Module 4: Learning About the Socioeconomic Context of NRM Issues through Social Assessment

Stakeholder engagement	2.1-2.3 Foundation concepts 2.4 Defining your role as a facilitator 2.5 Skills and attitudes for facilitators 2.6 Understanding and managing conflict 2.7 Communication strategy 3.2 Stakeholder analysis
Assessment	3.1 Initial analysis of resource management problems 3.2 Stakeholder analysis 3.3 Participatory problem analysis 4.1 Introduction to socio-economic assessment 4.2 Preparing a socio-economic profile 4.3 Socio-economic baseline assessments 4.4 Methods for socio-economic assessment 4.5 Managing the information 4.6 Making sense of the information
Project planning	5.1 Developing a solutions tree 5.2 Assessing social, economic and ecological impacts 5.3 Selecting options 5.4 Checklist of project planning issues
Action planning	6.1 Project mapping 6.2 Preparing logframes 6.3 Preparing a work plan

Module aims

This module will help you to undertake socio-economic assessment, a broad term that involves finding out about the socio-economic context of NRM problems. In addition, it will help you:

- Understand the difference between participatory approach and conventional extractive approaches to information collection.

- Understand a range of potential methods for finding out about socio-economic conditions and how to these relate to questions and information needs.

- Understand some basic principles for analysing or making sense of the information you collect.

- Relate the information collected back to their guiding questions and be aware of options to communicate your findings.

Note: Modules 3 and 4 are closely related. Although they are presented as different topics in this resource kit, a clear understanding of resource management issues and problems requires you to learn about their social context. The activities in Module 3 and 4 both relate to the 'assessment' stage of the project cycle and can go on at the same time. Please take the time to also look at Module 3.

Topics

4.1 Introduction to socio-economic assessment

4.2 Preparing an initial socio-economic profile

4.3 Socio-economic baseline assessments

4.4 Methods for socio-economic assessment

4.5 Managing the information

4.6 Making sense of the information

Topic 4.1 Introduction to socio-economic assessment

What is it?

An important starting point in developing a participatory NRM program is an initial understanding of resource management issues in the target area, and the social, economic and ecological dimensions of those issues. We focus here on socio-economic assessment, a process of learning about the social, cultural, economic and political conditions of individuals, groups, communities and organisations (Bunce et al., 2000).

Resource use problems arise as a result of human choices. Social scientists consider that people make the resource use choices that they do because they believe that these choices will make them best off financially, culturally or otherwise. Therefore economic and social information about peoples' motivations and values is critical to understand:

- why people use resources the way they do;
- why therefore resource management problems happen; and
- how we might address these problems.

By determining what motivates people to make the decisions, we are better able to develop targeted solutions for resource management problems, and tap into these motivations to encourage changes in their behaviour.

A lesson emerging from participatory projects is that the solutions to resource management problems often require the involvement of stakeholders at many different levels: for example by households, the lineage or clan, specific user groups, townships, provinces, national governments and even international agencies. These were represented as layers of an 'onion' in Figure 4 (see Module 2).

While we focus here on socio-economic information, ecological information is also essential to understand the status of resources and current trends. Later, during monitoring, such information also provides feedback on the effectiveness of resource management strategies. Such information may be scientific or technical, or it may draw on the knowledge, experience and observations of local stakeholders.

Unless we understand the relevant social, economic and ecological factors causing the problem, the actions implemented in a project may be ineffective (see Case 18).

Case 18: Understanding the social, economic and ecological dimensions of an issue

A program in the Arnavon Islands (Solomon Islands) aimed to stop the decline in the number of turtles coming home to nest each year. The decline was related to many factors:

Villagers had traditionally collected turtle and turtle eggs from the area for use at home, for feasts and marketing.

When nesting, the turtle were an easy target for harvest. However, turtles harvested at this time were breeding females, thus escalating the decline in turtle numbers.

An attractive international market in turtle shell enticed fishermen to harvest more turtle than they needed just for their food.

National and provincial laws banned the sale of turtle meat and products, but the laws were not enforced and villagers were often not aware of the laws.

The local, provincial, national and international levels of the issue had to be considered when designing a marine conservation project. Ecological information was important to quantify the scale of turtle decline and the consequences of current harvesting practices. Social and economic factors helped to understand why harvest was traditionally important to the communities, as well as why harvesting pressures had increased in recent years

Source: (Mahanty, 1995).

Recent reviews of community based programs in the Pacific have shown that many programs work with a very limited understanding of these social factors, leading to ineffective and less practical solutions to resource management problems (refer Case 19 below). Examples of some potentially important social factors to consider may include:

- stakeholder characteristics including demography (population size, age and sex distribution, birth rates, and so on)
- ethnicity (cultural background)
- religious background,
- economy and livelihoods;
- social structure and organisation.
- resource use patterns, user rights/access and resource ownership.
- gender issues such as roles of men and women in resource use; rights of men and women in the household/community.
- community organisations and resource governance systems.
- traditional knowledge.
- stakeholder perceptions in regard to natural resources including values and beliefs.
- community commitment to the project and constraints to community participation in the initiative such as existing conflicts.

Case 19: The perils of ignoring the social and economic context

In PNG, an integrated conservation and development program selected its project site based mainly on biological criteria. The project managers faced many difficulties in engaging the landowners to work towards the project aims. After two years of conflict and difficult negotiations between project staff and landowners, the project finally withdrew from the area.

One of the important lessons learned was that a more detailed understanding of the 'social feasibility' of the site was needed at the outset. A similar point was made in a review of the South Pacific Biodiversity Conservation Program, which pointed out that participation by stakeholders could have been made stronger by studying the social and cultural factors relevant to the problems being addressed, and addressing these in project design.

Learning from this experience, a later integrated conservation and development project in PNG required the collection of social and economic data as an integral part of the development of a project in the Bismark-Ramu area. Projects such as IWP are also building this requirement into their project guidelines.

Sources: (Baines et al., 2002, McCallum and Sekhran, 1997, Van Helden, 1998).

The socio-economic context of an NRM initiative should therefore be understood through solid and systematic field investigations, consultation and participation by key stakeholders. Such an approach is now seen as a basic element in 'best practice' project design and implementation.

Different levels of detail at different times

Information needs on the socio-economic context become more detailed over the project cycle. Initially, during stakeholder engagement, it is useful to carry out an initial assessment of resource issues in their socio-economic context. **This should occur before or during the activities outlined in Module 3.** As the project design progresses, more detailed baseline studies can be undertaken to examine in depth the relevant social and economic issues around a resource management issue.

