

NATURAL RESOURCES SYSTEMS PROGRAMME
FINAL TECHNICAL REPORT¹

DFID Project Number

R8135

Project title

**Feasibility of Alternative Sustainable Coastal Resource-Based
Enhanced Livelihood Strategies**

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NRSP Production System

Land Water Interface

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Abbreviations and Acronyms

ACP	-	African, Caribbean and Pacific
AS	-	Archipelagic State
BBRS	-	Belize Barrier Reef Reserve System
CANARI	-	Caribbean Natural Resource Institute
CCA	-	Caribbean Conservation Association
CEHI	-	Caribbean Environment Health Institute
CS	-	Continental State
CZMAI	-	Coastal Zone Management Authority/ Institute
DFID	-	Department for International Development
EU	-	European Union
FTAA	-	Free Trade Agreement of the Americas
FTR	-	Final Technical Report
GEF	-	Global Environmental Facility
IDB	-	Inter- American Development Bank
IS	-	Island State
LWI	-	Land Water Interface
MPA	-	Marine Protected Area
NRSP	-	Natural Resource Systems Programme
OECS	-	Organisation of Eastern Caribbean States
SD	-	Sustainable Development
SEDU	-	Sustainable Economic Development Unit
SL	-	Sustainable Livelihoods
SMMA	-	Soufriere Marine Management Area
TI	-	Target Institution
TNC	-	The Nature Conservancy
TPI	-	Tourism Penetration Index
TSA	-	Travel and Tourism Accounts
UNEP	-	United Nations Environment Programme
UWI	-	University of the West Indies
WHS	-	World Heritage Site
WTO	-	World Trade Organisation

Executive Summary

The principal aim of this R8135 project is to influence policy toward the implementation of alternative, sustainable, natural resource-based livelihoods of poor people in the Caribbean's land-water interface. The project set out, first, to augment understanding among policy actors in the case-study countries of the value of important resources in the coastal zones and of the contribution of those resources to livelihoods of the poor; and, second, to invest change agents with new knowledge for enabling poor people to adopt feasible alternative NR-based strategies to enhance their livelihoods.

To achieve its main objectives, the project has:

- derived and synthesised information to provide the supporting evidence;
- identified constraints, and opportunities for change;
- identified mechanisms for change;
- initiated communication to policy makers and to communities, in order to bring about change in policy and “on the ground”.

These have been incorporated into the six identified Outputs of the project. First, an understanding of the demand for alternative, sustainable, NR-based livelihood strategies for poor people in the case-study countries. Second, identification of the key constraints to such strategies. Third, an augmented grasp of the opportunities and alternatives for the poor to enhance their livelihoods from NR in the coastal zone, including. Fourth, identification of strategies for enhancing the capacity of the poor to benefit from multiple, alternative, sustainable NR-based livelihood options. Fifth, detailing indicators for monitoring success in uptake and in sustainability of livelihood changes. Sixth, strategies to ensure development impact in comparable environments and to ensure sustained uptake by target beneficiaries and institutions.

The research output is detailed in the Annexed Volumes I and II.

- Volume I comprises five chapters which deliver a synthesis of the subsequent Volume II, the four chapters of which address theme-specific issues. Research began with the identification of criteria for selecting two case-study countries representative of the larger Caribbean reality in respect of NR-based livelihoods and poverty.
- Annex Chapter 1 details those criteria. Chapter 1 also contains a review of the literature on sustainable development and sustainable livelihoods—the theoretical foundation which informs the entire study.
- Chapter 2 details the economic, natural-resource and poverty reality in the Caribbean, and specifically of the two case-study countries. The main research

activity involved field visits for further literature collection and review, together with interviews of key individuals at both community and policy level. Focus group meetings also were held in the four case-study communities in the two countries. Eventually, researchers returned to the two countries to report on findings in focus group meetings with policy makers and community people. Feedback from these final meetings led to amendments in the Main Findings in the Annexed Chapters 3 to 5.

Main findings in terms of constraints, opportunities and strategies

As a result of the strong interlinkages among constraints, opportunities and potential strategies under themes such as tourism, eight main generic findings were identified, and reported in the following section.

1. Need for improved information with regards to credit access and use and, also, for new and innovative credit mechanisms

The poor are acutely aware of the threats to their existing natural resource-based livelihoods. The more enterprising poor are searching for alternative ways of maintaining the same livelihood practices, or of shifting to alternatives—natural resource-based and other.

Two linked generic findings of the study concern the role of credit in this process. On the one hand, the poor are not always aware of existing credit sources, or whether and how they can access them. Communication products are accordingly needed to ensure effective transfer of information on credit opportunities.

On the other hand, the very specific realities of the poor require innovative credit mechanisms. The issue of commonly owned land, for example, illustrates the difficulty in accessing credit found by many people who lack individual title to land. Creative and practicable alternative options—group-based micro-credit collateral systems— must be found for using land as collateral, drawing on lessons from across the region and from Asia and Africa.

