

DEPARTMENT FOR INTERNATIONAL DEVELOPMENT  
STRATEGY FOR RESEARCH ON RENEWABLE NATURAL RESOURCES

NATURAL RESOURCES SYSTEMS PROGRAMME  
*FINAL TECHNICAL REPORT*

*DFID Project Number*

R 7797

*Project title*

**Opportunities and Constraints for Coastal Livelihoods in the Caribbean**

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*NRSP Production System*

Land Water Interface

*Date*

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## **Section 1. Executive Summary**

*Provide a brief summary of the purpose of the project, the outputs of the project, the research activities and the extent to which the OVI's at purpose level were achieved. The contribution of the project towards attainment of the NRSP purpose (refer NRSP programme logframe) should also be assessed. (Up to 500 words).*

The aim of this project was to help improve technical understanding and methods for management of coastal zone habitats by undertaking information analysis and validation of local needs. Its outputs were to include:

- a database containing references on the land water interface in the wider Caribbean;
- a regional analysis of interactions between stakeholders, activities and the resource base;
- the identification of LWI community perceptions through stakeholder analyses in Tobago and part of Jamaica; and
- recommendations to NRSP-LWI and DFID for future activities within the LWI programme.

The project involved assessing the quality and quantity of information on Caribbean coastal zones across six strata (the natural resource base; the extracted resource; extraction methods; the human resource; informal social interactions and formal social structures) and using this to identify areas in which further coastal zone research was needed.

A prototype database was created of 12,000 regionally relevant references to published literature, indicators and project data. These were drawn from a wide range of current databases, journals and web-sites. Representatives at a major NRSP/DFID regional workshop in Barbados (14-15 June 2001) were very interested in the work although they indicated some information gaps. Several CD-ROMs containing the prototype were distributed in Barbados, and methods for ensuring sustainability and regional ownership of the database were discussed.

Issues raised by Caribbean representatives early in the project, were passed electronically to a group of senior Caribbean personnel (a 'Virtual' Steering Group) who were asked to rank the issues by regional, national and local criteria. These issues and their rankings were later compared with a range of issues raised by local communities in Tobago and Jamaica.

Stakeholder analyses were carried out within coastal communities of Tobago and Portland Bight, Jamaica to determine residents' views on their opportunities, constraints, assets and vulnerability. The Jamaican coastal communities (48 interviewees) had fewer assets and higher levels of vulnerability than those in Tobago (32 interviewees), and had greater fears that their livelihoods were threatened. The Tobagonians expressed concerns about their children's future, and the declining environmental quality. Findings from these field studies were broadly validated at workshops in Portland Bight and Tobago.

Recommendations to our target institutions, NRSP and DFID, included:-

- consideration of a blend of regional, national and local projects;
- more holistic approaches to research;
- more emphasis on the human resource base in relation to natural resources;
- carrying capacity studies;
- social and economic inclusion of coastal communities during research;
- development of more appropriate coastal poverty indicators.
- attention to scalability.

The NRSP logframe purpose will benefit substantially from the activities of this project, as the NRSP LWI Caribbean programme will be able to focus better on issues shown to be most relevant to maintaining the livelihoods of poor coastal communities. Project OVI's at purpose level have been achieved; and the project outputs have already been used in formulating NRSP policy decisions, thus verifying project indicators.

## **Section 2. Background**

*Information should cover a description of the goal to which the project sought to contribute through addressing a researchable constraint or opportunity. How the research builds on previous work to derive 'new knowledge' and how the demand for the project was identified should also be explained.*

The goal of this project was Output 1 in the LWI logframe – i.e. ***'Improved resource use strategies in coastal zone production systems developed and promoted'***. The demand for the project was therefore identified through the NRSP-LWI logframe.

The project was one of information gathering and analysis of previous coastal zone studies and projects in the wider Caribbean. The constraint for the LWI was the lack of information on what had already been researched in relation to human livelihoods and pro-poor considerations among coastal communities.

This project collected as many previous coastal Caribbean studies as could be located on earlier databases and web-sites. These references were entered into a user-friendly database created for the project, and the areas of natural and human resources on which few data were available were identified.