At both stages the aim is to gather information on the socio-economic context to build a better understanding for project planning. The difference is in the level of detail in information collection and analysis. This initial profile can feed into the baseline assessment, and also be used to plan data collection for the baseline assessment. The baseline assessment then forms the basis for a monitoring program (see Figure 7).

Figure 7: Socio-economic assessment
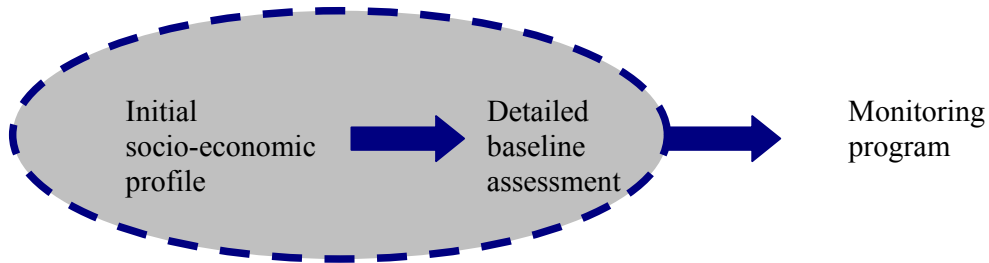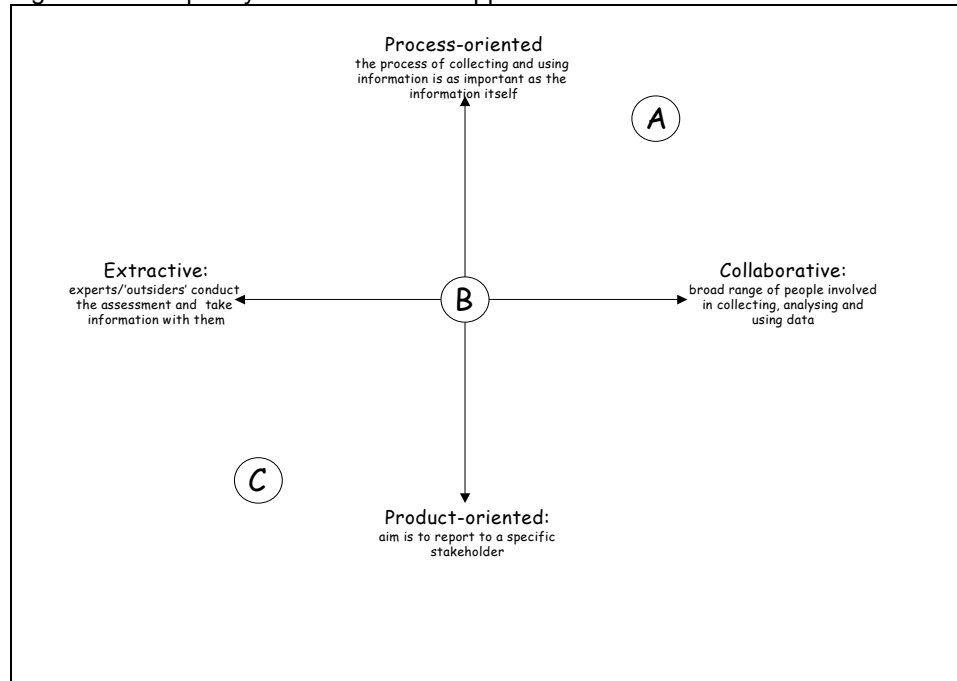

Socio-economic assessment

Participatory and Conventional methods

Socio-economic assessment can involve a mix of methods that involve stakeholders in gathering and analysing information (participatory methods), as well as conventional methods that often require help from technical resource people. Our focus in this kit is on participatory methods for information collection, analysis and planning. The process of participatory data collection and analysis then becomes a process of capacity building for stakeholders.

The difference between a conventional data collection approach and a participatory approach to information collection and analysis is shown in Figure 8 below. Approaches A and B (and the points in between) are collaborative and have an emphasis on the process of learning through engagement in the research, while C is conventional research, emphasising the final product (a report or research findings) rather than the learning process.

Figure 8: Participatory and conventional approaches to assessment

Process-oriented
the process of collecting and using information is as important as the information itself

Ⓐ

Extractive:
experts'/'outsiders' conduct the assessment and take information with them

Ⓑ

Collaborative:
broad range of people involved in collecting, analysing and using data

Ⓒ

Product-oriented:
aim is to report to a specific stakeholder

Source: (adapted from Bunce et al., 2000)

Recently, conventional approaches to information collection and analysis have been criticised for their 'expert driven' focus, because this can reduce local ownership of the findings, the potential for building local capacity, and continue the reliance on experts to conduct research. In addition, conventional approaches have tended to favour 'scientific' knowledge and numerical analysis over local knowledge and experience.

By comparison, participatory research can provide greater opportunity to integrate local values and knowledge, with its emphasis on local involvement, local knowledge, perspectives and solutions.

However, neither approach is inherently 'good' or 'evil'. Conventional research methods will still have an important contribution to make in specific areas, and research that is called 'participatory' can be poorly undertaken in terms of checking assumptions and verifying information. A participatory approach does not preclude more detailed or technical information on specific issues and topics, or advice from technical resource people. A combination of methods and information sources is likely to provide the best understanding of current conditions (the baseline).

It is important to note here that collaboration on assessment goes beyond participatory data collection to the deeper sharing of perspectives and knowledge between stakeholders, and collaboration right through the design

and implementation of what can broadly be called a 'learning system' (Keen and Mahanty, forthcoming).

Participatory methods and communities

In working with communities to gather and analyse information, it is important not to raise expectations about the outcomes of research (see Issue 12).

Issue 12: Raising expectations

Gathering information and doing workshops in communities can raise expectations that a project is going to address many of the problems identified. For example, a process to 'brainstorm' community issues may raise the expectation that all of the problems raised will be addressed by a project.

In doing participatory research it is very important that you are honest and clear with stakeholders about how the information will be used and what actions may or may not flow from the exercise.

Failure to do this can lead to a loss of trust and alienate communities.

Some projects develop an engagement 'protocol' to outline how staff will work with communities, including on data collection. It is also important to agree with stakeholders how the information collected will be managed and used. For example, the Locally Managed Marine Area Network in Fiji developed an agreement between its members and biodiversity researchers to ensure equitable sharing of any commercial benefits from the research, sharing of information and research findings, and equitable community engagement in the research (Source: LMMA Model Agreement for Overseas Biodiversity Researchers with FLMMA Members).