2. Access to new knowledge of production techniques

Livelihood practices of the poor are many times constrained by limited knowledge of the most efficient and effective methods of production. In St. Lucia this was observed in sea moss cultivation, harvesting and processing. Efforts to obtain new knowledge on processing techniques were stymied by the cost of obtaining such new knowledge. More generally, such knowledge limitations were identified across the board—in fishing, farming and agro-processing techniques

3. Marketing Limitations

Even when the poor have surmounted the production requirements, they suffer from limited knowledge about how to get their output to market. In the feedback from the

communities, access to information at different institutional levels was cited as important. Information needs to be met range from technical information on aquaculture opportunities to prospects for capacity and skills development to enter the tourism industry. Marketing tools such as e-commerce, for tourism were not on their horizon.

4. Infrastructural Limitations

Almost by definition, the poor face challenges in terms of the availability of adequate infrastructure to reduce the transaction costs of their individual or group efforts at maintaining or enhancing their livelihoods. In Anse La Raye, St Lucia, groups, mostly women, have developed a successful Friday night fish-fry operation. However, the infrastructural base of the community—sewerage facilities and a propensity to flooding—is weak. Inadequacies of road and transport access to Hopkins and Sarteneja in Belize also are evident alongside similar problems of sewage and solid waste disposal.

5. Policy framework specifically for small-scale, pro-poor tourism

Tourism is the most evident alternative, which is widely identified by the poor as the one which they wish to explore. Nevertheless, stakeholders often perceived limitations to their entry: land ownership, skills/capacity, etc. Also, the type of tourism (community tourism) that is more inclusive in terms of respecting local needs, as well as creating the right type of opportunities, requires considerable attention to define strategies, resources and specific information. Even with all the existing initiatives in St Lucia, potential tourist attractions remain to be promoted.

National tourism policies reflect this in only a limited way; the case-study countries are focused on the formal and familiar tourism sector. The Heritage Tourism project in St Lucia is, however, a model to be emulated. To support their effective participation in tourism, the specific needs of the poor, need to be recognised and accommodated in public policy. The needs include training, credit, marketing and promotional support, and equity participation.

Access to land as an asset emerged as important, to gain a foothold in building alternative options not only as collateral for loans (Point 1 above) but also as a base for tourism establishments.

The findings on tourism as a central source of opportunities for alternative and supplementary incomes tally with its overall importance in the Caribbean. The findings also indicate the challenges of tourism as an effective opportunity for the poor and marginalised NR users. Local skills and resources must be enhanced but, on a wider policy level, planning and regulation must also be adapted to the needs of poor people, implying longer-term work on influencing change.

6. Governance in poor communities

The efforts of the poor require supportive systems including those of their own making, such as co-operatives. Yet the case studies revealed significant weaknesses in these voluntary governance systems and, as well, in more formal systems such as local government.

A good example is the continued destructive trawling in Belize, despite repeated requests for bans. Such fishing still allows room for some local livelihoods. Change from such NR use is thus a slow process which must go hand-in-hand with practicable and visibly feasible alternative livelihood options. In Anse La Raye, St Lucia, on the other hand, there is an incipient conflict between the fishers, the Fish Fry vendors and the youth in the community who host parties on the very night. No forum exists in which they can all work through their mutual interests and come to mutually agreeable arrangements which provide all with some rewards. In Sarteneja, inter-party and inter-religious differences also impact on the capacity for community solidarity.

Options must therefore be examined in a quest for stronger decision-making frameworks through conflict-resolution processes and instruments for building local democracy.

7. Legislative framework

Each of the six generic issues noted above tends to have a legal dimension. Many specific laws governing natural resource use constrain common- policy frameworks. Land law lags behind the realities on the ground and also impacts on the credit system and law. Legal frameworks for tourism rarely address the specific need to ensure active, positive participation of the poor. Stronger pressures for decentralisation and devolution initiatives across the region also carry relevant implications.

A further need is to address the issue of wider land allocation policy its implementation in the transparency in land registration procedures.

8. The need for policy makers to integrate poverty analysis with sustainability and natural resource issues.

Each of these tends to fall under the remit of distinct public agencies, and also to coincide with differing disciplinary structures. The frequent result is limited contact with, or communication among, those responsible for pulling together the total package of policies which impact simultaneously on the poor and on sustainable use of natural resources. Many important concerns—particularly those of poor people—fall between the policy cracks. Belize has taken the very positive step of introducing Marine Protected Areas (MPAs). However, some local fishers have complained, perhaps incorrectly, that they have not been adequately consulted and are being unnecessarily deprived of access to a livelihood.

Policy makers must derive enhanced capacity for economic valuation of natural resources and for identification of policy instruments to ensure these values are reflected in policy decisions on user fees, fish permits etc.