The livelihood needs of the region at regional, national and local levels were assessed, and these needs validated, both by discussion with senior Caribbean colleagues, and by field studies carried out in part of a large island (Jamaica) and a small island (Tobago).

The new knowledge created by the project was the identification of areas of strength and weakness (in both qualitative and quantitative terms) of past studies on resources, indicators and projects. It was anticipated that the results of this project would help to identify areas on which the LWI research programme might wish to focus in its remaining years, and also to validate these areas as being of importance to potentially vulnerable coastal communities in the Caribbean.

### **Section 3. Project Purpose (from log frame)**

*(Describe the purpose of the project and what changes it was intended to achieve).*

The project purpose (from the logframe) was '*Technical understanding and methods for management of coastal zone habitats improved.*

The project's purpose was to help provide direction to NRSP-LWI managers in formulating future research calls for activities in the Caribbean region. This was to be achieved by the collection, analysis and synthesis of knowledge already available, plus the validation at coastal community level of additional programmes suggested within the region. This was done through identifying what coastal research had already been carried out in the region; the degree to which previous research was relevant to the aims of the NRSP; and where there were knowledge gaps which both NRSP managers and local communities viewed as important and researchable.

In order to achieve this purpose it was necessary to understand the extent to which published work was relevant to sustainable livelihood issues, and whether techniques that are/were currently in use for managing coastal habitats were successful.

The main change in understanding has been the approach to natural coastal resources, their sustainability and their conservation. It was noted that many of the older publications appeared to view the natural resources as sacrosanct, and the coastal communities who might be impacting on them as being in the wrong. The poverty focus and concerns about livelihoods which have occurred in recent years now require that the communities should be paramount rather than the natural resources, but that the communities need help. Much more effort should now be placed on finding alternative sustainable livelihoods for coastal communities, rather than simply trying to bar them from utilising coastal resources.

Several methods were used in this work which may help advance management thinking to some extent.

- The user-friendly database created by the project will allow regional researchers to determine very quickly what thematic work relevant to their interests has already been carried out. The many levels at which the database can be searched has already been acknowledged by regional representatives as being a valuable tool in understanding past community work and in identifying current knowledge gaps.
- To assist in planning and keeping the work on course and relevant to the region, a 'Virtual' Steering Group (VSG) was formed. This was composed of senior personnel within the Caribbean region who agreed (subject to other commitments) to comment on project suggestions. They were kept in touch, electronically, with project progress and, after several members made suggestions on future research activities which might be important to the region, were asked to rank a selection of the activities according to their views of the importance of these topics at regional, national and local levels. A comparison of these rankings with those given by local community personnel in Portland Bight, Jamaica and Tobago indicated great disparities and suggested that personal perspective on researchable topics was an all-important feature.
- Another simple but useful methodology was developed in the community surveys and validation exercises in Jamaica and Tobago. The combination of economic and social skills in preparing the community survey questionnaires, which were then administered by local NGO personnel gave a range and depth of quantitative information which has not been frequently found in publications on Caribbean coastal communities. It also suggested a number of new indicators which might be valuable in comparing needs of different livelihood groups.

No attempt was made to compare programmes such as the success of coastal area co-management regimes or the value of marine protected areas with other methods of resource protection, as these are being considered elsewhere in the LWI programme.

Aspects of these methods may be usefully adapted into further LWI research initiatives.

## **Section 4. Outputs (from log frame)**

*Describe the research results achieved by the project. Comment on whether all the anticipated outputs were achieved and if not, what were the reasons? Suggest what else needs to be done to take the research results forward.*

*Research results should be presented comprehensively and concisely using tables, graphs or sketches as much as possible rather than lengthy writing.*

***Output 1. A database collating all available information on land water interface in wider Caribbean, containing:***

- Bibliography of historical and current research and practice.
- Characteristics for each country in terms of human, natural, physical, financial and social capital recorded and mapped. To include key service functions, natural resources, activities, impacts and economic status, vulnerability or risk.
- inventory/project resource base of more detailed datasets (perhaps made available within region through DFID at project completion).

