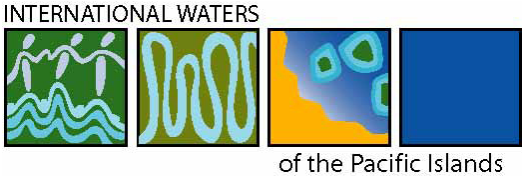

STRATEGIC ACTION PROGRAMME FOR THE INTERNATIONAL WATERS OF THE PACIFIC SMALL ISLAND DEVELOPING STATES

ECONOMIC STRATEGY

March 2003

International Waters Programme
South Pacific Regional Environment Programme
Apia, Samoa

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List of Abbreviations

GEF	Global Environment Facility
IWP	International Waters Programme
LPC	Local Project Committees
NTF	National Task Force
NRE	Natural Resource Economist at the Project Coordination Unit
PCU	Project Coordination Unit for the International Waters Programme
PDT	Project Development Team
SPBCP	South Pacific Biodiversity and Conservation Programme
SPREP	South Pacific Regional Environment Programme
UNDP	United Nations Development Programme

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Further Information

Inquiries can be directed to:

Paula Holland
Natural Resource Economist
Project Coordination Unit, International Waters Programme
South Pacific Regional Environment Programme
PO Box 240, Apia, SAMOA
Ph (685) 21929
Fax (685) 21321
Email: paulah@sprep.org.ws
Web: http://www.sprep.org/iwp

Preface

This document outlines a strategy to incorporate economics issues into the coastal component of the International Waters Programme. The coastal component of the Programme is intended to support community-based environmental management projects to address priority concerns in relation to waste, freshwater, coastal fisheries and/or marine protected areas.

This strategy is intended to guide individuals, particularly National Coordinators, associated with the International Waters Programme in the incorporation of economics to project planning, design, implementation and monitoring and evaluation. It is generic in scope. Yet the design of activities in each participating country in the Programme is likely to differ. Therefore, aspects of this strategy may be adapted to suit local requirements and circumstances.

This strategy should be considered as a living document which may be updated and amended on an on-going basis to reflect:

- possible changes in circumstance surrounding the pilot projects, thereby necessitating change in processes to design, implement, monitor and communicate lessons from projects; and
- input from peers. This document is intended to be revised in the light of inputs from others.

The Strategy should be read in conjunction with other IWP documentation, particularly Guidelines version 2.0 and the communications and social assessment and participation strategies for the International Waters Programme (IWP 2003a, 2002d and 2002b respectively.)

1 Overview of IWP, background and approach to the strategy

The Strategic Action Programme for the International Waters of the Pacific Small Island Developing States (IWP) involves 14 participating Pacific Island Countries:

Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

The Programme was originally designed as a 5-year programme. However, for a variety of reasons (see IWP 2002a), implementation of the Programme was slower than anticipated with the recommendation in December 2002 that the Programme be extended to cover 7 years. Approval for a 7 year Programme was received from UNDP in January 2003. The revised completion date is to December 2006.

The Programme is executed by the South Pacific Regional Environment Programme (SPREP). Its objectives and broad activities are described in a Project Document (UNDP 1999). The day-to-day coordination of work for the IWP, across the 14 participating countries, is conducted by a Project Coordination Unit (PCU), that is housed at SPREP.

The IWP is intended to address the *root causes* of degradation in Pacific island international waters. The root causes of degradation in international waters reflect economic issues such as incentives to use resources in unsustainable ways[1]. The IWP is intended to address root causes through the use of regionally consistent, country-driven, targeted actions that integrate development and environment needs (UNDP 1999). The IWP has two main components: (i) an oceanic component which focuses on the management and conservation of tuna stocks in the western central Pacific and (ii) a coastal component that focuses on integrated coastal watershed management.

This document is concerned with the implementation of coastal component of the IWP only.

1.1 Objectives of the coastal component of the IWP

The coastal component of the IWP is aimed at community-level actions to address priority environmental concerns relating to:

[1] Other community-based environmental Programmes may not encounter root cause issues. This would be the case where communities do not currently face problems but wish to develop their resources to ensure continued sustainability. The underlying economic issues that would need to be considered in such projects would be similar to the extent that the consider incentives to use resources sustainably. However, these projects would also consider additional issues such as the needs and aspirations of the community.

- marine and freshwater quality;
- habitat modification and degradation; and
- unsustainable use of living marine resources.

To address these concerns the IWP will support the establishment of 'pilot' or demonstration projects, one in each of the 14 participating countries. Each pilot project is intended to address the root causes of degradation affecting one or more of the following four focal areas:

- marine protected areas (4 projects);
- coastal fisheries (3 projects);
- freshwater resources (4 projects); and
- waste (3 projects).

The Project Document that describes the original design of the Programme (UNDP 1999) specifies the exact number of pilot projects that should cover each focal area (see above). In practice, the PCU is less prescriptive about allocation of projects to each focal area. This is because:

- the PCU seeks to address the expressed needs of each country (it would be undesirable to force a country to conduct a pilot project in an irrelevant focal area simply because other countries have secured that focal area first); and/or
- most pilot projects have the potential to address more than one issue at once. For instance, in addressing freshwater quality, a project may tackle waste management as a problem. Accordingly, it can be difficult to classify a project into one focal area only.

'Pilot' projects conducted under the IWP are to be designed to:

- engage communities in a collaborative and consultative process to analyse local environmental problems; and
- identify and implement possible options to address them.

From these pilot projects, factors that encourage the success (or failure) of community-level environmental projects will be determined, together with some generic guidelines about how projects can be designed and managed. These lessons and guidelines will include explicit economic issues.

The information generated from the pilot projects can be used to provide lessons on best practice and appropriate methodologies for sustainable resource management and conservation among Pacific small island developing states.

The IWP is funded by the Global Environment Facility (GEF) and implemented through the United Nations Development Programme. As a Strategic Action Programme, the GEF considers the IWP to be an initial step leading to the development of medium-sized (up to US$1 million) or full projects (exceeding US$1 million) in the future. Such projects may be regional or national in scale. As a result, the later stages of the IWP are likely to

devote considerable effort to analysing the results of the Programme. This may assist countries to formulate future activities to be supported by the GEF and other agencies.

2 Economics and the IWP

2.1 Environment and development projects in the past

In the past, a large number of community-based environment and development projects have been funded in the Pacific. These projects vary in size, scope and value from a few thousand dollars to hundreds of thousands of dollars. The coastal component of the International Waters Programme alone has about US$8.2 million available for the support of its 14 community-based environmental projects across 14 countries. Examples of other Programmes previously involved in community-based environment and development projects include:

- the South Pacific Biodiversity Conservation Programme (SPBCP) – executed by SPREP, this Programme had funding of US$10 million to support the development of 17 community-based Conservation Area Projects in twelve Pacific Island countries; and
- the South Pacific Community EcoForestry Project – executed by the South Pacific Commission, this is a major conservation project costing about US$ 2.3 million. The project targets sustainable management training and development of marketing infrastructures for eco-products by communities as conservation incentives in five Pacific countries.

Community-based conservation and development projects in the Pacific have not always been successful. This lack of success has been attributed in many cases to, among other things, a failure to adequately consider or analyse economic issues. Parr (1998), for instance, noted that a variety of income generating projects in Niue (lime, passion fruit and honey production) failed in part because of a lack of recognition of:

- falling demand arising from depopulation;
- competition from producers elsewhere; and
- lack of business skills and experienced management practices.

Similarly, a review of conservation areas in Vanuatu (Anon. 2000) noted that a lack of recognition of the infrastructure facilities (such as reliable tourist transfers and transport) and poor skills in accounting/book keeping resulted in decreasing profits at the Vatthe Conservation Area Lodge. The Lodge is intended to support income generation for local communities and from 1998 to 2000, visitors to the lodge had increased and total income almost doubled. However, in the same period, the profit margin decreased and by 2000 the Lodge was in deficit (Anon. 2000).

Read (2002) noted that, in the case of the SPBCP conservation area set up in Kosrae (FSM), many resource users were unable to participate in the conservation area because they needed to save their limited cash for non-conservation area purposes. Further, long term participation suffered because of the long wait for project benefits.