Participants in feedback sessions raised important points about the influence of research which may have lost some credibility among resource users. (One example was the use of research as the basis for the unpopular ban on Nassau Grouper fishing.) A second consideration was the capacity of research to influence politicians to change policies and their implementation in a positive direction.

Participants argued research processes should contain room for flexibility, allowing follow-up actions to address community needs for information in, among other areas, disaster preparedness, or specific technology.

Overall, the community feedback highlighted the need for access to assets, information, and influence. The call is for research guided by a more concerted, but perhaps delicate, approach to examining not only political/power issues in natural resources management, but also in wider decision-making on local development. In all cases, the imperative is putting community groups at centre stage, to shape the type of information to be generated and the instruments which ensure communities obtain and use information effectively. This may mean strengthening the capacity of organisations to voice their needs and demands, and shaping strategies and research agendas around those demands.

Achievement of outputs

The OVIs related to the first three outputs have been substantially achieved in terms of determination of demand for the research; identification of strategic constraints to NR-based livelihood strategies of the poor; and identification of feasible alternative strategies, respectively. Data constraints, however, prevented completion of the cost-benefit analysis within the time-frame of R8135, and the intention is to complete this within the follow-up R8325 project. The fourth OVI also has been achieved in terms of poverty assessment and needs analysis. The path of a change strategy also has been sketched. The fifth OVI has been only partially realised in that the application of success indicators to the Caribbean-specific reality requires further elaboration in R8325. The sixth and final OVI has been achieved in that strategies have been formulated and means of dissemination of new knowledge has been outlined.

The major contribution of the project to the attainment of NRSP's purpose has been the identification of new knowledge and alternative strategies that are relevant and applicable to specific, on-the-ground situations in the selected case- study sites. Initial interactive field testing of the new knowledge, as well as the uptake pathways, has been effected in consultation with all stakeholders.

Background

This project sought to contribute to the overall Goal of NRSP-LW Output 1: Improved resource-use strategies in coastal zone production systems developed and promoted.

This project sought to address the NRSP's overall goal of "improved resource –use strategies in coastal zone production systems". More specifically, the project contributes to the objective of delivering new knowledge which can facilitate alternative livelihood strategies among the poor that are sustainable in terms of their natural resource use. The project drew heavily—and in a participatory manner—on the latent knowledge existing among the stakeholders themselves, as well as on scientific analyses in previous work. The areas of new knowledge, alternative strategies and uptake pathways developed were field-tested in an interactive way with the identified stakeholders.

In terms of the community-specific analysis of Praslin and Anse La Raye, St Lucia, and Hopkins and Sarteneja, Belize, the project builds on prior research in the region into the interface between poverty and natural resource-based livelihoods. More specifically, the project picks up the research thread of R7797, with respect to R7797's second main objective—a regional analysis of interactions among stakeholders, activities and the resource base.

Again, this project picks up from the conclusion of R7797: "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 resource but...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." (R7797, Section 3, para 3).

The demand for the project was identified in several phases. First, prior to the start of the project, two team members travelled to Belize, St Lucia, and Antigua for discussions with target institutions regarding their interest in the work. The response was positive.

Second, at the initiation of the project, two lead institutions were identified in Belize and St Lucia to inform relevant stakeholders of the project's existence and to set up meetings, including focus groups meetings. These institutions were the Coastal Zone Management Authority and Institute (CSMA/I) in Belize and the St Lucia National Trust.

The third stage of the demand evaluation was realised in the field visits and follow-up, e-mail and telephone/fax contacts. Finally, the July 2003 visits to report on findings also involved a large range of participants, some of whom had not attended earlier meetings. In post-July 2003 communications with representatives of participating organisations in the earlier field work, the demand has been reinforced. The December 2003 SEDU

Conference also provided the opportunity for further feedback from representatives of a range of NGOs, some CBOs, and also Caribbean policy-related institutions.

SECTION 3

Project Purpose

The purpose of the project was to augment the appreciation by policy actors of the important value of natural resources in coastal zones, and of the contributions of those resources to livelihoods together. The related purpose as to investing change agents with new knowledge for enabling poor people to use feasible, alternative, NR-based strategies to enhance their livelihoods.

The first change which the project set out to achieve therefore was a greater appreciation by policy actors of the value of NR. The emphasis is on “*greater* appreciation”, to avoid any suggestion that, without the project, these policy actors would have lacked any such appreciation.

The second component of the project involved providing additional “ammunition”, as it were, for change agents to continue efforts to enhance the livelihood outcomes of the poor in terms of alternative NR-based strategies. As a result of the project, change agents should accordingly have gained an augmented knowledge base for pursuing alternative NR-based strategies.