A database format was designed in UK, using Caribbean material already available, and taken to the Caribbean for discussion, testing and for entry of additional information. Over the course of the project, a user-friendly database containing 12,000 references of relevance to the Caribbean was created by collecting and collating information from Caribbean databases already constructed, from international databases, from searches of web-sites, and from Caribbean partners and contacts. This contained information on both black and grey literature, but was restricted to consider only material produced after 1970. The database and its operation are described more fully in Annexe A, Sections 2 and 5. It can be used to search by author, country, key words, projects or any blend of these. A copy of the database (on CD-ROM) is attached to Annexe A.

Detailed indicator data for most of the Caribbean countries (including mainland, large island and small island, and English, French, Spanish and Dutch speaking) are available in a range of earlier databases and websites (e.g. CIA, 2001). These data have been incorporated into the project database, and it is possible to combine the data with GIS to create region-wide maps showing a wide range of indicators by country. (See Annexe A and the database for examples).

The third item of this Output, relating to a project resource base was more difficult to achieve, as it required up to date information about donor activities and projects within the region. A wide range of projects has been entered on the database (many from the DFID NARSIS database) but it is acknowledged that there are probably other projects which should be on the database. (See p12 this report).

Copies of the prototype database were distributed to 13 selected representatives following the regional DFID/NRSP workshop held in Barbados on 14-15 June 2001, during which the project findings were considered by a wide range of regional and national representatives.

***Output 2. A regional analysis of interactions between stakeholders, activities and the resource base, including***

- A ranking of single parameters to identify relative capital across the wider Caribbean.
- A comparative analysis to identify key factors in poverty and vulnerability in relation to the above factors.
- A tool developed to identify where research and management interventions are required.
- A synthesis with the results of the two cases studies (Output 3) which will identify key disparities between the results of the regional and local studies.

The regional analysis of interactions between the stakeholders, their activities and the resource bases into which they tapped was developed in line with the concept of the project (See Annexe A, Sections 2 and 4).

A ranking of key issues in the Caribbean was carried out by members of the project's 'Virtual' Steering Group according to regional, national and local criteria. These results were later compared with issues identified and

ranked by community participants in the field studies. The comparison suggested strongly that personal perspective was an important facet of the ranking process as there were significant differences between the two sets of results (Annexe A, Section 7).

***Output 3. Community perceptions identified through stakeholder analyses in two case study locations for a selected small island (Tobago) and an area of a large island (Jamaica) land water interfaces:***

- Livelihoods study and context mapping based on existing data.
- Local level stakeholder analyses to identify key factors in poverty and vulnerability in relation to the above factors.
- Implications for regional information and analysis (Outputs 1 & 2).

Stakeholder analyses were carried out in Portland Bight, southern Jamaica (in partnership with the NGO Caribbean Coastal Area Management Foundation, CCAM) and for the whole island of Tobago (with the NGO Environment Tobago).

Coastal community livelihoods studies were conducted with key personnel from the two NGOs to determine the most appropriate groups from which to seek interviewees. Stakeholder views were then sought through detailed questionnaires, developed in discussion with the NGOs and administered by NGO staff. A total of 48 local community representatives were interviewed in Jamaica and 32 in Tobago. In broad terms the Jamaican coastal communities had fewer assets and higher levels of vulnerability than those in Tobago, and had greater fears that their livelihoods were threatened. The Tobagonians expressed concerns about their children's future, and the declining environmental quality. Findings from these field studies were broadly validated at workshops in Portland Bight and Tobago. Full details of the surveys and their results are provided in Annexe A, Section 6.

The analyses and interpretations of the data collected were validated in national workshops held in Jamaica and Tobago immediately prior to the Regional Workshop in Barbados (Annexe A, Section 7).

The implications for management action were shown in the different rankings given to particular topics of coastal interest by regional, national, local and community representatives, and by community members themselves. In many cases issues of great importance to local people were not rated highly by senior administrators, while matters of high national or international concern were not important in a local community context.