Overall, the review of the South Pacific Biodiversity Conservation Programme, UNDP (2002, p. 28 and p. 29) noted that the conservation areas established under the Programme were financially unsustainable and unlikely to be able to survive in the future without external funding. Importantly, the review also noted that conservation could not be achieved solely through awareness raising. Rather, education needed to be placed in the context of how people meet their needs (a 'livelihood context'). In other words, consideration would need to be given to the needs that people have and the incentives they face when considering how to use resources.

These lessons and failures reflect a number of essential economic elements that relate to human behaviour (why people behave the way they do) and efficiency (how well resources are conserved and used. These issues are discussed in more detail in Section 2.3.) Such environment and development projects would presumably have been more successful had economic issues been adequately considered.

This strategy has been developed to assist individuals connected to the IWP incorporate economic issues into the planning, design, implementation and monitoring and evaluation of pilot projects. In particular, it should assist National Coordinators and others to:

- identify those tasks that require an economic perspective;
- identify community participatory approaches for conducting those tasks, and
- consider issues associated with disseminating economic information to all stakeholders.

2.2 The project cycle

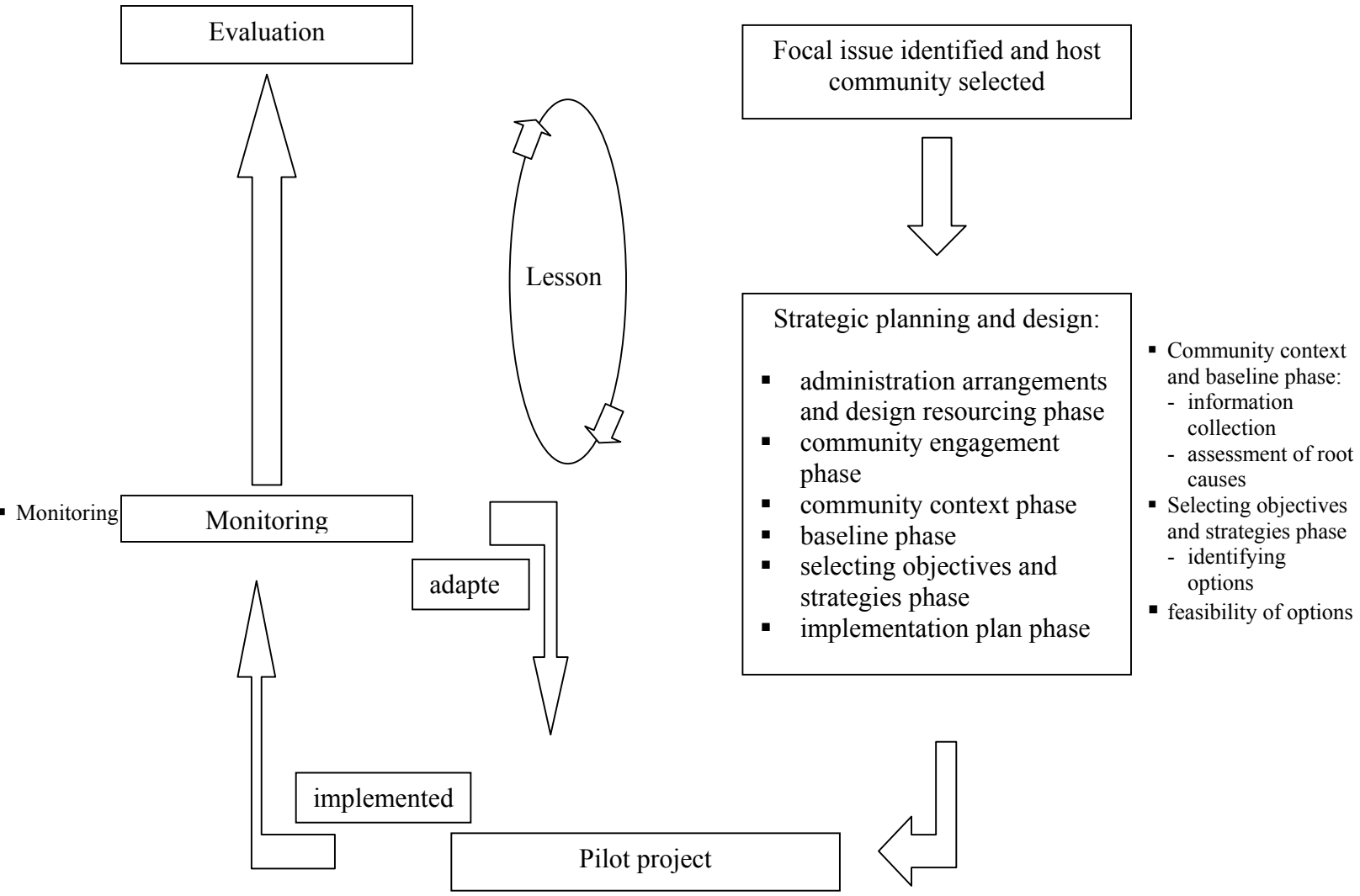
IWP project cycle

The various activities that would need to be conducted in a community-based environmental management project were discussed by IWP project managers (National Coordinators) at the second National Coordinators meeting in November 2002 (see 2003b). In this meeting, National Coordinators identified a range of activities and put them in order of sequence. The detailed activities list can be found IWP (2003a). The tasks were grouped into broad phases to form a standard *project cycle* (see Figure 1).

The key economic activities associated with the various stages of the project cycle are broadly as follows:

- community context and baseline phase:
  - information collection;
  - assessment of root causes;
- selecting objectives and strategies phase:
  - identifying options;
  - feasibility of options; and
- monitoring and evaluation.

Figure 1 Project cycle for the International Waters Programme



Approaches to incorporate these activities into the life cycle of the IWP pilot projects is discussed in detail in the following Sections of this strategy. At this stage, activities grouped under *strategic planning and design phase* of the IWP project cycle appear to require the greatest amount of effort and time. This partly reflects the fact that the IWP is currently in the initial stages of project development. However, it also reflects the fact that considerable time and effort is required to plan, design and implement a community-based project effectively and with sufficient input from the relevant stakeholder groups.

2.3 How can economics help?

It was stated earlier that the IWP is intended to address the root causes of environmental degradation and promote sustainable resource management. To do this presumes an understanding of the root cause of the problem facing the IWP host community in the first place. Economics has a key role in understanding this cause by:

- providing a framework to consider 'efficiency'; and
- providing a framework for considering how people behave (what economic incentives drive their behaviour).

Economics and efficiency

Economics is concerned with the well-being of individuals. All factors that affect human well-being are important – whether that is measured in money, an improvement in the physical environment or an improvement in local amenities. Resources are said to be 'efficiently' used when their use generates the highest level of well-being or *benefits* after all the *costs* of using the resources have been taken into account. The 'net benefits' of resource use (the benefits after costs) are experienced by individuals, communities in villages, a district or a country.

Efficiency may therefore be gained from the perspective of:

- an individual (getting the most out of resources for oneself);
- a village (getting the most out of resources for the villagers); or
- a district or country.

Resource use efficiency for an individual is achieved when the maximum well-being from resource use is gained for that individual. If only one person, one family or one group of people matter in a village, conservation and development projects would increase resource use efficiency by targeting activities that increased the well-being of those people only.

However, what is in the interest of a single individual, family or group is not necessarily in the interests of a village or district. For example, individuals may find it worthwhile to throw their rubbish into the sea. Yet in so doing, they pollute the seas and may damage the health of themselves and others.

Because collective interests matter, any conservation and development activities that intend to increase resource use efficiency need also consider the well-being of the broader community (the entire village/district and even the country). When considering the broader community, efficiency may be said to occur when the sum of benefits for all individuals is maximised. Critically, this may occur even when some individuals become better off than others – or if some people become better off *at the expense* of others. That is, resources may be said to be efficiently used even if they are inequitably distributed.

This means that the distribution of wealth or benefits across a community is a secondary consideration from an economic perspective. By comparison, equity may be the primary consideration in how resources are used from the village/district perspective. In particular, distributional (equity) issues may affect whether village/community members participate in a project. Therefore, it remains important to recognise how benefits are distributed.