SECTION 4

Outputs

The project has been able to achieve its anticipated output to a significant, but not complete, extent. The first output has been achieved through reaching most of the key target institutions and stakeholders in the two case-study countries. However, there is need for necessary reinforcement to address scepticism on the part of some, owing to repeated experience of studies which never “get off the shelf”. This perspective manifested itself in the report meetings. The only way to assuage such concerns and justify the ultimate goal of the project is by deepening engagement in dissemination of the communication products. This, of course, is the main objective of the follow-up R8325 project.

Output 2 also has been significantly achieved in terms of an improved understanding of the strategic constraints to NR-based livelihood strategies at the macro, policy level. Some of the constraints existing, however, at the community level, include issues of community conflict resolution and collaboration. Augmenting community cohesion is, by

definition, time-consuming process, requiring careful intervention by non-community members.

Output 3 has been achieved, in part, in terms of the identification of opportunities for enhanced livelihood outcomes in two senses. First, in terms of augmenting capabilities for seizing opportunities already identified and implemented by the communities in areas such as sea-moss production and marketing in St Lucia, and community-based tourism in both countries.

Within the time- frame of the project, however, the identified opportunities have not been susceptible of more empirical corroboration in terms of cost-benefit analysis. The intention is to therefore contribute that analysis within the early period of R8325, and work already has begun on this score.

Output 4, realised in terms of poverty assessment, needs some analysis. The change strategy required shares with Output 2 the problem of the slow, time-consuming nature of shifts in strategy on the part of poor people to seize opportunities. The identified strategy is to continue to interface with the poor in the context of the communication strategy.

Output 5 has been only partially realised in that indicators of success need to be adapted to the Caribbean reality. This is targeted to be detailed in the first half of the follow-up R8325 project.

Output 6 has been achieved in that generic lessons have been derived and detailed in the Communications Matrix in Chapter 5 of the annexed Main Findings, which is also now reproduced below for ease of access.

DFID R8135 – PRODUCT AND COMMUNICATION MATRIX

Livelihood Practice	Sustainability Evaluation of Livelihood Practices	Drivers (Causal and Impact Factors)	New Knowledge to Maintain and/or Convert Practices re Sustainability and/or Alternatives	Relevant Decision Makers to Receive New Knowledge	Appropriate media of Communication of New Knowledge
GENERAL					
General to all livelihood practices	Integrated NR and poverty analysis	Limited appreciation of poverty, its causes and of policies to address same alongside NR management	New knowledge on the methods of poverty analysis and its integration with NR management	Policymakers at the Government; Statutory and NGO levels	R8135 Report, Policy Briefs, Workshops

Livelihood Practice	Sustainability Evaluation of Livelihood Practices	Drivers, Causal and Impact Factors	New Knowledge to Maintain and/or Convert Practices re Sustainability or Alternatives	Relevant Decision Makers to Receive New Knowledge	Appropriate media of Communication of New Knowledge
FISHING					
Fishing	No	<p>1.Pollution in coastal waters: (sewage disposal; deforestation; agro-chemical run-off)</p> <p>2,Inappropriate fishing techniques by Nationals (gill net and harvesting of immature fish) and Transnationals (too small trawler fishing nets)</p> <p>3.Natural disasters</p>	<p>- Eco-system and human health system impacts.</p> <p>- Community based reforestation</p> <p>- Education in alternatives to chemical use</p> <p>- Training in offshore fishing techniques and provision of credit to poor to facilitate</p> <p>- Devising effective strategy to ensure enforcement of laws in regard to trawling;</p> <p>Natural disaster preparedness incl. insurance</p>	<p>Policy makers</p> <p>Policy makers and community Community;</p> <p>Policy makers</p> <p>Policy makers</p> <p>Policy makers</p>	<p>R8135 Report, Policy Briefs, Workshops</p> <p>R8135 Report, Policy Briefs, Workshops</p>

Livelihood Practice	Sustainability Evaluation of Livelihood Practices	Drivers, Causal and Impact Factors	New Knowledge to Maintain and/or Convert Practices re Sustainability or Alternatives	Relevant Decision Makers to Receive New Knowledge	Appropriate media of Communication of New Knowledge
SEA MOSS (Praslin, St Lucia)					
Cultivation / Harvesting	Sustainable	1. Institutional facilitation; 2. Appropriate specie availability; 3. Institutional structure (Co-op); 4. Market; 5. Security; 6. Access to Credit; 7. National Policy.	-Capacity building strategies at community (co-op) level. -Improved techniques -Potential for economies of scale in production - Effective Legislation/Improved Policing - New credit facilities available (public and private) - Vision and institutional pro-activity	Community Development Officers; Department of Co-ops; NGOs. Farmers; Co-op Farmers; Co-op Policy Makers; Authorities Farmers; Co-op Policy Makers	R8135Report; Policy Brief; Workshops, popular culture