Topic 4.2 Preparing an initial socio-economic profile

Preparing an initial community profile at a village or site-specific level involves the collection of specific information on local level stakeholders. **This is best done before or during the activities outlined in Module 3.** Basic background information on community conditions helps with planning consultation processes and anticipating the kinds of issues and problems likely to be discussed. Some information can also be collected during initial consultations in the community (for example on NRM issues of concern to the community).

A literature review is a good starting point for the profile, which basically involves reading everything all literature that you can find related to the issue and the place you are concerned with. Some useful sources of published and unpublished information include:

- Reports on or about the community. These can help you gain background on the communities involved in the resource management issues and their conditions, and are important source documents for socio-economic baseline assessments (see Topic 4.3). Such reports are often prepared by government, local organisations, or researchers. Search for these in university and government libraries, government offices, and with NGOs.
- Journal articles on the social, economic or ecological context of the resource issue. These can help to give you technical background on the issue as well as background on the national or international context. Look for these in university libraries and ask researchers or technical people in the field for suggestions on which papers to read. Another way of finding relevant articles is to follow up articles in the reference lists of reports.
- Government Census and other statistical data. This gives you information on things like population, age distribution, livelihoods and income, health and education, and is often used in socio-economic baseline assessments. Agencies may also keep statistics on trade related to the resources you are dealing with (for example forests, marine products), which can give you background on export volumes, markets and significance to the national economy [link to Section 4.2]. Search for these at your Government agencies dealing with national statistics, and line agencies dealing with sectors like forestry, agriculture and marine resources.
- Previous studies, project documents and reports on related issues. These give you background on issues and lessons learned from previous programs. Studies of capacity and education by aid agencies and NGOs can give you information on where training and development needs may lie, and issues in meeting those needs.

- Reports by line agencies, for example agencies responsible for Fisheries, Environment, Health Departments, Forestry, Commerce or Tourism. These may give you background on the issue and information on relevant rules and regulations.
- Masters or PhD theses about the area or issue you are concerned with. Search for these in university libraries, and through your contacts in the research community.
- Provincial or National Development plans
- Market or product analysis. These may have been undertaken by government agencies (eg. forestry, fisheries, agriculture), consultants, aid agencies, and development banks.

To help you focus and make the best use of your limited time, take note of the hints below.

> Hints:
>
> Keep clarifying your questions before talking to informants and reading through documents. This will help you to focus on the information you need.
>
> Afterwards, think about:
>
> - What the person or document added to your understanding of the issue or problem.
>
> - Whether you have any new questions now.
>
> It is useful to keep a record of a few key points you learned from each document or person.

Some useful places to search for information include the internet, local public library, local university or college libraries, research libraries in local government departments, and research libraries in international agencies located in your area.

When visiting government ministries it is useful to make contact with staff and project officers in your area of interest both as an opportunity to exchange information and to build a network of potential partners in your project.

The Tongan case below (Case 20) shows one way of approaching the initial information collection stage.

Case 20: Identifying a focal area for a national project in Tonga

The manager of a project in Tonga had the preliminary task of identifying a priority environmental focal area for a project to address through a series of national and local level actions. This would be the starting point for consultations with local stakeholders and gathering more detailed information.

To start with, he read the some key national papers on environmental concerns: Tonga's Action Strategy for Managing the Environment (NEMS); the 1997 Tonga Submission to International Waters Program; and Tonga National Assessment Report for the World Summit on Sustainable Development.

He then spoke to members of Tonga's National Environment Committee which is a committee comprising national experts and other stakeholders to consolidate and confirm information presented in the literature review. A preliminary stakeholder analysis helped him work out which organisations he should contact for information. Over a period of five months he spoke to: the Tonga Visitors Bureau, Tonga Trust, Langafonua 'a Fefine Tonga (NGO), Ministry of Fisheries, Tonga Association of NGOs, 'Aloua ma'a Tonga (NGO), Ministry of Works, Tonga Water Board, Central Planning, Ministry of Agriculture and Forestry, AusAID Tonga Fisheries Project, Ministry of Health, Department of Environment, Australian High Commission, New Zealand High Commission, European Union Project Coordinator, Ministry of Fisheries.

All of the reports reviewed and information collected during meetings with stakeholders was compiled into a summary report, which helped the National Environment Committee to assess what the priority environmental concerns were in Tonga, what was being done to address them and then to decide agree that the program should aim to prevent the degradation of marine and freshwater quality caused by waste. The Project Manager's information helped the Committee to make an informed decision about potential priorities for the Tonga project.

Source: IWP Tonga, 2002, Working Paper 1, Review of Priority Environment Concerns in Tonga

The initial community profile will most likely cover information at a broad level on various issues from a range of different sources. For example, in the Niue case described in Case 19, information on a range of topics helped was collected initially to gain an understanding of community characteristics and what the key resource management concerns were at the community level.

Case 19: Community profiles in Niue

Before starting consultative workshops in Niue villages, facilitators gathered a range of information about village and resource conditions, including:

- population (using information from the national census).

- main village organisations, as well as key district and national bodies.

- local livelihoods (using information from the national census).

- relevant policies and laws at the national level (from government papers).

Profiles also used information from initial community workshops, which included activities such as:

- stakeholder identification and analysis to help understand the roles of various players in the resource management issues and potential solutions.

- marine transects: this involved a walk through a reef area by facilitators and community members to look at the biophysical environment, resource use and management practices for these areas. See Annex 2 for an example of a marine transect.

- seasonal fishing calendars: this involved facilitators and community members looking at seasonal patterns in fishing and the use of resources at different times of the year. See Annex 2 for an example of a fishing calendar.

- village and resource mapping: this involved mapping the village environment to identify the location of main features and resources.

- participatory problem analysis and development of solutions trees. The exercise for PPA is shown in Module 3.

Source: Niue IWP, 2003, Participatory Situation Analysis: Summary Report of Village Consultations in Niue.

Topic 4.3 Socio-economic baseline assessments

A baseline assessment provides a current snapshot of a site and its population, preferably before or during the early stages of a project. It establishes a base of information on critical factors and variables against which change can be measured. A baseline assessment is also a way of getting knowledge about the target population and its social context, economy and resource management (Russell and Harshbarger, 2003). The information collected in an initial community profile (see Topic 3.2) can be used to plan a baseline assessment and is also a starting point for the information to be collected in the detailed baseline assessment.

Why do a baseline study?