Economics and human behaviour

In providing a framework for considering resource use efficiency, economics is concerned with human behaviour and society. Years of observation and analysis by economists have resulted in an understanding of:

- why people may use resources in the manner that they do;
- why people may use resources in ways that harm the environment (what incentives encourage them to use the environment in an unsustainable manner); and
- what kind of incentives and disincentives might encourage people to use resources sustainably. (These issues are discussed in more detail in Box 1.)

In considering human behaviour, economics can assist in determining how people may react to different situations – such as how they may respond to different environment initiatives. With this information, economics can assist National Coordinators, project developers and communities to more logically estimate what types of environmental initiative – what pilot project activities – are likely to be successful.

Box 1 An economic perspective of community environmental problems

Economists generally view individuals as 'rational' beings, which means that they only chose to do activities that better their own interests. This means that individuals are likely to look after natural resources if they can see that the benefits of doing so outweigh the time, effort and/or investment ('costs') involved. Consequently, an individual who owns a fishery has an incentive to harvest at sustainable levels if he/she believes that the value of fish caught over the long term justifies limiting their catch now. Similarly, an individual will make the effort to dispose of his/her waste in a safe place if he/she believes that the improvement in living conditions created justifies the effort.

However, for many natural resources, the benefits that individuals experience from looking after resources does not seem to warrant the effort. Therefore, they do not bother to protect the resources or they choose to exploit them unsustainably, knowing that the resource will eventually be diminished. While this may be 'rational' for the individual, his/her rational use of the resources impacts on others in a community in a harmful way. For example, it may be in the interest of individual fishers to harvest a resource at a high level, but the collective effect of their efforts is that the resource may collapse and future generations will not have access to fish. Similarly, it might be 'rational' for individuals throw their household waste into the sea, rather than going to the effort to putting it in designated bin. However, the effect is that others who use the sea to swim or catch fish lose out because the water becomes too polluted for swimming or fishing.

The problem is therefore that the benefits and cost to an individual of using resources do not necessarily match the benefits and costs of resource use to everyone else. In other words, *individual* actions are not necessarily in the *collective* interest.

Economists emphasise that the reason there is a difference between individual and community interests is that some impacts (benefits and costs) from resource use are not experienced by the individual using the resource. Therefore they do not consider these additional benefits and costs when deciding how to use the resource. (Economists term these unconsidered benefits and costs 'externalities'.)

Many of these impacts include the important ecological functions, goods and services that protect resources and maintain the health of International Waters. Economists argue that individuals would consider these goods and services if they were made *accountable* for the consequences of their actions. That is, users would act differently if they had to pay each time they caused a negative impact. This would occur if the property rights for resources were well defined (Box 2). However, property rights for natural resources are often weakly defined and consequently individuals are often not fully accountable for their choices. They therefore have little incentive to consider the impact of their choices on others and the environment. They thus do not have to stop unsustainable practices. The result is that environmental degradation occurs.

The integral role of economics in understanding human behaviour aligns it strongly with the social assessment activities that are planned for the IWP (see IWP 2002b). Social assessment in the IWP includes the investigation of social, cultural, economic, institutional and political factors in communities to provide information to assist in pilot project design, implementation, monitoring and evaluation.

Box 2 Property rights and sustainable resource use

Property rights define the physical and social entitlements, obligations and constraints that individuals have over resource use. They are said to be well defined when all of the four the following conditions are met:

- the rights to own/hold and use the resource, how and by whom is clearly defined and the identities of the rights holders are clearly specified and understood;
- rights to use/access the resource are strictly enforced;
- all the benefits and costs from using the resource are experienced only by the individual holder of the rights. Non-rights holders are excluded from acquiring any benefit (or experiencing any hardship) from the use of the resource;
- ownership/holding or use of the resource is transferable (can be sold, leased or loaned to others).

Where these conditions are not met, property rights are said to be weakly defined. In these cases, resource users may not have the incentive to protect resources in a way that best services the wider community. Alternatively, there may be confusion over who is allowed to use resources in what way or who is affected by resource use. The result is that weak property rights lead to environmental degradation.

2.4 Support for National Coordinators in the IWP

The day-to-day management of pilot projects conducted under the IWP is the responsibility of National Coordinators. This means that National Coordinators will be heavily involved in managing processes to incorporate economic considerations in the pilot project life cycle at the same time they manage other elements of the project.

Few National Coordinators in the IWP have an economics background. Since many of the activities that involve economics in pilot project are likely to be technical in nature, National Coordinators and others involved in the IWP will require support to conduct or manage the economic activities in Box 3.

A natural resource economist (NRE) is employed at the PCU to, among other things, provide economics support and guidance to National Coordinators and community stakeholders involved in project implementation. Where possible, the NRE will work with National Coordinators in planning and conducting technical tasks such as information collection and analysis. However, as the IWP covers many countries, it is unlikely that the single NRE will be able to meet the needs of all 14 National Coordinators. Therefore, National Coordinators have been asked to identify local economists who may be able to assist them in:

- supporting economic activities (reviewing analyses, providing training to National Coordinators and others who undertake economics-related work); and
- conducting technical economics activities that are unlikely to be practically achieved by National Coordinators alone. Examples of highly technical activities that are likely to require professional economic assistance include economic evaluation of resources to determine access fees or charges for resource users.

Training in economics

Currently, familiarisation with selected economics issues is provided in sessions of regional IWP meetings with National Coordinators. In addition, a dedicated economics training course related to community-based issues is anticipated for 2003. This course is aimed at training project managers such as the National Coordinators in the economic issues that need to be considered in community-based environmental management projects (see Marine Studies Programme, 2002a and 200b for information). This course will be conducted together with exercises for conducting activities on in-country projects (where practicable).

Institutional support

Logistical arrangements for the implementation of the IWP are described in Guidelines for the International Waters Programme (IWP 2003a). There are several agencies that support the implementation of the IWP in the different countries. At SPREP, the Project

Coordination Unit (PCU) is responsible for overall programme coordination and administration. The PCU is the primary point of contact for participating countries and UNDP on all matters relating to the IWP.

Box 3 IWP tasks requiring economic input

Strategic planning and design

Community context phase

- collection of initial background information on community/site

Baseline phase

- organising and collecting information to:
  - conduct community and other stakeholder profile;
  - undertake a resource inventory;-undertake a resource use analysis (such as identify production-consumption-environment relationships);
  - analyse institutions affecting resource use and management; and
  - describe infrastructure and services that affect input and output markets, production efficiency, and the relationship between supply and demand.

Selecting objectives and strategies phase

- assist the community to identify options/project objectives in light of social and economic information
- assist in the assessment and comparison of options by supporting activities to identify:
  - cultural acceptability of options
  - financial feasibility of options (financial benefits and costs)
  - economic feasibility of options (economic benefits and costs as well as social impacts)
- assist in communicating the results/outcomes of identification and comparison of options back to community to enable them to select an option
- assist communities in developing the project concept by helping them to:
  - identify specific objectives
    - .. identify key management framework for selected option (harmonising rules and regulations, identifying necessary institutional arrangements, identifying roles and responsibilities, identifying access to inputs and markets for products and/or refining any activities);
    - .. identify, assess and select instruments to encourage behavioural change; and
  - identify economic indicators.

Implementation and monitoring phase

- assist communities to:
  - collect and assess economic information for monitoring purposes
  - adapt project implementation in light of monitoring information (if necessary)

Evaluate projects and identify lessons from their application

- evaluate the project outcomes against stated objectives; and assess how the project objectives met the stated program goals of, for instance, sustainable livelihood creation and natural capital maintenance.

In addition, a number of agencies within host countries assist the implementation of the IWP nationally:

SPREP Focal Point – this is the primary point of contact for the IWP in each participating country. It is usually the Foreign Affairs or Government Environment Agency;

SPREP Operational Focal Point – this agency may be nominated to support SPREP-supported activities in countries. It acts as the technical contact for SPREP activities;
IWP Focal Point – this agency is responsible for administrative and logistical issues associated with pilot project implementation and execution of the pilot project;
Lead Agency – this is a sub-contracted Government agency who may be responsible for pilot project implementation (as described in a Letter of Agreement exchanged with the IWP Focal Point; and/or
Executing Agency – this is an NGO or community group who may be responsible for pilot project execution as described in a Letter of Agreement exchanged with the Lead Agency and the IWP Focal Point (IWP 2002c).