Livelihood Practice	Sustainability Evaluation of Livelihood Practices	Drivers, Causal and Impact Factors	New Knowledge to Maintain and/or Convert Practices re Sustainability or Alternatives	Relevant Decision Makers to Receive New Knowledge	Appropriate media of Communication of New Knowledge
Sea Moss Processing	Sustainable	1. Institutional facilitation; 2. Institutional structure (Co-op); 3. Market; 4. Access to Credit; 5. National Policy.	<ul style="list-style-type: none"> - Available land for ‘housed’ drying facility - Price competitiveness of “gel” product. - Potential for increased ‘gel’ market. - Use of facilities of the Livestock Development Company (LDC) for processing (incl. pasteurization) and packaging of drinks. - New credit facilities available (public and private) - Information on marketing product standards (content and labelling). - Vision and institutional pro-activity 	Policy makers Farmers; Co-op Farmers; Co-op Farmers; Co-op; Ministry of Agriculture; LDC Farmers; Co-op Farmers; Co-op Policy Makers	R8135Report; Policy Brief; Workshops

TOURISM					
Livelihood Practice	Sustainability Evaluation of Livelihood Practices	Drivers, Causal and Impact Factors	New Knowledge to Maintain and/or Convert Practices re Sustainability or Alternatives	Relevant Decision Makers to Receive New Knowledge	Appropriate media of Communication of New Knowledge
General	Sustainable	International & regional demand	- Sustainable Tourism policy including: a. policies to address competition from big capital; b. Education on ESOPs; c. Waste disposal	National policy-makers; NGOs; CBOs; Entrepreneurs; Community organisations (including youth)	R8135Report; Policy Brief; Workshops; Popular Culture media
Tour-Guiding: (Land and Marine)	Sustainable	International & regional demand	-Tour Guide Training; Credit access	Policy-makers; NGOs;CBOs	R8135Report; Workshops (incl use of pop culture media)
Bed & Breakfast/ Guest Houses	Sustainable	International & regional demand	- Hospitality Management; - Micro/Small Bus. credit access; - E-Commerce promotional support	Policy-makers; Credit Institutions; IT policy system	R8135Report; Policy Brief; Workshops; Mass media
Fish Fry (AnseLa Raye, St Lucia)	Sustainable	International & regional demand; Govt. initial support; Predominantly female-based entrepreneurial spirit	- Managing business expansion; - Community conflict resolution; - Waste disposal systems	Policy-makers: -re business man training; Conflict resolution techniques; Waste Management Entrepreneurs	R8135Report; Policy Brief; Workshops; Mass Media

FARMING					
Livelihood Practice	Sustainability Evaluation of Livelihood Practices	Drivers, Causal and Impact Factors	New Knowledge to Maintain and/or Convert Practices re Sustainability or Alternatives	Relevant Decision Makers to Receive New Knowledge	Appropriate media of Communication of New Knowledge
Bananas (Traditional)	Not Sustainable	WTO-ruling on EU banana regime; Over-use of chemicals	- Shift to organic banana production Techniques; - Alternative livelihood opportunities	Policy makers (incl. diversification planning); Farmers (Incl. Associations)	Report; Policy Briefs; Workshops; Training modules in multi-media formats
Bananas (Organic)	Sustainable	Market demand	- Organic production techniques; - Market opportunities	Farmers; Public Policy makers especially re market promotion	Report; Policy Briefs; Workshops; Training modules in multi-media formats
Food Crops	Sustainable	Decline in banana production; Market and subsistence levels of demand	- Extension services; - Market promotion training - Access to land	Min. of Agriculture Market promotion agencies Min. of Agriculture	Report; Policy Briefs; Workshops; Training modules in multi-media formats
Agro-Industry	Sustainable	Decline in banana production & fishing; Market potential	- Extension services; - Market promotion training - Access to land	Ministry of Agriculture Market promotion agencies Ministry of Agriculture	Report; Policy Briefs; Workshops; Training modules in multi-media formats

The above matrix summarises the research products developed for stakeholders. To date, these have been promoted through presentations made at the July 2003 return visits to both countries. A range of media has also been identified for promotion (See Annex Chapter 5).

In addition, the research findings were presented to a regional audience of all stakeholders at the December 2003 SEDU Annual Conference, which was attended by representatives of the St Lucia National Trust and Heritage Tourism Division of the Ministry of Tourism, and from the Belize Coastal Zone Management Authority and Institute (CZMA/I). Other participants came from regional and national policy-making institutions and civil society together with academia.

SECTION 5

Research Activities

The research activities engaged in, as noted earlier, began with review of relevant literature—including gray literature. This was buttressed by individual interviews with representatives of key stakeholders at policy and community level. The poverty specialist also used the research method of detailed personal interviews with a few key informants in the communities, which are reported in the Annexed Chapter 7.

SECTION 6

Environmental Assessment

No negative environmental impacts will result from the project. It is expected that the project will contribute, indirectly, to positive environmental impacts, in terms of enhancing the sustainability of NR-based activities by poor people.