***Output 4. Recommendations to DFID and regional partners:***

- In terms of researchable constraints: technical constraints to management; methodologies information gaps.
- Institutional issues identified.

Recommendations to NRSP, DFID and regional partners were developed through combining the regional, national and local concerns regarding the coastal zone priorities expressed to the team in the early part of the project with the validation exercises in Jamaica and Tobago and the views of local communities during the latter exercises. This resulted in a wide range of suggested topics (some of which were more developmental than researchable) for further donor action (Annexe A, Section 7). The final international workshop in Barbados (attended by DFID, NRSP, regional personnel and project personnel, including Jamaican and Tobagonian NGO representatives) gave indications of the relative importance of the issues raised and the researchable constraints.

General recommendations arising from the project included:-

- **consideration of a blend of regional, national and local projects;**
- **more holistic approaches to research, rather than concentrating on natural resource issues;**
- **more emphasis on the human resource base in relation to natural resources;**
- **carrying capacity studies on both systems and thematic issues;**
- **social and economic inclusion of coastal communities during research;**
- **development of more appropriate coastal poverty indicators.**

- **attention to scalability.**
- **more emphasis on the human resource base in relation to natural resources;**
- **consideration of the need for a blend of regional, national and local projects;**
- **more holistic approaches, rather than over-focusing on a particular (natural) resource; and**
- **development of more appropriate coastal poverty indicators, perhaps needing dis-aggregation of some country data.**

A range of specific project suggestions provided by Caribbean contacts is also included in Annex A Section 9.

Institutional issues were not explicitly considered in this project, though the issue of retention of highly trained staff within small island environments was raised.

#### **What needs to be done to take the results forward?**

Actions on means to take these results forward are already taking place. The validation workshops with the communities in Jamaica and Tobago were preliminaries to a major international workshop in Barbados (14-15 June 2001), organised by NRSP and DFID and attended by many of the major national and regional players in the Caribbean, and included DFID and World Bank.

This latter meeting heard the preliminary results of Project R7797, and, supplemented by regional comments, extended them into policy suggestions and syntheses for the NRSP-LWI programme and to DFID. These suggestions derived from the workshop will be incorporated into LWI research calls for the remainder of the programme.

The DFID and NRSP representatives at the meeting were content with most of the project's findings and were complimentary about the team's work, even suggesting that further funds should be sought from the NRSP, particularly for extending and enhancing the value of the database as a regional resource.



## **Section 5. Research Activities**

*This section should include descriptions of all the research activities (research studies, surveys etc.) conducted to achieve the outputs of the project. Information on any facilities, expertise and special resources used to implement the project should also be included. Indicate any modification to the proposed research activities, and whether planned inputs were achieved. Highlight any special activity achievements (e.g. involvement of policy-makers; or numbers of NGOs etc).*

### **Project Activities**

The concept of this project included three major research elements, as indicated in the outputs – database development; interactions; and community studies and validations - plus recommendations to NRSP/DFID.

### **Database**

The development of the database demanded a structure which would allow first the collection and synthesis of information from around the region, and then whether it was relevant to the interests of the NRSP. To assess this latter part a series of 6 strata (boxes) was developed. The strata were:- the potential natural resource base; the extracted natural resource; the activities used to extract the resource; the human resource; the informal social resource base and the formal social base. Cross cutting issues were also considered. (See Annexe A, Section 3)

A series of 12 questions was then posed to determine which of the strata best described the focus of a particular reference. This provided the team with a proportional indicator of the amount of material published on any level of the coastal zone system. Information on quality was obtained later by detailed review of selected papers, which appeared from their titles to be very relevant to the project's aims.

The database itself has been created to be very user-friendly and self-explanatory, and can be queried along many lines by Caribbean users. In tests with community groups at the national validation workshops it was able to provide answers to virtually all the questions raised by local participants – particularly questions of 'what work has been done on?' nature.

More detail on the database and the results derived from it is provided in Annexe A Section 5. A copy of the database on CD-ROM is provided with Annexe A Vol II (Appendices).