In addition to these agencies, a number of support groups or committees will be available to assist National Coordinators in undertaking their economics (and other) work. These include:

- National Task Force (NTF) or equivalent – the National Coordinator either establishes an NTF specifically to assist in the work of the IWP or uses an already established committee. The purpose of the NTF is broadly to oversee national components of the IWP including:
  - securing cooperation and support for the IWP from key stakeholders;
  - securing country-specific information and resources needed to conduct project activities; and
  - undertaking key decisions relating to the IWP.
- working groups, sub-committees or technical advisory groups established by the NTF. These groups would address specific issues associated with the implementation of IWP. Working groups likely to be established under the IWP are, for example:
  - Project Development Teams (PDTs) – these teams are is intended to assist in the National Coordinator and host community in the planning, design, implementation and monitoring of the pilot project. they therefore require the involvement of individuals who understand the context of the problem (environment, community behaviour) as well as technical experts who can advise on specific activities particularly in relation to social and cultural issues associated with the host community;
  - Local Project Committees (LPCs) – these committees are intended to promote community participation in the pilot project at the project site. They include local community leaders or their representatives, local landowners, local community groups and/or community-based private sector representatives with a demonstrated interest in the pilot project site (IWP 2003a); and/or
  - Technical working groups –these may include specialists to address economic issues.

Finally, technical support for the conduct of economic tasks may be available through local NGOs, local tertiary institutions or freelance consultancies (local or external).

3 Community context and baseline phases

The community context phase and baseline information activities are conducted to determine why resources may become threatened. When accompanied by an analysis of the information, some analysts consider the community context and baseline phases to constitute a 'situation analysis'. National Coordinators will be involved in activities that support the collection and analysis of this information.

3.1 Information to be collected

National Coordinators, working collaboratively with community stakeholder groups or other arrangements such as through the PDT, will assist in activities to:

- describe the physical nature of the resource;
- describe the stakeholders and their activities;
- describe markets and other infrastructure; and
- describe institutions (rules, people and agencies) affecting resource use.

Information to be generated is highlighted in Box 4. It should be emphasised that most of this information is also essential for social assessment and participation in community based projects (see IWP 2002d). Accordingly, the collection of information for economic analyses will occur as a shared activity of information collection for these other issues. Such complementarity between issues highlights the integrated nature of IWP pilot projects. It also means that information collection should be conducted as part of a joint activity to minimise disruption or repetition in the community.

3.2 Generating information

Information on the community and the site may be available in the literature if recent surveys, census or studies have been conducted. Suggestions for conducting literature reviews for pilot projects are given in Appendix 1.1.

Some information will not be available in published literature and will have to be collected for the first time (primary information). Primary information will be gained in the community context and baseline information phases. It may be collected through a variety of approaches such as:

- structured interviews or questionnaires; and/or
- participatory exercises (brain storming, village maps, seasonal calendars, wealth ranking, participatory problem analysis and/or scoring activities. These types of exercises have been occasionally used in the past to generate economic information. For examples of such applications, see Richards et al. 1999).

Box 4 Information to be collected in the community context and baseline information phases

The following information is important to:

- explain why resource users opt to use resources in the way they do (say, why they fish rather than farm, and why they might use one form of gear over another – even if it might be harmful to the area); and
- form the basis for comparisons with possible options to environmental problems later.

Physical nature of the resource:

- description of the resources
- its boundaries, access to it

Stakeholders and their activities:

- groupings and people interaction
- needs and aspirations (such as whether people are seeking a change in material lifestyle)
- profile resource owners and local users of the resources (gender, age, education and skills)
- local decision-makers
- profile external users of the resource
- relevant government and non-government agencies/organisations and their objectives

Markets and other infrastructure:

- environmental goods and services that are used in production processes; and/or consumed directly and/or used for waste disposal
- total economic value of the environmental goods and services (such as commercially produced goods and services and subsistence goods)
- market conditions and structure: how competitive the market is (such as number of buyers/sellers) where the products are sold – village, local, export price of inputs and outputs
- factors that affect market price of inputs and outputs
- transport modalities available such as roads, boats, rails
- infrastructure that would affect efficiency in production, marketing, waste disposal
- facilities that are available for communication and training
- banking and financial services are available locally.

Institutions:

- identify and summarise formal rules affecting community resource use (relevant legislation, by–laws, fees, regulations applicable to environment and resource use such as property laws and tenure etc.)
- identify and summarise informal rules: relevant customary rules, norms that are applicable to environment, resource use and management – for example ownership, access, use and management rules, norms and obligations. also identify when the various formal and informal arrangements are used and how they affect resource management and decision-making

Information from stakeholders may be collected by national coordinators and any assistants/support staff that they use. Support staff may include 'facilitators'. Facilitators are likely to be used to support community consultations in the host community. They may be individuals from outside the community. However, to ensure ownership of the process and project, it would be preferable that any facilitators used to support community work are local. It may be possible to secure facilitators from local educational

establishments, NGOs or community groups such as religious groups[2]. Facilitators from the community may be trained with the support of the IWP.

Information collected on the community – whether this is collected from literature or stakeholders – should be cross checked with other information sources. For example, documented resource use rules may differ from actual resource use practices. Customary rules over resource use may overlap or contradict legal rules. Understanding the arrangements for resource use will be critical when determining workable options for resource use concerns.

3.3 Information analysis

Using the information generated from the community context and baseline information collection, an analysis would need to be conducted of the root cause of the concerns facing the community from an economic perspective. Currently, there appears to be little documentation on the development of participatory methods for economically analysing environmental problems. It is therefore likely that an economic analysis of root causes of degradation would need to be undertaken by National Coordinators who would work with facilitators and the community, while being guided by an economist.

Why involve an economist to look at the information?

An economic analysis of root causes involves an assessment of the 'property rights' governing resource use. Property rights (Box 2) describe the entitlements and limitations that individuals have over resource use in an area. Economists associate weakly defined property rights with the creation of incentives to use resources unsustainably (to overuse them or use them in a way that degrades them).

An economic analysis of community resource issues is therefore required to assess property rights over the resources in a community and to determine what factors create incentives for unsustainable resource use. This economic analysis is generally complex and sometimes time consuming to conduct.

Moreover, most National Coordinators involved in the IWP have had little experience in applying economics to resource management problems. Therefore, the economic analysis of root causes of environmental problems is likely to need to be conducted by the National Coordinator, supported by the host community and guided by an economist who is experienced in applying economics to resource use problems. The economist can then guide the National Coordinator in using baseline and community context information to identify the incentives that people have to degrade resources. This analysis may involve consultation with other stakeholders to clarify rules and the nature of resource use and

[2] An initial stakeholder analysis will be conducted in the early stages of the IWP. The should help in identifying who to contact/approach.

entitlements. Economics assistance may be provided by the PCU (NRE) or by an experienced economist.

By working together with a trained economist to assess the property rights governing resource use:

- the National Coordinator will better understand (i) how the nature of resources and the community affect incentives for unsustainable resource use and (ii) thereby better be able to discuss the analysis with the community; and
- expand his or her capacity to understand and conduct economic analyses in the future.

3.4 Information feedback

National Coordinators are responsible for processes to feed information back to the community at all stages of the project. Information feedback is important for several reasons:

- where individuals have participated in information provision and collection, feedback is critical to ensure that the information has been correctly interpreted and to reinforce ownership of the process;
- where individuals have not been involved in the process, feedback is required to inform individuals of progress and to increase interest in projects with a view to generating greater project support; and
- information exchange increases the understanding of the process which increases transparency. This is essential to minimise rent seeking behaviour (see Box 5).

Box 5 Rent seeking

Rent seeking behaviour is the use of resources in lobbying and other activities to secure excess profits from a given situation. Individuals may, for example, lobby decision makers to introduce polices or rules that favour them over others.

Examples of rent seeking behaviour would include occasions where some resource users try to divert project funds to areas of private interest rather than to items of concern to the broader community.
Rent seeking behaviour reduces the efficiency of resource use because it means that individuals divert scarce project resources – or project benefits – to meet their own objectives rather than those of the village/district or nation. It might be said that rent seeking occurs where individuals knowingly influence situations to serve their own interests, rather than acting in the collective interest. By ensuring that all stakeholders are informed about information underpinning the project, rent seeking behaviour may be minimised.