Widespread dissemination of the research findings will have positive, and no negative impacts. The generic lessons can be utilised in other instances within the two case-study countries and around the region.

Interest in the report and in some findings was expressed by participants in the July meetings, and requests made for copies of the full report and. (One participant in the community meeting in Anse La Raye, St Lucia sought information on the cultivation and marketing of organic bananas; a woman entrepreneur in Praslin, requested information on training on quality control in sea-moss drink production). In March 2004, the St Lucia

Heritage Tourism Dept of the Ministry of Tourism requested a copy of the Anse La Raye analysis as an input into its own planned activities in the area.

The specific requests for assistance/information at both policy and community levels have been documented and will be addressed in the Communications Strategy for Suite 2.

SECTION 7

Contribution of Outputs

The achievements of the project have been an augmented understanding of the challenges facing the poor in alternative NR-based livelihood strategies— both in terms of what the poor can do and what the policy institutions need to do to support these efforts. This main achievement will benefit the poor if the relevant stakeholders take full ownership of these results on a sustained basis. For the moment, the project has been able to raise hopes of some change agents and to energise others. The successful uptake of the project results will impact on several groups of the poor. Among these are the youth, in terms of livelihood opportunities; women—young and mature—and among other marginalised groups such as the Garifuna in Belize. Among the likely initial beneficiaries are those already poised to seize opportunities. However, the project is sensitive to the need to bring the less-energised also into the possibility matrix.

With respect to the first OVI under the project's purpose, there has been, on the part of the target institutions, an augmented understanding concerning responses to opportunities resulting from changes in NR-based livelihoods. One example is the participation of the Director and Deputy Director of the Coastal Zone Management Authority and Institute of in Belize, in a three-day workshop on Environmental Economics in Trinidad in April 2003. The key contact in the St Lucian National Trust also participated in another SEDU workshop on the same theme in September 2003.

In terms of the second OVI under the project purpose, participants in the July 2003 report meetings expressed appreciation for the project's findings. This included the Prime Minister of Belize with whom we met for a private briefing.

The OVIs flowing from Outputs 1-3 have also been achieved to a significant, though not complete, extent. The full extent of demand, with respect to Output's 1 OVI, has not been realised because of time constraints. This will be addressed in the Communication Strategy for Suite 2. The OVI relating to Output 2 has been achieved at the macro, policy level. However, some more micro-specific dimensions still require massaging for full realisation (for example, community conflict resolution).

For the third Output, the OVI has only been partially achieved. Feasible alternative strategies for enhanced livelihood outcomes have been identified. However, data limitations have made difficult any full cost-benefit analysis. It is anticipated, however, that this can be redressed early in Suite 2.

The OVI for Output 4 also has been significantly achieved in terms of poverty assessment and needs analysis. However, the change strategy has not been fully articulated. In terms of the OVI for Output 5, some indicators have been identified. But this is considered a continuous exercise to be conducted with the relevant stakeholders and deepened in Suite 2. The OVI for the final Output has been partially achieved in that strategies have been formulated and means of dissemination of results have been identified. SEDU presented results of R8135 and the DFID projects undertaken by CANARI and CCA/CERMES, at its annual conference in December 2003. This event attracted regional participants from academia, national, regional and international policy institutions, regional NGOs and CBOs. The exposure will enhance the sustainability of identified impacts.

Since the project has largely been engaged in the development of new-knowledge communication products to disseminate, it is too early to assess the impact of the project on the three identified groups. However, as noted already, some target institutions have participated in SEDU workshops—and annual conference—and such participation may be identified among the generic lessons of the project.

The Communication Matrix of the Annexed Chapter 5 reproduced in Section 4 above, addresses the promotion pathways to target institutions and beneficiaries.

SECTION 8

Publications and Other Communication Materials

Though there have been no publications, to date, from the project, three researchers have presented papers based on their research at conferences in London and Trinidad and Tobago. The findings of the research team also were presented at the December 2003 SEDU Conference. A synthesis of the report already has been prepared, as detailed in the Annexed Volume I (Chapters 1 to 5) in order, inter alia, to meet the requests for the report made at the July 2003 meetings in St Lucia and Belize. The intention is to publish the entire report—including Volume II (Chapters 6 to 9 which provide further elaboration on specific elements of the overall research team mission). The Communication Strategy also indicates the intent to use all media of communications, including policy briefs and workshops, to disseminate results and realise successful uptake.