Baseline information is important:

- To assess the extent of problems;
- To validate and assess the contribution of a cause to a problem;
- To assess the impact of an initiative or program, how it has affected communities, their livelihoods and resource use patterns. Without a reference point, it is difficult to assess change.
- If undertaken systematically, baseline information can help to make sure that we have enough information to assess the impacts and outcomes of a project later on.
- To help with project planning. Baseline assessments provide information on the community, its resource use patterns and economy. Such information can help to focus programs appropriately and improve project design, involve appropriate stakeholders and improve the likelihood of achieving sustainable and equitable outcomes.
- To provide information needed to facilitate stakeholder participation (which can be written up specifically in a Stakeholder Participation Plan).
- To identify important indicators of social change that can be tracked through monitoring while a project is being implemented.

What information do we need for a baseline assessment?

Identifying information needs is an important starting point for any socio-economic assessment process.

The information and issues covered in a baseline assessment depends on the focus of the project. The background information gathered during initial consultations to develop an initial profile (see Topic 4.1) provides a basis for designing the baseline study. This initial information can also be used in the baseline analysis.

A socio-economic baseline study will consider the social, cultural, economic, political, and institutional conditions that have a bearing on the resource management issue and its potential solutions. Similar to the initial profile, these may specifically include:

- Demographic information e.g. population, age distribution, gender.

- History of community/settlement.
- Local services and infrastructure.
- Social structure and background e.g. kinship system, leadership roles within the community.
- Social and economic factors influencing human behaviour in relation to the resource problem, including:
    - attitudes, values, perceptions and beliefs (affecting resource use
    - formal and informal rules governing resource use
    - incentives for resource use (e.g. financial returns, exchange obligations).
- Gender roles in relation to the resource management issue..
- Impacts of resource use on others.
- Local knowledge regarding the resource issue.
- Economic activities and livelihood options.
- Local organisations and institutions (e.g. church groups, women's groups).
- Political structure and governance (e.g. how are decisions made in the community? How do community systems mesh with governance systems at the provincial or national level?)?
- Conflicts between stakeholders.
- Community's source of information and media habits (e.g. availability of radio, TV).

In addition to these factors, it is also useful to collect information on economic factors that motivate people to use resources in the way that they do. These may include (from Lal and Holland, 2004):

- Access to the resource – how it can be used, who has access to it, tenure, certainty of tenure.
- The price at which goods and services that use natural resources are sold.
- The costs of producing goods and services that use natural resources.
- A description of the markets for goods and services using natural resources (infrastructure, producers and consumers).
- Local, national, international and customary rules and regulations concerning resource use, together with information on their effectiveness.

Where stakeholder participation is an objective, it is also important to find out about social, economic and cultural factors that may affect stakeholder participation in the project. These can include:

- Differences in social status between groups.
- Gender differences.
- Stakeholder availability (e.g. are there constraints on time and effort at certain times of year?).

- Political/social context (e.g. Is it important to work with existing leaders? What is their relationship with other stakeholders?).
- Institutional means (e.g. are there existing rules and bodies that the project should support and work through?).
- Is there a degree of commitment from stakeholders to work with the project?
  - What are the views and attitudes of stakeholders to any provisional project goals?
- Conflicts (e.g. are there conflicts between groups that may influence their engagement with the project?)
- Any other constraints to participation.

Not all of these areas will be relevant in every project, and information needs have to be targeted according to the scope and focus of the project (see the hint below).

> Hint: This may all look rather complex! Yet remember that baseline assessments do not need to cover everything.
>
> In designing a baseline study, keep in mind the resource management issue you are trying to understand, so that you can stay focused on the relevant social, economic and cultural conditions. The resources available to you will also determine how detailed your baseline study can be.☺

In addition to this information, don't forget that there may be specific questions, issues and assumptions to investigate from the stakeholder analysis and the participatory problem analysis. (See Issue 13). Following these leads will help you to understand and check the resource issues, problems and causes.

Issue 13: Participatory problem analysis and stakeholder analysis can help with baselines

> As you review the outcomes of the PPA and stakeholder analysis, think about whether you have any specific questions or uncertainties about the environmental problems and their causes.
>
> Is there is anything more you need to know so that you are reasonably certain that you-
>
> - have described the problem
>
> - understand the causes of the problem.
>
> - understand the effects of the problem.
>
> - understand who is responsible for the problems and causes (stakeholders)
>
> - understand how different stakeholders understand or care about the problems, causes and effects.

Think about any other questions or specific information you need in order to describe accurately the current or 'baseline' situation around the problem and its causes. Then you can check these conditions in the future to see if the project has actually changed anything.

Two examples of baseline studies that aimed to understand social conditions related to the management of marine resources are the Arnavon Islands Community Baseline Study (Mahanty, 1995)and the Milne Bay Community-based Coastal and Marine Conservation Program. In the Arnavon case, an initial process of community workshops was used to understand key resource management issues. The baseline study then focused on understanding relevant social and economic patterns and trends. The next activity is to help project staff clarify their questions and relate them to information sources and methods.

Activity: Examining Questions, Information Needs and Methods

Purpose:

To clarify questions, information needs and potential methods for a baseline analysis. The matrix provided enables you to examine your questions, and work out which possible methods may be used to meet these information needs in a baseline study.

Participants:

This activity is used with by a project manager together with other project staff.

Materials:

Matrix table included in this activity

Flip chart paper

Coloured marker pens.

Time:

1 hour

Steps:

To use the matrix, follow these steps:

1. With the project team or project stakeholders, determine what specific questions or uncertainties you have about the nature and extent of any resource management problems, their causes or their effects, or who is or should be responsible for them.

2. Determine what specific information you need to answer those questions.

3. Select which specific research method you and the other stakeholders could use to collect each type of information.

4. Identify who would carry out each type of activity.

5. Determine how and to whom you will report on your reasons for collecting the information, any required inputs, and the outcomes.

Note that a selected combination of methods is likely to be most useful, and is also important for cross-checking information.