Feedback of community context and baseline information to villagers may be conducted by National Coordinators, the PDT and facilitators (and possibly by the economist if required). It is likely that facilitators may be best placed to provide feedback to the stakeholder groups they assisted. Information can be delivered:

- directly to stakeholders at district/village meetings; or
- indirectly – by providing feedback to the LPC and/or representatives of key user groups who would then pass on the information.

Information to be fed back to the community should include:

- a summary of the pressures on families to use resources unsustainably; and
- a summary of the incentives that drive families to use resources unsustainably.

Information may be fed back through a short presentation to the LPC, PDT and other stakeholders for consideration and discussion. Information may be supported with illustrations and charts to summarise issues (including summarised pictorial information from participatory work).

A strategy to support communications in the IWP has been produced (see IWP 2002d). This outlines processes and methods for communicating information not just back to the host community, but also to other stakeholders such as governments and funding bodies. This strategy should also be considered when communicating information to stakeholders such as the host community.

4 Selecting objectives and strategies phase

Having identified the root causes of problems during the community context and baseline information phase, National Coordinators will be required to support activities that enable the host community to identify possible solution or options that are acceptable to them. Potential options – that are generated will then need to be assessed for their:

- feasibility for the local community (economic acceptability); and
- financial and economic feasibility (these assess the feasibility of the option from the perspective of the nation).

4.1 Identifying options

Considerable information for identifying the root causes of environmental problems will have been collected in the community context and baseline phases of the project. This information will explain why people have an incentive or disincentive to act the way they do – why they do not account for all the impacts of their actions (Boxes 1 and 3). During discussions and exercises (such as participatory problem analysis) to generate information and feed it back to the community, there is likely to have been discussion among the host community on potential options for addressing problems. Feedback information on the economic analysis of the problem should enable communities to consider whether and how resource users should be made accountable for their actions.

Options for addressing environmental problems may also be generated through dedicated activities. These include participatory activities such as:

- brainstorming; and/or
- project mapping – this is a facilitated exercise in which problem statements are converted to objective statements which may subsequently form the basis for action supported by the IWP.

Again, these activities would include the use of feedback information from the economic analysis (who has incentives to behave how and why). This will enable the National Coordinator, the PDT and the community to consider any changes to the management (rules and institutional issues) that will be needed to create incentives for individuals to use resources more sustainably.

Activities dedicated to generating options may need to be supported by technical experts who can advise participants on how activities might work in practice. This information would be needed by the host community to determine:

- if the options suggested are technically feasible and likely to work;
- how the options would work and what individuals, families or groups involved would broadly be expected to do;
- whether the activities proposed are likely to be acceptable to the host community.

- If these activities are required, National Coordinators and the PDT will need to make arrangements to promote community discussion.

Following the identification of options, National Coordinators and the PDT will support the host community to select an option (or options) to address its problems by supporting:

- activities to assess the feasibility of options for the community (participation);
- activities to assess financial feasibility of options;
- activities to assess the economic feasibility of options; and
- communication of results/outcomes of identification and comparison of options back to community to enable them to select a project.

These tasks are considered below.

4.2 Feasibility of options for the community

Information is needed to determine whether the economic incentives generated by an option/solution are likely to be sufficient to entice individuals to participate in the project (see Box 9). This information will be generated during economic and financial feasibility assessment as well as though discussions with the community to identify who would do what in a project.[3]

Box 9 Participation and benefits and costs

Any proposed option (set of activities) to address a problem will require participation and compliance from resource users to be successful. Individuals will only participate in activities if they consider that the benefits of that activity warrant the effort. (In economic jargon it would be said that the benefits to them of participating exceed the costs.) It is therefore important to have an idea of the benefits that individuals gain from current practices if options are to be realistic.

Communities will be concerned with:

- the contribution that they have to make to make an option work and the rewards they gain in return though improved health, harvests or income;
- the distribution of benefits throughout the community. Some groups may benefit more from a project than others. Alternatively, some groups may have to invest more effort or make more sacrifices than other to make a project work. Inequality may lead to tension and jeopardise the success of the project.

Information on the distribution of benefits will be produced during economic and financial feasibility assessments as well as though discussions with the community to identify who would do what in a project.

[3] It will also be critical to determine whether options are acceptable to a community culturally, for instance, for religious or customary reasons. Information related to the cultural acceptability of an option should emerge during socioeconomic information generation. Further information may be derived from IWP (2002b).

National Coordinators will work with the economist, the PDT, local project committees and/or technical experts to determine the likely investment that groups within the community are likely to need to make to have an option work. The National Coordinator will work with the economist and stakeholders (community facilitators and/or support committees such as the LPC) to identify whether the returns to stakeholders will be sufficient to ensure their continued participation throughout the project.

4.3 Financial feasibility of options

Some conservation and development projects may comprise activities intended to support the income of groups within the host community. For example, SPREP has supported the development of the Huvalu Forest Conservation Area in Niue (see for example, SPBCP Secretariat 2001). In this, the SPBCP Programme assisted in the assessment and development a range of income supporting activities including ecotourism centered around interpretive nature walks and the sale of local crafts, polo shirts and caps. Sales contribute to a Trust Fund that was established to support the conservation area.

Projects that involve commercial activities will need to be financially sustainable to survive. Financial feasibility studies are therefore critical to ensure that any commercial venture supported by the IWP are likely to succeed and are not accompanied by unrealistic expectations about the extent of wealth or job creation.

Financial feasibility studies essentially involve comparing the expected revenues of an activity against expected financial costs, and ensuring that a profit is generated. Costs and revenues to consider in financial feasibility studies are listed in Table 1.

In order to estimate these values and to assess the risk of a venture, consideration must also be given to a variety of other factors such as whether the venture will be able to compete against similar ventures and whether local staff would require any training. (See Box 6 for details.).

Generating financial feasibility information

Information required to underpin the activity may involve collection from several sources. As with economic analyses of environmental problems, financial and economic feasibility assessments should be conducted by the National Coordinator under the guidance of an experienced economist. This should ensure:

- efficient exchange of information (background to the project and the option under consideration, project design as well as the approach to assessment); and
- that the National Coordinator understands the meaning of the assessments conducted.

Table 1 Some costs and revenues to consider in pilot project pilot project feasibility studies

Financial costs	Revenues
▪ Fixed capital investment - buildings, equipment etc. ▪ Production costs: administration labour (permanent and temporary) material inputs, including imported inputs maintenance of/repairs on/spare parts for capital items - depreciation on capital items - storage - packing transport/freight insurance financial services (interest on loans) communications advertising fuel, electricity other training ▪ Government costs: levies, fees (such as customs) business licenses taxes and subsidies	▪ Value of goods and services sold ▪ Any subsidies

Information to assess financial (and economic) feasibility may be obtained partly from literature reviews (see Appendix 2). In addition, it is also likely to require the collection of some new (primary) information. Primary information may be needed, for example, on the price of inputs and the demand for produce if a host community plans to conduct income-generating activities such as the sale of crafts.

To collect primary information, National Coordinators working in collaboration with the PDF or other interest groups may need to conduct household surveys or consultations with key stakeholders (such as tourist groups or government departments). For instance, a group of stakeholders may be involved in a discussion to estimate the average cost of inputs to fishing or the average prices received for goods.

Surveys of and consultations with resource users may require the use of facilitators. Any facilitators used would need to be trained on the information to be collected and the method of information collection. Depending on the success of previous facilitators, it could be beneficial to use those facilitators with previous exposure to the Programme.

Box 6 Other considerations in the financial feasibility of projects

Analysts will need to consider a variety of factors such as:

- whether there is a demand for the good at all (market demand);
- ability to compete with other suppliers (market competition);
- expected timing of income – some products may take a long while to be ready for sale but costs will be incurred in the meanwhile;
- commitment of individuals given other demands on their time;
- availability of labour/inputs when needed;
- consistency in supply to maintain consumers;
- service and delivery standards;
- access to imported inputs;
- access to market (shipping facilities, access to flights to transport goods to market, refrigeration facilities);
- human skill requirements;
- quality of the final goods;
- access to skills, finance, training;
- market risks:
  - unreliability of supply or service;
  - reliability of transport;
  - lack of infrastructure;
  - political instability or risk of changes to Acts, new Bills;
  - lack of human skills;
  - climate (climate change as well as specific events such as cyclones and other severe weather);
  - management capacity.