References Cited in the Report, Sections 1-7

Natural Resources Institute, 2001: R7797: Opportunities and Constraints for Coastal Livelihoods in the Caribbean

Project Log Frame

<i>NC01/03-LW</i>			
Narrative summary	PS ref:	Means of verification	Important assumptions
Goal			
NRSP-LW Output 1: Improved resource-use strategies in coastal zone production systems developed and promoted	By 2004, new approaches to integrated natural resource management and prevention of pollution which explicitly benefit the poor validated in two targeted areas in the Caribbean By 2005, these new approaches incorporated into strategies for the management of coastal resources and adopted by target institutions in one targeted region (the Caribbean)	Reviews by Programme Manager Reports of research team and collaborating/target institutions Appropriate dissemination products Local national and international statistical data Data collected and collated by programme manager	Target beneficiaries adopt and use strategies Enabling environment exists Budgets and programmes of target institutions are sufficient and well managed
Purpose			
The value of important natural in coastal zones and their contributions to livelihoods appreciated by policy actors; Change agents have new knowledge for enabling the poor to utilise feasible alternative NR-based strategies to enhance livelihood outcomes		Reviews by Programme Manager Reports of research team and collaborating/target institutions Responses to] dissemination products and research findings	National GOs and NGOs committed to improved management solutions and will participate in institutional restructuring, changes to legislation, etc

Outputs			
1. Improved understanding of demand for alternative sustainable NR-based livelihood strategies to enhance livelihood outcomes for poor people (particularly women, the landless, indigenous people and other vulnerable groups) in coastal zone in the Caribbean	By 30 June 2002 case studies selected, target beneficiaries and participatory mechanisms identified and detailed demand (with possible media and mechanisms suggested) for alternative strategies for enhanced livelihood outcomes determined	Report of research team Reviews by DFID programme manager Stakeholder feedback	DFID programme manager provides access to all relevant reports when completed Enabling environment exists
2. Improved understanding of strategic constraints to NR-based livelihood strategies, including poor people's rights of access to NR in the coastal zone and policy/ institutional environment	By 31 August 2002 strategic constraints on access of poor to NR output evaluated	Reviews by DFID programme manager Reports of research team	
3. Improved understanding of opportunities for enhanced livelihood outcomes for the poor in the coastal zone, including alternative sustainable NR-based livelihood strategies	By December 31 2002 feasible alternative strategies for enhanced livelihood outcomes identified and cost/benefit analysis performed	Reviews by DFID programme manager Report of research team Stakeholder feedback	National and local statistical data available

4. Strategies for enhancing capacity of the poor to utilize multiple alternative sustainable NR- based livelihood options identified	By 28 February 2003 poverty assessment and needs analysis completed and change strategy identified	Reviews by DFID programme manager Report of research team Stakeholder feedback	
5. Indicators that may be monitored to determine success in uptake and sustainability of changes in livelihood strategies developed	By 31 March 2003 indicators that may be monitored to determine success in uptake and sustainability of changes proposed	Reviews by DFID programme manager Report of research team Use of indicators in monitoring uptake	Input into cross cutting activity 1.1.1(d) Target beneficiaries adopt and use strategies
6. Strategies to ensure development impact in comparable environments and sustained uptake by target beneficiaries and institutions identified and promoted with key TIs	By 30 June 2003 strategies formulated, means of dissemination of results identified and measures for sustainability of impacts identified	Report of research team Appropriate dissemination products Reports of target institutions	

Activities	Budget and Milestones	
1.1 Assessment of fragility of NR, particularly the target habitats, on which traditional livelihood strategies depend, including internal constraints of production systems and vulnerability to external threats (including pollution and natural disasters)	Budget: £10,000.00 a) All relevant reports previously completed reviewed b) Criteria for case study selection chosen c) Case studies selected to reflect diverse situation in accordance with selected criteria d) Fragility and vulnerability of production system for NR-based livelihoods in case study countries evaluated	DFID programme manager provides access to all relevant reports previously completed
1.2 Assessment of sustainability of traditional NR-based livelihood strategies in the context of projected demographic trends and changing expectations of the poor and of demand for alternative sustainable livelihood strategies	(All activities 1.2 - 6.2 below are not necessarily stand alone, or sequential) Budget: £ 5,000.00 (a) Target beneficiaries and participatory mechanisms identified (b) Existing quality of life, demographic trends and expectations of target beneficiaries documented (c) Carrying capacity of NR to accommodate increase in traditional NR-based livelihood strategies assessed (d) Demand for alternative strategies for enhanced livelihood outcomes identified by participatory process	
2.1 Evaluation of security of ownership/user rights of poor people with respect to NR in coastal zone, with particular reference to emergent competing commercial interests	Budget: £ 5,000.00 (a) Comparative analysis of types and security of land tenure and legislation governing land use in coastal zone made (b) Comparative analysis of legislation governing ownership and use of marine resources carried out (c) Comparative analysis of emergent competing commercial	

interests performed
 (d) Impacts of (a), (b) and (c) on access of poor to NR evaluated

2.2 Evaluation of policy and institutional environment for NR management and support of livelihood strategies

Budget: £ 5,000.00

- (a) Regulatory framework for NR management identified
- (b) Government policies regarding formal and informal utilisation of NR by the poor identified
- (c) Impacts of (a) and (b) on livelihood strategies identified