Activity Worksheet: Matrix on information needs and methods

Questions	Information Needs	Methods	Details (who, what, and when)

Activity example: Information needs and methods for a water quality project baseline assessment

Questions	Information Needs	Methods	Details (who, what, and when)
To what extent do chemicals contaminate coastal waters?	Level of chemical contaminants in water	Water testing by experts	Organise government water engineers to do chemical tests; Sites to be determined by water authority in consultation with stakeholders.
How would herbicides and fertilisers enter the coastal area?	Ground water flows into coastal waters	Past reports on ground water supplies Technical expertise Conduct test	Report by ….. Check Min of Health Univ. of Auckland Ground water
How widespread is the use of fertilisers and herbicides by the community?	Average amounts of chemicals used by each household	Focus groups Household survey Sales records	Primary stakeholder groups Site Villages – all households Check data against local sales records?
What are the people using the chemicals for?	Specific purposes of use of chemicals	Focus groups of community members Household survey	Primary stakeholder groups Site Villages – all households
Which groups in the community are using the most amount of chemicals? The least?	Characteristics of use by different stakeholders	Household survey	Project manager and facilitators. Design assistance from technical resource people.
How knowledgeable are community	Community knowledge of harmful impacts	Household survey	

members of the potential harmful impacts of chemicals?	of chemicals		
What education programmes do exist?	List of programmes carried out by NGO or Govt	Interviews of govt. or NGO persons Project Reports and documents	Project manager.
Have these awareness programmes been measured for effectiveness?	Evaluations of past awareness programmes	Discussions with relevant govt depts and NGOs carrying out programmes	
What are govt policies on use of chemicals?	Government policies on health and use of herbicides and fertilisers	Published policy statements of DAFF Interviews with Dept of Agriculture	
What tests have been carried out on contamination of water supply?	Details of all past tests		

Source: IWP Train-the Trainer workshop materials, 2003

Topic 4.4 Methods for Socio-economic Assessment

This topic outlines possible methods to collect information for socio-economic baseline assessments. The aim here is to give you an overview of options, but not to run through how to use each method in detail (to do this properly would require a manual in its own right!). A very useful manual on this topic has been developed by the IUCN that goes through 'how to' on each of the methods mentioned here (see Bunce et al., 2000 or http://iucn.org/themes/wcpa/bome/socioeconomicmanual.htm). Annex 2 includes more detail on many of the methods covered here.

It is important to be aware of the full range of methods available to finding out about social and economic conditions. Some information we need for baselines (and monitoring) will come from participatory methods (eg PRA tools), other information will be drawn from literature, observations, surveys or other methods, and information and knowledge held by stakeholders with specialised roles, or technical resource people (Russell and Harshbarger, 2003). Some methods, such as surveys, are quite involved and may require advice from technical resource people on design. However, it is sometimes necessary to use these if there is not enough known about a community and its relationships to resources. An example of a mix of methods can be seen below in Case 22.

Case 22: Finding the right mix of methods in Niue

In the Niue Participatory Situation Analysis, facilitators used a combination of methods to gather information about resource management issues and community conditions:

- Village profiles drawn from existing literature and facilitator knowledge, provided an initial picture of communities, including: population, key organisations, village resources and infrastructure.
- Stakeholder Analysis
- Participatory Problem Analysis
- Marine transects with specialised user groups (men and women) provided information on resource use and degradation of marine resources
- Seasonal calendars provided background on specific species and harvesting patterns.

Participatory methods were new to most participants. The opportunity to analyse and discuss issues of concern was stated by many participants as one of the greatest strengths of the process. There were some difficulties in meeting arrangements, language, timing and sequencing of activities, and participation levels in some villages. Despite these challenges it was an important learning process for both the IWP and Niue.

Out of this process, the National Task Committee endorsed selection of two villages to initially commence activities to address the declining availability and degradation of marine resources in Niue.

Source: Niue IWP 2003. *Participatory Situation Analysis: summary report of village consultations in Niue,* IWP, Niue.

Published and Unpublished Information
Information about communities and resource management issues can be gained from a range of written sources. Possible information sources and where to find these are discussed in detail in Module 3.1. Briefly, these include:

- Reports on or about the community.
- Journal articles on the resource issue.
- Government Census data.
- Aid agencies reports on capacity or education.
- Previous Fisheries, Environment Unit, Health Department, Forestry, Commerce or Tourism reports.
- Masters or PhD theses.
- Provincial or National Development plans.
- Market or product analysis.

Remember to check the internet, local public library, local university or college libraries, research libraries in local government departments, and research libraries in international agencies located in your area.

Community Records

Communities may keep day-to-day records that are useful in baseline assessments. For example, the records/receipts of the community store or local buyers (e.g. the purchasers of marine products); church records; working group meeting records. People may be sensitive about sharing commercial or personal information.

Expert Advice and Technical Analysis
There may be organisations (e.g. SPREP or NGOs working in the region) who can provide technical advice and support related to your resource issues. If you decide to get help, do your homework first with published and unpublished information. This will help you to ask the right questions of technical resource people, and use them to fill the gaps.

Observation
Observation involves describing and recording what you or other team members see in a village. It is a useful method for looking at visible changes in the community, like housing types, that carry information about the standards of living and change in communities. It is also a useful method for observing community behaviour in relation to resource use and management, and relationships between stakeholders. Observation can involve being actively engaged and asking questions, for example going along on a fishing trip and asking about fishing practices. See Bunce et al., (2000: 92-94) for more information on observation techniques.

To be useful beyond the immediate moment and to provide documentary evidence, it is important to systematically record observations in some way, either by writing them down or verbally recording the information. This

allows you to look back at information when you are looking to answer questions about resource issues and community conditions.

Participant observation, where you 'observe while doing', can be a useful way of learning about resources use. Some background on this method is in Annex 2.

Facilitated focus group discussions

Focus groups are small group discussions around a theme or set of questions. Often groups will be selected from a similar background, for instance women in a village, fishers, business people and so on. This is a useful method to find out the views and perspectives of specific groups on resource issues and project activities.

A checklist of questions or structured activity (e.g. the transect activity in Annex 2) can be used with the group to help stimulate discussion on the issues of interest. It can be useful to work in a team so that one person is recording information while the other facilitates.

It is important to build rapport with the group. Use open-ended questions and record the information. Check if confidentiality (not identifying the source of any information you collect) is important to the group. See method profiles in Annex 2, Bunce et al. (2000:101-105) for more information on how to run focus groups), and Russell and Harshbarger (2003: Chapter 12) for more information on group interviewing.

Semi-structured individual interviews

There may be times when information is best obtained from individuals rather from a group. For example, there may be particular individuals with specialised information and knowledge, such as elderly people in a community who know about how resources have been used and managed in the past, leaders, and so on.

Semi-structured interviews usually involve preparing and using a list of discussion points or questions to guide the interview. Again it is important to build rapport with the person, use open-ended questions and record the information. Confidentiality may be an important issue for individual interviewing. See Bunce et al.(2000:96-100) and Russell and Harshbarger (2003: Chapter 12) for more information on interviewing. There is also more information on this method in Annex 2.

Interviewing

Group or individual interviews are a good method to elicit information where people have specialised knowledge or where you are trying to gain a more detailed understanding of their views than a standard survey allows (see information on surveys below). Whether you are working with groups or individuals, it is important to build a good rapport with your informant. Annex 2 contains some strategies that can help to build better interviewing relationships and gather relevant information.

