

Who Pays for Water?

Preparing for the use of market-based mechanisms to improve the contribution of watershed services to livelihoods in the Caribbean

1. Background and introduction

1.1 This project reflects the outcome of a nine-month scoping study, implemented by the Caribbean Natural Resources Institute (CANARI) in collaboration with the International Institute for Environment and Development (IIED), to explore interest in the use of market and incentive-based approaches to watershed protection in selected countries of the region, as well as the potential relevance of such approaches to achieving objectives of more effective watershed management and improved livelihoods.

1.2 The study covered the islands of Grenada, Jamaica, St. Lucia, and Trinidad. It included brief diagnostics in each country to assess the links between suppliers and users of watershed services, map out related initiatives, and identify learning needs and opportunities. These diagnostics¹ are available on CANARI's website (www.canari.org). Following the completion of the diagnostics, representatives from the four countries (Appendix A) were brought together in a workshop to confirm interest and develop the outline of a follow-up action-learning project, which is described in this concept note. This regional project will contribute to a global initiative on markets for watershed services that is being coordinated by IIED.

1.3 Caribbean islands are particularly useful sites for action learning on markets for watershed services. Their small size means that watershed management problems and interventions have rapid and direct impacts throughout the water cycle, from ridge top to coast. Small size and institutional culture facilitate the development of collaborative approaches that involve public and private sector partners at both national and local levels. In addition, a number of regional institutions and programmes provide uptake pathways for disseminating learning throughout the region. Finally, although the Caribbean has had little experience to date with market-based approaches to watershed services, a few countries are now implementing policies and approaches that provide opportunities to observe the development of market-based instruments from their inception.

2. Goal and purpose

2.1 The *goal* of this project is to optimise the direct and indirect benefits provided by watersheds to upstream communities, downstream users, and the wider society, with particular emphasis on the poor and vulnerable. Its *purpose* is to create capacity in national and local institutions to assess the potential of market-based instruments to enhance watershed protection services and improve livelihoods, and to design and employ such instruments when appropriate. A project framework is attached to this concept note.

3. The problem

3.1 As in much of the developing world, Caribbean countries are increasingly preoccupied with concerns about the deterioration of watersheds and the associated impacts on the services they provide, which include maintenance of water quality, regulation of flow, soil stability, erosion control, and biodiversity protection. Watersheds are under pressure in most countries, and

¹ Bass, S. and T. Geoghegan. 2002. Incentives for watershed management in Jamaica: results of a brief diagnostic
Geoghegan, T. 2002. Incentives for watershed management in St. Lucia: results of a brief diagnostic.
Krishnarayan, V. 2002. Incentives for watershed management in Grenada: results of a brief diagnostic
Pantin, D. and V. Krishnarayan. 2002. Incentives for watershed management in Trinidad: results of a brief diagnostic

conversion of upper watershed forests, particularly for agriculture and housing, is resulting in losses of biodiversity, timber and other forest products, and nature tourism opportunities. Land use decisions in watersheds rarely take the provision of services such as water production into account. Poor water supply, quality, and reliability affect consumers throughout the region, and threaten key economic sectors such as tourism and agriculture. Soil erosion and the landslides and flooding it can trigger result in substantial economic losses in many countries each year. Those hurt the most are often the poor, and particularly the rural poor, whose hillside crops suffer from soil erosion, whose access to markets can be cut off by landslides and floods, and who are given the lowest priority when water supplies must be rationed.

3.2 Caribbean countries have relied on a range of tools for watershed management, including regulation and enforcement, state management of critical areas, education, and encouragement of stakeholder participation. While all of these have had some successes, they have not been able to reverse the loss of tree cover and deterioration of watershed services. Watershed and water resource managers in several countries have explored the use of incentives to encourage practices compatible with the provision and enhancement of watershed services. Only a few, limited incentive programmes have been implemented, however, because the hydrological and social information base for developing appropriate incentives is limited, the institutions are often fragmented, and the programmes are not economically self-sustaining. There remains considerable interest, however, in the development of well-targeted incentives, as well as in mechanisms for ensuring their sustainability.