3.1 Exploration of alternative opportunities for enhanced livelihood outcomes that will benefit the poor and identification of demand for alternative NR-based livelihood strategies

Budget: £ 3,750.00

- (a) Alternative opportunities for enhanced livelihood outcomes that benefit the poor identified
- (b) Demand for alternative strategies for enhanced livelihood outcomes that can be satisfied by non-NR based opportunities considered
- (c) Demand for enhanced livelihood outcomes dependant on NR-based livelihood strategies identified

3.2 Exploration of feasible alternative techniques for sustainable consumptive NR-use livelihood strategies in target habitats, based on new knowledge and technologies

Budget: £ 3,750.00

- (a) Alternative, sustainable techniques (e.g. extraction quotas, post-harvest techniques, organic farming, etc) for pursuing traditional consumptive NR-use livelihood strategies identified
- (b) Mechanisms for implementing change strategy for adoption of (a) developed

3.3 Exploration of feasible

Budget: £ 7,500.00

non-consumptive NR-use livelihood strategies	<ul style="list-style-type: none"> (a) Alternative, sustainable techniques (e.g. eco-tourism, alternative energy, mariculture) for pursuing non-consumptive NR-use livelihood strategies identified (b) Mechanisms for implementing change strategy for adoption of (a) developed
3.4 Cost/Benefit analysis of proposed alternative livelihood strategies	<p>Budget: £ 5,000.00</p> <ul style="list-style-type: none"> (a) Cost to society of non-intervention estimated (b) Net benefits to society of intervention estimated (c) Weight of cost/benefit analysis relative to other policy considerations assessed
4.1 Identification of the circumstances and needs of the poor and factors that affect livelihood choices	<p>Budget: £ 3,750.00</p> <ul style="list-style-type: none"> (a) Incidence of poverty, particularly amongst women, the landless, indigenous people, and other vulnerable groups, assessed (b) Structural and behavioural factors affecting livelihood choices identified and assessed (c) Needs arising from (a) and (b) identified
4.2 Evaluation of capacity of target beneficiaries to respond to change in NR-based livelihood strategies	<p>Budget: £ 2,500.00</p> <ul style="list-style-type: none"> (a) Social capital evaluated (b) Internal and external factors influencing vulnerability identified
4.3 Participatory development of mechanisms for assisting the poor to change their livelihood strategies	<p>Budget: £ 3,750.00</p> <ul style="list-style-type: none"> (a) Capacity building mechanisms identified (b) Uptake pathways identified and communication strategies developed
5.1 Identification of indicators that may be monitored to determine success in uptake	<p>Budget: £ 2,500.00</p> <ul style="list-style-type: none"> (a) Literature on indicators critically reviewed

<p>5.2 Identification of indicators that may be monitored to determine sustainability of changes in livelihood strategies</p>	<p>(b) Appropriate indicators in the Caribbean context proposed Budget: £ 2,500.00</p> <p>(a) Literature on indicators critically reviewed (b) Appropriate indicators in the Caribbean context proposed</p>	
<p>6.1 Extraction of principles applicable in comparable environments from results of project</p>	<p>[note that some activities hereunder e.g.6.1 (c), and 6.2 (a) will be done early in the life of the project] Budget: £ 5,000.00</p> <p>(a) Generic principles distilled from case studies (b) Recommendations for utilisation of principles formulated (c) Means of disseminating knowledge identified in collaboration with Tis</p>	
<p>6.2 Identification of target institutions and uptake pathways</p>	<p>Budget: £ 1,0000.00</p> <p>(a) Target institutions that consent to be partners in the uptake and application of new knowledge identified at an early stage of the project (b) Uptake pathways, including communication strategies, identified, developed and market-tested with target institutions</p>	<p>Pre-condition</p> <p>Active participation by target groups as well as commitment by Governmental agencies</p>

Keywords

Caribbean; Coastal Livelihoods; Alternative Livelihood Strategies; Sustainable development; Natural resource; Capacity of the Poor; Participatory Development; New Knowledge.

Annexes

Annex A – Technical Report of team activities and findings

VOLUME I –MAIN REPORT

Chapter 1. Introduction: Sustainable Development and Sustainable Livelihoods

Chapter 2. Macro-economic and livelihoods trends in the Caribbean

Chapter 3. Main findings: St Lucia

Chapter 4. Main findings: Belize

Chapter 5. Main generic findings and implications for new knowledge

VOLUME II – DETAILED TOPIC ANALYSES

Chapter 6. Natural resources profile

Chapter 7: Poverty and sustainable livelihoods in the Caribbean

Chapter 8: Legal/institutional and policy environment for NR-based livelihood strategies

Chapter 9: Land-use, the poor and sustainable livelihoods

Annex B – Apparatus and materials purchased by project throughout its life

Nil.