### **Virtual Steering Group and Interactions**

In order to have guidance on project direction, process and findings, several senior figures from within the wider Caribbean were approached, some prior to project approval, and some during the first visit to the region by NRI staff. Most of these agreed to help, if other pressures permitted, in assessing project views on particular matters, and in ensuring the project remained relevant and focussed on issues of Caribbean importance. These became part of an electronic contact group - the project's 'Virtual' Steering Group.

One of the key roles of the group was to rank a number of issues, which had been raised during early discussions, according to their feelings of regional, national or local interest or importance. Comparison of the variations in these rankings with those produced by coastal community members in Jamaica and Tobago suggested that many of the issues of regional and national political importance are not of primary interest to the poor coastal dwellers. See Annexe A, Sections 4, 6 and 7).

### **Community Studies**

The purpose of the community studies in this project was to check whether the information collected for the database and obtained from national and regional representatives was relevant in the livelihoods of the communities living in the coastal zones of two sizes of Caribbean island. The community studies also served to show the degree to which these communities felt vulnerable to the play of external forces beyond their control.

The project required two sets of community validations, one in part of a large island (the Portland Bight area of Jamaica, where our NGO partner, Caribbean Coastal Area Management Foundation, CCAM, directed by Mr Peter Espeut, was working) and the other the whole island of Tobago, where our other NGO partner

Environment Tobago, ET, directed by Mr Kamau Akili, was active. Assistance with the Tobago work was also provided by Tobago House of Assembly staff, led by Dr Arthur Potts, Director of Marine Resources.

The validations required obtaining and analysing detailed social and economic information from coastal communities in the two areas. This was done using a guided questionnaire format developed by NRI, CCAM and ET staff. The questions were posed by local NGO workers in the two areas. A wide range of occupational groups were questioned, although the survey concentrated on fishers and associated employment. In broad terms the results showed that the people of coastal Tobago were significantly wealthier than those of Portland Bight and were more concerned about long term effects of activities on the environment. People in Portland Bight had lower levels of education, fewer assets, fewer job opportunities, greater vulnerability to natural hazards, and more concerns for their immediate future than those in Tobago.

The results from the community analyses were presented to the two groups of community members who came to the national validation workshops. Only 7 were able to attend the Portland Bight meeting, but were in full agreement with the project's interpretation of their social and economic opportunities and constraints. Many more (34) attended the Tobago meeting, and while they were unable to give full validation to project findings (as there was a gender imbalance in the numbers questioned) they agreed with the interpretation of the available data.

### **Recommendations**

The recommendations to NRSP and DFID are considered on two planes. These are generalist areas and forms for projects, such as a suggestion that management should consider. These included

- consideration of a blend of regional, national and local projects;
- more holistic approaches to research, rather than concentrating on natural resource issues;
- more emphasis on the human resource base in relation to natural resources;
- carrying capacity studies on both systems and thematic issues;
- social and economic inclusion of coastal communities during research;
- development of more appropriate coastal poverty indicators.
- attention to scalability.
- more emphasis on the human resource base in relation to natural resources;
- consideration of the need for a blend of regional, national and local projects;
- more holistic approaches, rather than over-focusing on a particular (natural) resource; and
- development of more appropriate coastal poverty indicators, perhaps needing dis-aggregation of some country data.

Secondly, the team found a wide range of specific suggestions (some more researchable than others) derived from the validation exercises and discussions with Caribbean colleagues over the entire course of the project

- specific suggestions (many provided by the communities of Portland Bight and Tobago) for research projects to consider problems which are very real and local to them.

These sets of generalist and specific project suggestions are discussed in more detail in Annexe A, Section 9.

