PCRA. These indicators commonly have unique formats, sources and units. Thus, when project monitoring and evaluation is important, the

indicator system should serve as a primary guide in determining the type and form of information gathered during PCRA.

PCRA should not, however, be seen merely as a tool for project monitoring and evaluation. Much of the real value of PCRA lies in providing information for initial CRM planning and implementation. While indicators measure the success of a CRM effort, a great deal more information is needed to make monitoring and evaluation successful. The greater value of PCRA is realized when it facilitates initial and subsequent decisions regarding actual project activities and interventions.