Oral histories

Oral histories are a particular kind of individual interview, where the focus is on obtaining historical information and personal histories from the informant (see Annex 2).

Surveys

Formal surveys use specially designed forms or questionnaires. In a large survey, the range of possible answers to each question may be known in advance and is listed on the form, so that the interviewer simply marks the appropriate reply. For example, questionnaires may include check boxes, multiple choice questions, ranking questions and so on. Open-ended questions, if used, are often limited to just a few.

Surveys can be a useful method to gather information in a systematic way that represents the views or patterns of a larger community or stakeholder group. Surveys can provide useful information on things like livelihoods, income, education, and health. It is important to build on and complement rather than repeat information found in national census data (remember about doing your homework first). Surveys can also complement the more descriptive and rich information you can find through individual and group interviews, rather than needing to cover the same ground.

Surveys can be costly and take time to administer and analyse results. Yet, if well designed, they can provide useful information on community conditions relevant to the resource management issue. The design of a survey, and how you administer it (e.g. how many households you cover, and which ones) are important if the survey is to give you 'representative' information. It is often useful to get advice from technical resource people on these matters.

Issue 14: Some useful thoughts on surveys

Take out confusing questions, questions that involve very long and detailed responses, and sensitive questions (unless carefully tested). In short, remove all questions that can be better answered in informal interviews, group interviews, key informant interviews, by observation, or in reading existing sources. A half an hour is more than enough time to spend with each respondent. More than one hour is too much. Too much data means too little analysis.

Source: (Russell and Harshbarger, 2003: 234)

Some important issues in designing a survey are summarised here (Issue 14). For more information on survey design and 'sampling' (how many and where you will do them) see Bunce and Pomeroy (2000: 109-112) and Russell and Harshbarger (2003: Chapter 14)

Visualisation Techniques

These have also been called 'Participatory Rural Appraisal' or 'Participatory Learning and Action' techniques, and are techniques for visually displaying information. Such methods are 'participatory' in the sense that they elicit information from and for stakeholders to directly use in decision-making

and planning. Many of the activities in this resource kit, such as PPA are examples of visualisation techniques.

In using such techniques, remember:

- Keep your facilitator hat on! The attitudes, communication, group process and planning skills you use as a facilitator are very important in facilitating visualisation techniques.
- You need to guide people carefully through the participatory process with questions and enough information on how to do the activity.
- Think carefully about how you constitute the groups for activities. For example, is it appropriate to bring 'like' people together in groups, or are you trying to promote sharing between diverse stakeholders?

Brief summaries of the main participatory techniques that can be useful in baselines are provided below. For more information, see Annex 2 and Bunce and Pomeroy (2000: 113-148).

Timelines

A timeline is a visual representation of key events in the history of a village. It can be a useful icebreaking exercise in communities, and helps to highlight critical issues or events that have shaped the current cultural landscape (ie. the interaction between a people and their environment). Timelines provide background on the social and economic factors connected with changing resource use patterns (see Annex 2 for more details).

Venn Diagrams

Venn diagrams are a visual way of representing stakeholders and organisations in a community, and their roles and relationships. This can be important for project facilitators in understanding how the community is organised, and in determining the potential roles and interests of specific groups in a program. The stakeholder map in Module 3.1 is an example of a Venn diagram.

Transects

A transect is a pictorial representation of a landscape between two points, and can include important landscape features, landuse, and settlement patterns. The process of preparing a transect provides an opportunity to gain an overview and start discussion on key resource management issues such as tenure, and important resources and places for various groups in the community (See Annex 2 for an example of a marine transect).

Trend Diagrams

Trend diagrams are used to explore changes in the status of resources and well-being in a community. This information can be used to discuss future management options.

Seasonal Calendars

Seasonal calendars are a representation of activities in a community over a year. The calendar may be organised by calendar month, or key seasons in the year. It relates patterns of activity in the community such as agriculture to seasons, and provides information on times where communities are likely to be busy with critical activities such as harvest, planting, and social obligations (see Annex 2 for an example of a seasonal calendar).

Matrix Ranking

Matrix ranking can be used to help communities prioritise their problems and/or potential management options or solutions. Options or problems are listed down the first column of a grid, and criteria to evaluate each option are displayed across the first row of the grid. The community establishes the criteria used to assess the urgency of problems, or the feasibility and attractiveness of management options, to reflect their needs and concerns. The community then assesses each option against the criteria, to generate an overall score for each option. This technique provides a systematic approach to planning, but can be complex to use in a community setting, and requires time and good facilitation.

Finally, remember that a combination of methods is best to gain the breadth, depth and richness of information that you and other stakeholders need to plan, implement and monitor your project effectively.

Further reading and resources on PRA: (Pretty et al., 1995, Mosse, 1994, Bronson et al., 1995)

Topic 4.5 Managing the information

The availability, management and acceptance of information by stakeholders are important issues in socio-economic assessment. Information is pivotal in defining interests, clarifying shared goals and assessing the feasibility of solutions.

In collaborative assessment, some general principles to follow are:

- Make sure that stakeholders are involved in identifying information needs.
- Work towards active participation in the gathering and analysis of information.
- Ensure that information is presented clearly and is easily understood by all groups. The personal communication skills for facilitation discussed in Module 2 are important in communicating information gathered in social assessments.

Some common problems related to information gathering and analysis are presented below, with possible strategies and options for dealing with them.

Issue: Common issues in managing information

| Problem	Possible solution
Information is incomplete, inaccurate, or both, making it unreliable and of little use.	It is impossible to achieve complete information, but aim for enough valid, reliable, accurate and cross-checked data.
There is too much information.	Prioritise information needs and target the information that meets those needs. Stakeholders need to agree on the relevance of their information and decide what is an acceptable balance of information.
The information is too complicated and difficult to understand.	Have a resource person interpret the information, translating it into lay terms or the appropriate language. When presenting it - make it relevant! Remember there is a need to present information in a way that demonstrates how it relates to the interests of the stakeholders.
There are different or conflicting interpretations of the same information.	Obtain other independent views or interpretations of the information.
Different groups see their own information as most accurate. For example, professionals may have an 'elitist perspective' in which technical information is valued over local or traditional knowledge systems.	Acceptance of other groups' information is frequently an issue. The facilitator should help the group to see the strengths and weaknesses of all systems of knowledge.
Information may be purposely biased	A certain level of transparency should be

to cover hidden agendas.	encouraged. The interests of individual groups and the common goals should be reviewed openly.
The costs (staffing, time, materials) of collecting the necessary information may be high or unrealisable.	Brainstorm possible ways to meet these needs with the overall group.
Recording and analysis of information	Plan the analysis before collection
Reluctance of stakeholders to share information	Identify another source? Clarify stakeholders concerns and ground rules regarding confidentiality of information Respect cultural system (traditional knowledge access)

Source: IWP TTT workshop materials, 2003.