## **Section 6. Contribution to Outputs**

*Explain how the outputs will contribute towards NRSP's goals as stated in the programme logframe and in the relevant production system logframe. Frankly assess the achievements of the project and what benefits it could engender. How might the project's achievements impact on people's lives, stating which people (men, women, which group or groups of the poor)?*

*Assess the impact of the outputs. This should be reported in 2 ways. Firstly by making a robust assessment of the extent to which the OVI's at the Purpose level were attained, including any evidence of the uptake of research outputs by target institutions and other intended beneficiaries. Secondly by making an assessment of the impact of the project on:*

- *the thinking of research partners and stakeholders in the project (including development workers, field extension staff, DFID NR advisers)*
- *policy approaches (national environmental groups etc)*
- *techniques (that people can use covering categories of men and women)*

*What else needs to be done to promote the idea and/or understanding and/or product of the research? The text should explain what promotion pathways to target institutions and beneficiaries were identified and suggest what follow up actions might be considered regarding these pathways.*

### **Project Achievements:**

The project's immediate achievements can be assessed even at this early stage through the responses of participants during the NRSP/DFID Barbados Workshop. The feelings expressed during the meeting suggested that several elements of the project will be utilised and contribute significantly to the region.

- There was an insistent demand for one of the primary products – the prototype database. It is not possible to tell the extent to which recipients will use the database, but the region-wide interest in it (from donors, regional and national participants and NGOs) indicated that the workshop participants felt it had many good points.
- There was interest in the baseline information collected from community participants as part of the Jamaica and Tobago validation exercises, and in the methods used to collect this.
- A need was expressed for more relevant indicators to describe the coastal zone, rather than the 'blunt instruments' of national statistics, which are frequently all which are available. Some indicators derived from the database and others from the economic parameters in the field studies show promise in this respect.
- There was interest (from the World Bank representative) in methods of creation and operation of the 'Virtual Steering Group'.

### **Uptake of results**

As mentioned earlier, the preliminary outputs from this project were discussed in depth at the Barbados Workshop in mid June 2001. Two major elements of uptake by our target institutions (NRSP & DFID), and to a lesser degree the region's land water interface practitioners, were apparent during this meeting.

The first was the use of the project's results in helping to shape policy for NRSP LWI research calls for the remainder of the programme. Initiatives and needs identified during the community national validation exercises were considered by the Workshop and some of these incorporated in generalised statements which are likely to appear in the next NRSP LWI call for Caribbean research. The results generated by this project should help researchers to focus better on pro-poor livelihood concerns in relation to the contracting natural resource base during future research calls.

Uptake by our primary client (NRSP) and identification of the needs of a secondary client (the coastal communities) have therefore been met.

The second demand at the Workshop was for ownership of the database. The team could not guarantee prior to the meeting that DFID and NRSP would agree for this to be distributed, but this was agreed, and CD-ROMs with the provisional database were distributed to 13 of the Workshop participants, ensuring good geographical and partner coverage.

### **The Future**

There are three main areas in which this work could be extended and improved.

#### ***Database***

The database needs to be owned regionally and managed sustainably. The prototype is already regionally available. During the Barbados Workshop it was noted that there were omissions in the information on the database at that stage - both in terms of individual items and in neglecting to access certain databases. These omissions have since been rectified. However, if the database is going to be truly useful it should be kept up to date and material added as it becomes available. This means locating and maintaining the database in a Caribbean regional organisation - perhaps one such as UNEP - and possibly having a group of interested senior personnel responsible for reviewing future contributions to ensure only quality items are incorporated. NRSP management has already indicated that it would be willing to consider a request for further funding to work towards the ownership and sustainability issues.

#### ***Community Studies***

The community studies took place on a small island and part of a large island, but not on the third physiographic land type in the Caribbean - a mainland country. Consideration could be given to repeating parts of the community study on a mainland coastal zone (Belize or Guyana perhaps?) so that a complete set of community types could be considered.

#### ***Publications and Reports***

The current reports from this work reach a very limited group of people. The team would like to disseminate the results to wider audiences, both in the pure research and in the more popular press. This will be discussed with NRSP-LWI management in due course.

## **Section 7. Publications and Other Communication Materials**

*Present a comprehensive list of publications (achieved and planned), reports and other media products produced by the project under the headings given below. Any item specified that has not been previously provided to NRSP for the NRSP library must be submitted as an annex to the FTR. All published papers must be annexed to the FTR.*

No publications have been produced by this project so far, but there are plans for both peer-reviewed publications and popular articles describing the findings of the project.