As a general rule, participatory approaches to the conduct of financial feasibility studies are not well developed. Richards et al. (1999) developed an approach to work with community representatives to estimate the feasibility of commercial ventures using a participatory approach. This involves asking community representatives to estimate not only production levels of local goods and services, but also to estimate the monetary value of these. However, Richards et al. (1999) advises that the approach was generally only workable to community groups of relatively high literacy and that the process was time consuming and prone to overestimates of costs and prices. They also noted that the process still needed to be led by economist to ensure that all values were covered. Accordingly, it is likely that an economist would need to be involved in this process until a more satisfactory participatory processed can be developed.

The duration of a financial feasibility analysis is likely to vary depending on the extent to which participatory approaches are attempted. Where a conventional (non-participatory) approach is undertaken, a financial feasibility study could probably be undertaken with about one week's work. Where participatory approaches are attempted, the time requirement is likely to expand substantially, particularly where communities have a relatively low level of accuracy (say, around three weeks).

4.4 Economic feasibility of options

An economic assessment of a proposed activity (or set of activities) is broader than a financial assessment. Economic assessments take into account:

- the expected environmental impact of an activity – that is, the extent to which the activity improves the environment as intended – and the extent to which it may generate any harmful side effects. Economic feasibility studies involve some assessment of the *monetary* value of the expected environmental impact of an activity;
- the cost of all inputs – free or purchased – including salaries, subsidies, in-kind contributions and other inputs such as support from government or non-government organisations (see Box 7 for details); and
- when benefits and costs occur.

Valuing environmental change from pilot projects

It has been stated that economic feasibility studies involve some estimate of the monetary value of expected environmental change from a proposed project (option). Methods to economically evaluate environmental change brought about by an option essentially fall into two groups. The first group uses information on the actual choices made by individuals to derive market values for resource use. For example, the price of fish bought by people in the market place might be used to estimate the value of fish protected in a marine protected area. The second group of evaluation methods involve asking resource users directly about the values or importance they attribute to resources. Examples of the different approaches to evaluating environmental changes are noted in Box 8.

Economic evaluation of environmental change broadly involves several steps:

- identifying the relationship between existing resources and their use;
- valuing the benefits and costs of existing resource use and determining the net benefits;
- determining the likely impacts of the project on the existing resources;
- identifying resource uses affected by the impact;
- valuing the benefits and costs of expected resource use and determining the net benefits;
- comparing existing net benefits with expected net benefits.

Box 7 Some economic costs to consider in economic benefit cost studies

Direct benefits

- production benefits:
  - revenues earned from commercial activities
- environmental improvements

Direct financial costs:

- production costs:
  - salaries/labour
  - rent/venue
  - monitoring and policing
  - administration
  - labour (permanent and temporary)
  - capital (buildings, equipment etc.)
  - material inputs, including imported inputs
  - depreciation on capital items
  - storage
  - packing
  - transport/freight
  - insurance
  - financial services (interest on loans)
  - communications
  - advertising
  - training
  - fuel, electricity
  - other
- government costs:
  - levies, fees (such as Customs)
  - business licenses

Indirect financial costs:

- meeting fees, travel allowances, refreshments needed to ensure attendance
- subsidies from government:
  - free labour
  - financial subsidies
  - free advice
- non-governmental organisations
  - free labour, advice
  - finances
- environmental impacts (see box 8).

Selecting the form of economic evaluation

Box 8 shows that several methods exist to evaluate environmental change. They involve the use of, for example, market values, proxy values and even subjective judgment. The different methods can be conducted at different levels of intensity. At one end of the spectrum, evaluations may be highly complicated with high data demands and a high level of exactness of the values produced. At the other end of the spectrum, methods may be 'rough and ready', generating only crude estimate or orders of magnitude for the value of environmental change. In all cases, there is a degree of risk associated with the values.

Box 8 Approaches to the economic evaluation of environmental impacts

There are two broad approaches to estimate in monetary terms the values associated with natural resource use:

- revealed preference approaches:
  - direct
  - indirect
- expressed preference approaches.

Revealed preference approaches use information on the actual choices made by individuals to derive market values from resource use. There are several different methods. Where the goods or services produced from resource use are traded in markets, values can be estimated *directly* using market prices. For example, if a pilot project increases sustainable catch by 10 tonnes per year, and the fish caught are commonly sold at market, the economic value of the environmental impact would be 10 tonnes multiplied by the market price of fish after fishing costs are extracted.

In other cases, goods and services produced in the environment may not be traded in the market place but similar goods or services may be traded. Therefore, the value of traded similar goods or services made be used as a proxy to estimate the rough value of improvements to resources generated by environmental projects. For example, the price of shop bought dyes could be used to estimate the value of dyes generated from protected natural resources.

If no marketed substitutes exist, other values may be used including indirect cost. For example, the cost of the time spent collecting and preparing natural medicines could be used as a proxy for market price of medicines.

Other proxy values may also be used to provide an indication of the magnitude of value such as:

- preventative or replacement costs – the cost of preventing damage that would result without environmental services – or the cost of replacing lost environmental protection. Mohd-Shahwahid and McNally (2001) used this approach to estimate the economic value of mangroves in Samoa. Using the average cost of seawall construction in Samoa, they estimate that mangrove protection of the coastline in Samoa saves the Samoan government at least ST$6.4 million in total on coastal protection; and
- loss of earnings resulting from injury from environmental pollution (including medical expenses).

Expressed preference approaches involve asking resource users to directly value the services provided through the environment, or to rank the importance of the different good and services to them. Several types of expressed preference approaches exist although key types are the contingent valuation method, choice modeling and the benefit transfer approach.

Using the contingent valuation method, respondents are given hypothetical scenarios and asked to indicate how much they will be willing to pay to either avoid the loss or to gain some improvement in the resource. This is unlikely to make a great deal of sense to villagers/district members who are not accustomed to paying for access to environmental services. However, the method can be useful where tourist uses of resources exists. Mohd-Shahwahid and McNally (2001) used contingent valuation to estimate value of recreational services offered by forest and marine reserves in Samoa (Mount Vaea Forest Reserve and Palolo Deep Marine Reserve). They estimated that Mount Vaea Forest Reserve was worth around ST$8 000 per year while the Palolo Deep Marine (coastal) reserve was worth around ST$24 000 per year.

With choice modeling, respondents asked to consider and rank different scenarios which the analyst describes using a set of attributes, plus a cost associated with each scenario. Using the answers estimates can be made of the value of a single aspect of environmental change generated by a project.

Using the benefit transfer method, information from similar situations in other countries or areas is used to evaluate the benefits and costs of environmental factors. For example, the benefits of a beach in Samoa might used to approximate the benefits of a beach in the Cook Islands. This method is not yet well developed and is subject to a number of assumptions.

When all else fails, subjective judgment may be necessary. All the expected benefits of a project could be listed and villagers could be ask to consider whether they believe that the benefits warrant the cost.

Participatory approaches to environmental evaluation are currently not yet well developed. Richard et al. (1999) have attempted to develop some participatory approaches through the use of a barter game for non-marketed forest products. The game can be considered a form of expressed preference approach to environmental evaluation. It involves dividing participants into groups of buyers and sellers, with buyers purchasing (exchanging) the natural resource products for a commonly consumed good with a well-known market value (such as bags of rice). To simulate reality, sellers are given tokens of the environmental services – for instance, sticks (to represent logs), clumps of grass (representing grazing opportunities), or pieces of card with a drawing of the forest products. These are then physically exchanged for rice following negotiation. The groups of buyers and sellers are later brought together and the values compared. Following discussion, a consensus is sought on the value or price of environmental services.

Additional information relating to these complex economic issues is available from Tietenberg (2002) and Richards et al. (1999).