How do I know the information is accurate?

Triangulation is an important principle to bear in mind when gathering information. Triangulation is a process of cross-checking information by using information from a range of different sources. By using a range of information sources – oral, written and visual – the accuracy of your understanding of resource issues and their social context can be improved. The triangulation diagram shows how some of the methods discussed in Module 4.3 can complement each other to cross-check information in this way.

Figure: Tr:iangulation
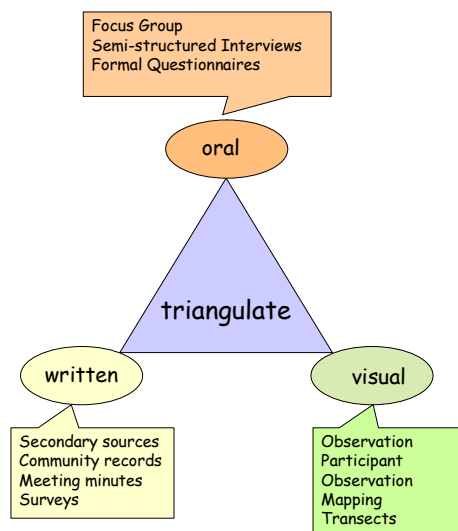
Topic 4.6 Making sense of the information

An assessment aims to interpret key social, economic and biological conditions of a resource management issue. The starting point is to clarify your questions and information needs as a basis for the assessment. This helps you with the assessment in two important ways:

- It will help to ensure that your data collection process is focused and strategic, rather than trying to get information on absolutely everything.
- Having clear focal areas and questions will make the job of 'making sense of the data' or data analysis much more manageable.

Broadly, the process of analysing data is one of looking for the main stories or key leanings from the questions and social factors you have examined. The process involves:

- Systematically looking through the information or data coming out of the various methods selected.
- Identifying the main learnings from particular questions, issues and stakeholders.
- Writing up and communicating the findings to stakeholders.

This module will introduce you to some issues and principles to help you with data analysis. Data analysis cannot be simplified into a 'recipe' that you can use in all situations as your data, questions and audience will vary from situation to situation.

It is therefore important that you work in team rather than alone. This helps to bring many minds to the task, and to build skills and knowledge in the project team. Also, be prepared to seek help from resource people and use resources like the manual by Bunce et al. (2003) to help you as you build your skills in analysing information.

Ways of examining your information

Using a mix of methods will leave you with a mixture of descriptive (qualitative) and numerical (quantitative) data about different social, economic and biological factors related to the resource management issue you are exploring. Data for your baseline assessment, for instance, may include:

- Census data on population, education and livelihood activities (generally presented in numerical form as statistics)
- Workshop outputs (eg. stakeholder analysis, PPA, visual exercises such as transects, seasonal calendars and so on)
- Notes from focus group discussions about people's views on resource issues and management options.
- Survey results (if you have conducted a survey).

If you have been facilitating many of these processes, you are probably already getting a feel for what some of the issues are. Yet data analysis goes

beyond these initial impressions to look systematically through all the information you have collected for the main themes and learnings.
The first step is to put your data together in a way that you can easily view the information. The manual by Bunce and Pomeroy(2003) includes analysis sheets on specific topics that help you display your data in a way where the meaning becomes clearer and it is easier to interpret. An example of their form for population related information is included here (Example 1), and illustrates that having questions in your mind as you look over the data helps to look for 'answers' or key points. Bunce and Pomeroy (2003) have developed similar analysis sheets for many other social and economic factors commonly related to resource management issues. Other examples included here include: income analysis in the Arnavon islands (Example 2) and resource use in Niue (Example 3).

Example 1: Analysis sheet to analyse key social variables:- age, gender, education, literacy, ethnicity, religion, language
What is it?

Age, gender, education, literacy, ethnicity and religion are basic demographic information about a community.

Education often refers to the average number of years of formal schooling completed by people in the area who are over 16 years old.

Literacy refers to the percentage of people in the study area who are able to read and write.

Age refers to the percentage of people in the study area in different age categories.

Gender is the percentage of the population that are male and female.

Ethnicity and religion are the percent of people in the study area that have various ethnic and religious affiliations.

How is the data collected?

Often such information is available from secondary sources like the government census, town offices and community centres. Data collection focuses on determining the per cent of people in the area in the various categories that have been defined (eg age categories, male and female etc). Also often household surveys are conducted in absence of current and reliable census data

How to analyse the data: Bring together relevant information on each question (see below) from secondary sources and informants to determine the percentage of people in each of the categories.
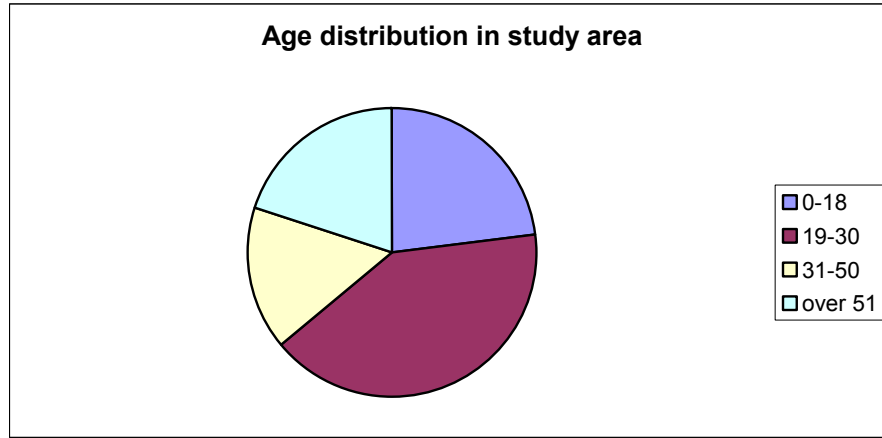
For example, the community age question may be answered as:

Percent of community in different age categories

Age group	Percentage
0-18	23%
19-30	41%
31-50	16%
Over 50	20%

Additional analysis: a pie chart can be useful to visually illustrate the age (also religious and ethnic) distribution in the study area.

Age distribution in study area

Legend:
- 0-18
- 19-30
- 31-50
- over 51

Data could also be extracted from surveys on factors such as:

- Percentage of the population that is literate (can read and write)?