Copies of a CD-ROM containing the draft database produced by the project were circulated to 13 of the participants at the international workshop in Barbados.

## Section 8. Project Logical Framework

	<b>Narrative summary</b>	<b>OVis</b>	<b>MOV</b>	<b>Important Assumptions</b>
<b>Goal</b>	Improved resource-use strategies in coastal zone production systems developed and promoted.	By 2002, new approaches to integrated natural resource management and prevention of pollution, validated both with their regional implications, and specifically benefiting the poor in two targeted areas.	Review by Programme Manager. Final Reports of research team and collaborating /target institutions. Appropriate dissemination products. Local, national and international statistical data Data collected and collated by the Programme Manager	Target beneficiaries adopt and use strategies. Budgets and programmes of target institutions are sufficient and well managed.
<b>Purpose</b>	Technical understanding and methods for management of coastal zone habitats improved.	Key service functions of the coastal zone identified and quantified. Coastal resources mapped and inventories quantified. Islands and countries characterised in terms of their general social, natural, institutional, financial and physical capital.	Maps and reports quoted by national government, NGOs, donors and regional bodies for resource allocation and policy decision making	National GOs and NGOs committed to improved management solutions.
<b>Output</b>	1. A database collating all available information on land water interface in wider Caribbean. Containing: <ul style="list-style-type: none"> <li>• Bibliography of historical and current research and practice</li> <li>• Characteristics for each country in terms of human, natural, physical, financial and social capital recorded and mapped. To include key service functions, natural resources, activities, impacts and economic status, vulnerability or risk.</li> <li>• inventory/project resource base of more detailed datasets (perhaps made available within region through DFID at project completion)</li> </ul>	Database structure complete and review data entered. Overall comprehensiveness of information validated	1. Review reports 2. Regional journal reports such as NRMU Newsletter.	Results from previous studies can be interpolated into regional context.

	<p>2. A regional analysis of interactions between stakeholders, activities and the resource base</p> <ul style="list-style-type: none"> <li>• A ranking of single parameters to identify relative capital across the wider Caribbean</li> <li>• A comparative analysis to identify key factors in poverty and vulnerability in relation to the above factors</li> <li>• tool developed to identify where research and management interventions are required.</li> <li>• A synthesis with the results of the two cases studies (output 3) which will identify key disparities between the results of the regional and local studies.</li> </ul>	<p>Draft analysis produced by Month 6, disseminated by VSG members to key stakeholders across the region, and through regional journal. Results quoted by other users.</p>	<p>1. Review reports 2. Regional journal reports such as NRMU Newsletter</p>	<p>Results from previous studies can be interpolated into regional context. Gaps in information not too big</p>
	<p>3. Community perceptions identified through stakeholder analyses in two case study locations for selected small island (Tobago) and area of large island (Jamaica) land water interfaces:</p> <ul style="list-style-type: none"> <li>• Livelihoods study and context mapping based on existing data;</li> <li>• Local level stakeholder analyses to identify key factors in poverty and vulnerability in relation to the above factors</li> <li>• Implications for regional information and analysis (Outputs 1 &amp; 2)</li> </ul>	<p>Local case studies validated at 2 workshops (Jamaica &amp; Tobago) in Month 10/11 - to be attended by local environmental organisations and national and local governmental planners as well as community representatives.</p>	<p>2. Case Studies: Reports Workshop reports GIS data layers, maps and statistics</p>	<p>Local stakeholders do not suffer consultation fatigue.  Hurricane and other natural environmental constraints do not affect field work.</p>
	<p>4. Recommendations to DFID and regional partners</p> <ul style="list-style-type: none"> <li>• in terms of researchable constraints: technical constraints to management; methodologies information gaps</li> <li>• institutional issues identified</li> </ul>	<p>Recommendations regionally validated by national and regional coastal management bodies, academics, donors and NGOs at 3 mini seminars in Jamaica, Barbados &amp; Tobago, Months 11/12. Database available to VSG and selected others.</p>	<p>3. Database report and regional workshop reports</p>	<p>Results from identified case studies can be interpolated into regional context.</p>