Broadly speaking, the more complex the method used to estimate values, the more expensive the exercise. Unless National Coordinators are already familiar and confident about their understanding of economic evaluations, they will need to:

- consult with an economist on the types of economic evaluation that might be appropriate for the project at hand, the time involved and the likely costs;
- inform their NTF about the options available for assessment environmental effects;
- together with the NTF and the community concerned, consider the likely cost, budget implications and accuracy of evaluations in relation to the needs and scale of the project. Clearly it would be difficult to justify expenditure of large sums of money for the evaluation of a small project – unless the spin off benefits are large. (Spin off benefits might include, for example, training in the field if additional evaluations are likely to be needed in the country in the future).

The duration of an economic feasibility study will likely to vary depending on the method used to evaluate environmental impacts and the way in which the community is involved in the process. (See Box 8, for example.) Where a conventional (non-participatory) assessment is undertaken, an economic feasibility study could probably be undertaken with about one week's work. Where participatory approaches are attempted – or where

user surveys are required, the time requirement is likely to expand (say, to around three weeks).

Generating economic feasibility information

Information to conduct an economic feasibility assessment can be obtained from existing literature (see Appendix 1.1). In addition, depending on the economic approach adopted to assess feasibility it is likely that some primary information will be needed to supplement existing information. Additional information is particularly likely to be required for economic evaluations. For example, information might be required on the amount that resource users might be willing to pay to protect their resources or on the importance to them of different amenities.

To collect this information, it may be necessary to conduct small financial and economic surveys of resource users. Surveys of resource users are likely to require the use of trained facilitators. National Coordinators will need to:

- identify facilitators to collect information (for example, by recruitment through adverts or nomination);
- discuss with the economist any training requirements; and
- support any training activities.

Depending on the success of previous facilitators, it would be beneficial to use those already used in the Programme to assist in the information generation. Having trained facilitators to collect relevant information, the National Coordinator will work with the economist to analyse the information.

4.5 Feedback and selection of options

National Coordinators and the PDT, possibly supported by local facilitators, will need to feed back information on the feasibility of an option to the host community. Guidance on providing feedback – along with other forms of communications – is provided in the IWP communications strategy (IWP 2002d). Information to be fed back for community consideration includes:

- the financial viability (or not) of proposed commercial ventures, together with the extent of likely success and possible job creation. This information could be presented pictorially in histogram, for instance;
- the impact of the option from a national perspective – that is, the value to the community of the change in the environment (non-market benefits), the expected costs of the project and the net benefits overall. This information could be presented pictorially (through charts or maps, for example);
- the impact of the option on individuals/key stakeholders; and
- the distribution of benefits and costs (if significant differences occur). Again, this information could be presented pictorially, such as through histograms or pie charts.

Feedback may be achieved through presentations at village meetings or through the representatives of key user groups.

With the information on the feasibility of options, National Coordinators will need to support community meetings to select an option that will form the basis of the pilot project.

4.6 Developing the project concept

Having selected an option to form the basis for a project, National Coordinators will be required to assist communities develop the project in detail. Developing project details will be done through consultations with the host community in the light of information generated during the community context and baseline information phases, as well as during feasibility assessment. National Coordinators will need to convene meetings with the team who developed the project, together with key stakeholder representatives to:

- specify the goal of the project;
- identify, assess and select any instruments to promote behavioural change (such as new rules, education methods, charging systems or penalties);
- harmonise project activities/rules with existing rules and/or regulations on resource use;
- identify necessary institutional arrangements (what rules are to be introduced, how they will be enforced and what the penalties will be for non-compliance);
- identify roles and responsibilities (such as who will conduct enforcement of new rules, who will collect information for monitoring, who will manage equipment or collect and separate waste and so on);
- identify access to inputs and markets for activities (such as fuel and spare parts for low tech equipment, advertising, access to transport facilities and so on);
- identify economic indicators and how information on them will be collected. This include identifying:
  - what information to collect;
  - how to collect it;
  - how to manage the information (who stores the information, how and where)
  - how to interpret the information.

This will be done through discussions with the local support committees such as the PDT, representatives of the local community and the assistance of any technical experts.

5 Implementation and monitoring phase

Early in the design of the pilot project, baseline information on current practices and values (see Box 4) will have been generated. Some of this information will form useful benchmarks for assessing the progress of the final project towards improving sustainability. For example, information will already have been collected in the community context and baseline information phases on the livelihoods of villagers and how their needs (say, for money) determine their choices (say, to fish rather than to farm). Therefore, it is logical that changes in the benefits and costs experienced by groups within the village should be measured throughout the life of a project. Information that measures the success of individual projects may vary from project to project as activities differ. However, likely types of indicators that could be monitored over time might include:

Progress indicators

- participation levels of stakeholder groups including:
  - distribution of benefits and cost across stakeholder groups (equity effects of the project which might affect participation);
  - records of any compliance problems; and
  - levels of enforcement costs.

Success indicators

- incomes of key groups who are affected by the project:
  - levels – benefits and costs;
  - distribution of benefits and cost across stakeholder groups (equity effects of the project);
  - ability of stakeholder groups to meet livelihood needs; and
  - cost savings (such as reduced health costs).

In addition, levels and forms of resource use in the village need to be monitored to ensure that (i) sustainable practices are being adopted and (ii) to identify any perverse or unexpected outcomes from the project.

A monitoring and evaluation strategy (IWP 2003c) for the IWP is currently being developed to outline approaches to monitoring pilot project work. National Coordinators and other interested individuals should refer to this strategy when considering monitoring issues.

5.1 Monitoring

National Coordinators in association with the PDT and the LPC will be responsible for identifying individuals within the host community (such as facilitators) who will collect, interpret and communicate back information on the progress of the project. Individuals to

conduct monitoring activities may include individuals from the PDT, LPC, households, local students, school groups or other interested volunteers.

In light of information generated in the project feasibility assessments, National Coordinators will need to ensure that monitors understand:

- what information to collect;
- how to collect it;
- how to manage the information (whether to store it themselves or pass it to the National Coordinator);
- how to interpret the information.

These factors will be determined in the selecting objectives and strategies phase. Some economic indicators can be monitored through participatory methods. For instance, equity impacts of pilot project could be collected through wealth ranking activities. Other information may be collected using regular structured interview (of, for instance, selected stakeholder groups or families).

National Coordinators will need to arrange any necessary training for monitoring (see Section 4). They will also need to conduct regular meetings with monitors to collect the monitoring information and synthesis the information in a form ready for reporting outside the village.

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APPENDICES

1 Administration of economic-related activities

1.1 Literature reviews

Community context phase

Information to be collected in the community context phase may cover key stakeholder groups, infrastructure facilities and trade in resources from the site. Use of existing literature principally involves the collection and synthesis of existing information – such as that found in published or unpublished documents including:

- government reports and archives;
- academic articles;
- reports by NGOs, community groups and scientific agencies.

National Coordinators will be required to collect and synthesise this information in a report, drawing on the assistance of the PCU as necessary. Alternatively, National coordinators may choose to contract out the research to an economist and/or social scientist. In any event, National Coordinators will need to be familiar with the contents and meaning of the report produced. National Coordinators will need to include appropriate citations of source documents. Information which cannot be collected in a literature review will need to be collected in a subsequent *baseline information phase*.

Financial feasibility assessments

Much of the information affecting the feasibility of an option will have been collected during the community context and baseline information phases of the project. In addition, some of the information required may be available from existing literature, if recent surveys, census or studies have been conducted on the feasibility of similar ventures in the area.

Existing studies that relate to the financial feasibility of activities might include, for example:

- government forecasts of the population or wealth growth in the region;
- forecasts of the nature and scale of local commercial activities;
- forecasts of the cost of living or the cost of labour and materials.

National Coordinators should collect, synthesise and compile literature relating to the economic value of resource use. The resulting report could be prepared solely by the National Coordinator or in tandem with an economist.

Economic feasibility assessments

Some of the information affecting the economic feasibility of an option may be collected during the community context and baseline information phases. It is unlikely that an *economic evaluation of the natural resources* at the host site will have been conducted prior to the IWP (although, naturally, if it had been, it would certainly be helpful for determining the value of a proposed option if it had). Nevertheless, it is likely that information will exist that can be used to indirectly estimate the value of resource uses in the area. Existing information that may provide helpful includes, for example:

- the profitability of commercial sectors affected by the problem (such as fisheries);.
- the health costs of the problem;
- the number of people affected by the problem.