- Ethnic make-up of the study area (percent of each major ethnic group in the study area). Eg.

Ethnic group	Percentage
Group 1 (specify)	
Group 2 (specify)….	

- Religious make-up of the study area. Eg.

Religious group	Percentage
Group 1 (specify)	
Group 2 (specify)….	

- Major languages spoken in the area. Eg.

Language group	Percentage
Group 1 (specify)	
Group 2 (specify)….	

Source: Bunce and Pomeroy, 2003: 20-21

Example 2: Analysing key income sources for communities in Kia Village (Arnavon Islands Marine Conservation Area)

Income source	Percentage of households with income from this source	Overall ranking (importance as an income source)	Percentage of households allocating this ranking
Sell marine products	88.7	1	60.4
Sell plantation crops	69.8	2	30.2
Sell fish	58.5	3	18.9
remittances	66.0	…	…

Source: (Mahanty, 1995)

Example 3: Analysing how villages ranked the decline of specific marine species in Niue

Species	Number of Villages finding this species is declining
Alilis and segame (mollusc)	13
Crabs (combined of all types)	11
Hihi-hihi muitea (mollusc)	10
Ugako (mollusc)	10
Tatukumiti (shellfish)	9
Seaweeds	8
Feke (octopus)	8
Sepulupulu and loli	8
Matatue/ Papahua	8
Matapihu (mollusc)	8
Gege (clams)	7
Fouli and Fuafouli	6
Kina or vana (sea urchin)	6
Mama Matatue (mollusc)	5

Source: Niue IWP, 2003. PSA Report

Identifying the main learnings

Assessment is ultimately a process of learning, to improve our understanding of a situation. It is therefore important when we analyse data to move beyond summarising information to look at what we have learned about the issue or question. For example, a key focus in the Niue IWP Participatory Situation Analysis was to identify what villagers regarded as priority resource management issues.

One way a project team can identify major themes or issues is to get together to review and refine their findings about stakeholders and social, economic and resource related factors. As part of this, they would review their analysis sheets and matrices, major themes in interview notes and workshop outputs. This is also the time to consider any cross cutting or major themes, and any additional information needs (Bunce and Pomeroy, 2003, Bunce et al., 2000).

The communication processes discussed below can help to check back with stakeholders about some of these major findings. Do they broadly agree or disagree with the findings? Major differences in perspective may point to a need to investigate an issue further (Bunce and Pomeroy, 2003).

Communicating the findings

In a collaborative project, the process of communicating the results of any assessments to stakeholders is crucial. Without this step, the research is 'extractive' (conventional) rather than participatory. Communication is also an important way of checking the accuracy of your findings.

In any kind of communication activity, we need to keep the audience in mind. Remember that stakeholders in participatory NRM projects may range from villagers to government officials, and that different stakeholders may respond to different modes and styles of communication (See Module 1.2 and 2.7 on communication strategies].

Regardless of the approach to communicating with stakeholders, it will generally be useful to write up the findings in a report of some kind. This will be valuable for:

- later reference by stakeholders and the project team,
- monitoring and evaluating project outcomes, and
- future or parallel initiatives in the area. (Remember how useful 'secondary' sources of information may have been to you at an early stage in the project!).

The following checklist provides an example of a common format for a baseline report.

Checklist: Common Format for a Written Assessment Report
Executive summary

Summary discussion of the main issues and findings in the assessment.
Introduction

Outline the purpose and objective of the assessment, the main questions addressed, and what is known about the social, economic and biophysical characteristics of the area.
Methods and Process

Outline the methods used to collect data.
Results

Present the main results coming out of the data analysis, using diagrams, tables, pictures as well as descriptive text to explain the meaning and importance of these (or narrative).
Discussion

Outline the key learnings from the assessment, relating these back to the purpose of the assessment and the main questions and areas of interest. Note any issues or problems encountered during the assessment.
Recommendations

Recommend any specific actions (eg. project directions, issues for participation, further information collection) arising from the findings.

Source: (Bunce and Pomeroy, 2003: 22-23, see also Bunce et al., 2000: 170-171)

References for Module 4

Baines, G., Hunnam, P., Rivers, M. and Watson, B. (2002) *South Pacific Biodiversity Conservation Program: terminal evaluation,* UNDP, New York.

Bronson, J., Bakeo, W. and Ford, R. (1995) *Conducting PRA in the South Pacific: experiences in natural resource management from Vanuatu,* Program for International Development, Clark University with Foundation for the Peoples of the South Pacific, Worcester MA.

Bunce, L. and Pomeroy, B. (2003) *Socioeconomic Monitoring Guidelines for Coastal Managers in Southeast Asia (SocMon SEA),* World Commission on Protected Areas and Australian Institute of Marine Science, Townsville.

Bunce, L., Townsley, R., Pomeroy, R. and Pollnac, R. (2000) *Socioeconomic Manual for Coral Reef Management,* Australian Institute of Marine Science, Townsville.

Keen, M. and Mahanty S. (forthcoming) 'The collaborative learning challenge in natural resource management', *Society and Natural Resources.*

Lal, P. and Holland, P. (2004) *Economics for Community Based Environmental Management in the Pacific, Train Sea Coast course prepared in association with the Australian National University, South Pacific Regional Environment Program, United Nations Division of Ocean Affairs and the Law of the Sea and the University of the South Pacific.*

Mahanty, S. (1995) 'Arnavon Islands Marine Conservation Project: Community Baseline Study for the Socioeconomic Monitoring Program' Unpublished Report prepared for the South Pacific Regional Environment Program and the Arnavon Marine Conservation Area Management Committee, Apia, Western Samoa.

McCallum, R. and Sekhran, N. (1997) *Race for the Rainforest: Evaluating Lessons from an Integrated Conservation and Development "Experiment" in New Ireland, Papua New Guinea,* Department of Environment and Conservation, United Nations Development Programme/Global Environment Facility, Port Moresby.

Mosse, D. (1994) 'Authority, Gender and Knowledge: Theoretical Reflections on the Practice of Participatory Rural Appraisal', *Development and Change,* **25,** 497-526.

Pretty, J., Guijt, I., Thompson, J. and Scoones, I. (1995) *Participatory Learning and Action: a trainer's guide,* IIED, London.

Russell, D. and Harshbarger, C. (2003) *GroundWork for Community-Based Conservation: Strategies for Social Research,* Altamira Press, Walnut Creek, CA.

Van Helden, F. (1998) *Between Cash and Conviction: The social context of Bismarck-Ramu Integrated Conservation and Development Project,* National Research Institute, PNG, Port Moresby.