Activities: Narrative summary	Milestones and budget	Important Assumptions
<p>1. Information gathering</p> <p>1.1 Preparatory Activities</p> <ul style="list-style-type: none"> <li>• Project team will identify information needs for identifying key indicators</li> <li>• Informal Caribbean-based Virtual Steering Group established and raise initial issues</li> <li>• Design of database</li> </ul> <p>1.2 A review of Caribbean coastal activities and livelihood opportunities</p> <ul style="list-style-type: none"> <li>• Interviews/questionnaires with key regional groups</li> <li>• Detailed literature search</li> <li>• Preparation of review document and database</li> <li>• Dissemination of results</li> </ul>	<p>Draft review document disseminated – Month 6</p>	
<p>2. A regional analysis of interactions between stakeholders, activities and the resource base, using database information</p> <ul style="list-style-type: none"> <li>• Contextual analysis consisting of : Ranking of single parameters to identify relative capital across the wider Caribbean</li> <li>• Comparative analysis to identify key factors in poverty and vulnerability in relation to the above factors.</li> <li>• Synthesis with the results of the two cases studies (Output 3).</li> <li>• Development of tool for identifying where research and management interventions are required</li> </ul>	<p>Draft analysis document disseminated - Month 9</p>	
<p>3. Case studies for a selected large island (Jamaica) and a small island (Tobago) land water interface conducted by local staff, steered by project team:</p> <p>3.1 Developing information system integrating existing resource mapping and provision for survey data</p> <ul style="list-style-type: none"> <li>• Inventory of existing research and management activities</li> <li>• Review of available resource maps and inventories and stakeholder groups</li> </ul> <p>3.2 Local stakeholder analysis</p> <ul style="list-style-type: none"> <li>• Small workshops for developing detailed process for field work and Identification of specific stakeholders, study sites</li> <li>• Identification of relationships between resource system and activities (livelihood strategies and opportunities emphasising poverty and vulnerability concerns) based on community perceptions</li> <li>• Community perceptions of technical constraints, legal and institutional opportunities. Community recommendations on key information gaps</li> </ul> <p>3.3 Validation of results</p>	<p>Draft database developed and distributed to relevant parties– M 6</p> <p>Inventory of local existing information integrated into GIS database– M 7</p> <p>Field work conducted – M 8</p> <p>Workshops conducted – M 11</p>	
<p>4. Developing recommendations for DFID and regional partners</p> <ul style="list-style-type: none"> <li>• Prioritising of researchable constraints based on consolidation of key findings of regional and local level studies</li> <li>• Identification of information gaps</li> <li>• Consolidation of institutional issues</li> </ul>		



• Dissemination and validation of results	Dissemination of final report – month 12		
	BUDGET 1		Pre-conditions
	Staff charges	18,221	
	T & S	13,400	Access to map data and local information, reports
	Overseas	18,000	
	Consumables	0	
	Capital equip	0	
	Overheads	21,857	
	Miscellaneous	10,000	
	Sub-Total (DFID)	81,478	
	VAT	14,259	
	TOTAL	£95,737	

## **Section 9. Keywords**

Caribbean; coastal livelihoods; opportunities; constraints; database; socio-economics; Jamaica; Tobago; communities

## **Section 10. Annexes**

*Scientific annex (Annex A) to the FTR together with additional annexes that include publications and possibly some other grey literature published through the project but not previously provided for the NRSP library. Final annex: Final project inventory*

### **Annexe A. TECHNICAL REPORT OF TEAM ACTIVITIES AND FINDINGS**

**Attached: Part 1 - Main report findings (text). 92pp**  
**Part 2 - Appendices. 63pp + CD ROM database**

### **Annexe B. PROJECT INVENTORY**

Apparatus and materials purchased by project throughout life (1/7/2000 – 30/6/2001)

Nil

N G Willoughby  
Princial Investigator