National Coordinators should collect, synthesise and compile literature relating to the economic value of resource use. The resulting report could be prepared by the National Coordinator in association with an economist.

1.2 Information management

Information collected during all phases of pilot project implementation will need to be managed to assist in:

- record keeping; and
- developing future stages of the project.

For example, information collected in the *community context and baseline information phases* may later be required to determine whether proposed options to address problems will relate back to the cause of the problem. Similarly, information collected to assess the *feasibility of options* is likely to be required to flesh out the details of the project selected, particularly in relation to:

- how the project will work in practice (such as what tasks would need to be done and by whom); and
- which parameters need to be monitored during project implementation.

National Coordinators will need to file information to enable its protection and easy retrieval. This may be compiled electronically as well as in hard copy form.

1.3 Training needs

Community context and baseline information phases

Facilitators will need to be trained to consistently collect information to support the baseline information phase. Facilitators may need to be trained to ensure that they:

- are aware of what information they are collecting and why;
- understand how to collect the information (methods of interviewing, surveying etc.) and
- collect information across the community consistently and without bias.

Suitably qualified economists may be used to train local facilitators in the information to be collected and methods for collection/analysis. Training on information collection may be conducted in tandem with training for social assessment and participation-related activities. This is because the information to be collected for social assessment and participation is frequently similar to that required for economic analysis.

Selecting objectives and strategies phase

National Coordinators

In general, it is assumed that National Coordinators are not familiar with conducting economic analysis for conservation and development projects. Yet they will be expected to manage a variety of process such as assessing the feasibility of possible options to community environmental problems.

Support to assist National Coordinators handle economic analysis of environmental problems and the feasibility of options will be provided by an economist who can guide the National Coordinator through the process. In addition, the training course that National Coordinators will attend in late 2003 (see Section 2.4) should provide some guidance for National Coordinators in what to expect.

Facilitators

Training may also be required by facilitators to collect information for any intensive economic evaluations of natural resources. This is especially important where the evaluation is intended to form the basis of access or user charges for resources. Training for this activity should be provided by an experienced economist.

1.4 Terms of reference

Terms of Reference and contracts for economists and facilitators should specify:

- the activities that the consultants will undertake;
- when these activities will occur (a schedule for specific activities should be included);
- any reporting and follow up obligations of the consultant;
- resources required; and
- budgetary requirements.

Information on the Pilot Project proposal should provide some background information in developing the terms of reference. Terms of reference can produced in consultation with the PCU.

Any reports produced by facilitators and contractors for pilot projects will need be reviewed by the National Coordinator and the PDT with the assistance of the PCU. With the assistance of the PCU, the National Coordinator will identify gaps or queries in reports and provide feedback to contractors to ensure in quality completion of the report.

Terms of Reference and contracts will need to be prepared for any economists who analyse community context and baseline information. Sample terms of reference for economic analysis of the root cause of the problem might appear as in Box 10.

Box 10 Sample terms of reference for economic analysis of root causes

Together with the National coordinator IWP[Country X], the consultant will refer to:

- key literature related to Community X and [resource problem X] it faces;
- the following baseline information generated in on [Community X] and [problem X]:
  - physical nature of the resource;
  - stakeholders and their activities;
  - markets and other infrastructure; and
  - institutions.

Drawing on and synthesising this information noted above, the consultant will work with the National Coordinator IWP [Country X] to conduct an *economic assessment of the root cause of* [problem X] in [Community X]. The consultant will work with the National Coordinator to prepare a plain English report of the findings and scope of the economic analysis. If required, the consultant will present the findings of the study to the Project Development and Local Project Committees at a meeting arranged by the National Coordinator. The meeting will last no more than one day.

Report format

The report will be prepared in plan English and should not exceed more than 15 pages (although appendices are not included in the page count). The Report will highlight:

- what incentives (financial, institutional, physical, cultural) compel families, or groups in [Community X] to [conduct the unsustainable practice concerned, such as over fish specific X] despite any rules to the contrary;
- the origin of those incentives in relation to the literature and baseline information used;
- what influences (social, financial, or other) are most likely to affect changes in the behaviour of families/groups in [community X] in the immediate future; and
- possible options for reducing incentives for over harvesting species X and/or creating incentives for sustainable use.

In so doing, the consultant will:

- identify any areas where further economic information is required;
- identify the economic information required;
- identify approaches for generating/accessing that economic information;
- highlight any issues that might provisionally affect:
  - the cultural acceptability of the options identified;

- information that would may assist in assessing the economic and financial feasibility of the options identified.

Presentation

If required, the Contractor will present a summary of the findings of the study in plain English using charts and pictures where appropriate. The consultant will answer any queries raised in the presentation and/or provide clarifying information within a week after the presentation.

Terms of Reference and contracts would also be needed for economist to assist in conducting feasibility studies of alternative options (actions to address the problem faced by the community). Sample terms of reference for economic analysis of the root cause of the problem might appear as in Box 11.

Box 11 Sample terms of reference for feasibility assessments of options

The consultant will refer to:

- the root cause analysis conduct for [Community X]. This root cause analysis provides information on the social and economic causes for [problem X] and [Community X];
- the options that [Community X] has identified as being of interest to address [problem X];
- other documentation relating to the IWP [Country X]; and
- any other relevant materials.

Drawing on this information, the consultant will work with the National Coordinator IWP [Country X] to conduct a feasibility study of the alternative options identified. In so doing, the consultant will conduct work in three phases.

Phase 1
The consultant will provide a short report outlining:
- how the National Coordinator would be involved in the analysis, noting the demands on his/her time;
- how the feasibility assessments will be conducted;
- any local assistance (manpower) needed (for instance, if surveys are required), including numbers of individuals required, length of time required for work and draft terms of reference for work;
- any training required for use of local manpower;
- how manpower would be trained, including time frames.

Phase 2
The consultant and/or others will provide training as necessary to local manpower to assist in the feasibility assessments.

Phase 3
- Together with the National Coordinator IWP [Country X], the consultant will:
  - assess issues affecting likely participation by key groups in [Community X] in the alternative activities;
  - the financial feasibility of the alternative options, including scope for continued activities after IWP funding ends in January 2007;
  - the economic feasibility of alternative options, giving consideration to the likely environmental impacts (positive or negative) of the solutions;
- prepare a plain English report of the findings and scope of the economic analysis. If required, the consultant will present the findings of the study to the Project Development and Local

Project Committees at a meeting arranged by the National Coordinator. The meeting will last no more than one day; and

- make recommendations as to the most efficient option for addressing [problem X] facing [community X].

In considering the feasibility of alternative options to address [problem X] in [Community X], the consultant will consider, among other things:

- *participation:*
  - the incentives for participation in the activities by key groups in [Community X];
  - other issues that may affect participation;
- *financial feasibility:*
  - any venture to be assessed – how it is envisaged to work and who the clients would be;
  - likely feasible scales for any venture and an estimate of break even levels;
  - risks to the success of the venture, possible obstacles and strategies to overcome them;
  - time frames for the success of the venture (if unlikely to be financially sustainable straight away);
  - training needs for individuals managing the venture:
  - (what training would be needed, how it might be delivered)
  - recommendations on whether or not to proceed;
- *for economic feasibility:*
  - benefits and costs associated with the project activities including the likely change
  - in resource status and its value in monetary terms (where practical);
  - distributional impacts of the activities and likely participation issues;
  - description of any perverse incentives likely to generated if the proposal goes ahead.

Report format

The report will be prepared in plan English and will detail:

- benefits and costs to the community and nation of alternative options;
- how benefits and costs were estimated (including environmental change), noting the robustness of those estimates, any information gaps and/or risks;
- the benefits to groups within the community of participating in the alternative options;
- the incentives for behavioural change to address [problem x];
- any perverse incentives that may be created;
- the financial sustainability and risk of any commercial ventures that form the basis of the project; and
- the likely returns to [Country x] of the alternative options (environmental impacts included).

Presentation

If required, the Contractor will present a summary of the findings of the study in plain English using charts and pictures where appropriate. The consultant will answer any queries raised in the presentation and/or provide clarifying information within a week after the presentation.