3.3 At the same time, there has been a growing reliance in the region on market instruments, such as metering and movements towards full-cost pricing, to improve the efficiency and cost-effectiveness of the water sector. These have not however incorporated the costs of watershed management into pricing structures or created mechanisms to feed revenue from water back into watershed protection. There is also interest among some of the donor agencies that are active in the region in the concept of improving environmental services through the use of markets. While this interest has not yet translated into concrete initiatives, pressure to introduce market-based approaches to environmental management, including the management of watersheds, is likely to increase, despite risks that include the lack of local experience with these approaches, uncertainties about their effectiveness as tools for management, and their potential negative impact on the livelihoods of the poor. Testing and analysis are needed urgently in the region, both in order to build a body of experience on which to base future interventions and to provide opportunities for managers and other stakeholders to learn more about the opportunities and challenges offered by market-based approaches. In some cases, non-market or pre-market incentives may be better able to achieve environmental and social objectives than markets, and these approaches therefore require further research as well.

4. Policy context

4.1 The timeliness of the proposed project is reflected in recent policy statements and actions in the region. These include:

- In Jamaica, development of a national watersheds policy, establishment by the Prime Minister's Office of a high-level National Integrated Watershed Management Council, and implementation of major government projects on watershed and forest management in partnership with international assistance agencies. All these initiatives speak to the need for sustaining and enhancing the livelihoods of watershed stakeholders while optimising the services that watersheds provide.
- In St. Lucia, implementation of an integrated process of water sector reform, including incremental privatisation of the national water company, development of a national water policy, and establishment of a Water Resources Management Unit. One stimulus

for aspects of the reform process was the need to provide alternative livelihood opportunities for displaced small-scale banana farmers.

- In Grenada, the participatory development of a national forest policy that gives particular attention to watersheds within an overall goal of “maximising the contribution of forests to environmentally sound social and economic development”.
- In Trinidad and Tobago, introduction of an environmental levy on business receipts to finance a fund for community-based efforts at reforestation and environmental rehabilitation, establishment of a new Ministry of Public Utilities and the Environment that encompasses many of the major public sector actors in the water sector, and the recent drafting of a national water resource management policy.
- Regionally, the development by CARICOM member states of a GEF-funded project to build capacity of member states to implement an integrated approach to the management of watersheds and coastal areas.

5. Approach

5.1 This project focuses on increasing understanding about the roles that market-based approaches can – and cannot – play in watershed protection and livelihood improvement. It explores a range of issues of particular importance to the development of effective economic instruments, including valuation of watershed goods and services; culture and perceptions regarding watershed services and the use of markets; land use planning and decision support systems; and governance.

5.2 The project neither tries to “sell” the usefulness of market-based approaches for watershed protection services, nor to achieve widespread capacity development. Instead, it will help the region get ready for the virtually inevitable increase in the use of economic instruments, including markets, by creating a cadre of change agents who will be able to provide advice and guidance on the range of options available to achieve both watershed management and livelihood objectives.

5.3 The project will largely operate in the four countries that were focus of the Phase I diagnostics: Grenada, Jamaica, St. Lucia, and Trinidad, with provisions for dissemination of results throughout the region and with the potential for eventual expansion of the core activities to other countries. The research component of the project will include two pilot action-learning projects, one in St. Lucia and one in Jamaica, both building on existing watershed management activities that might be enhanced through market-based approaches. It will also include studies examining how market-based approaches might improve the linkages between watershed management and two major economic sectors, water and tourism.

6. Activities

- (i) **Action-Learning Group:** The project will support the development of a shared understanding across the region on watershed approaches that work to improve the livelihoods of poor and vulnerable groups and the environment, by building a community of change agents prepared to adapt and shape new watershed market initiatives as they arise. An Action Learning Group will be established and function through a range of individual and collective actions (e.g. semi-annual meetings, phone and email communications, iterative development of concepts, identification of needs, and project development and evaluation). This group will initially comprise individuals from key institutions in the four countries that have been selected as the focus of this project, as well as representatives of relevant regional organisations (see Appendix B for a list of the institutions that have thus far indicated interest in participating in the Group). The core group will occasionally be expanded, through theme-specific forums, to reach representatives from major stakeholder groups, including the water and tourism sectors and civil society. The Action-Learning Group will assist in the design of research

activities and use them as the basis for analysis. It will also build its understanding by analysing experiences from within the Caribbean as well as by exchanges with other countries participating in IIED's global programme. Finally, it will assist in disseminating what has been learned through training activities and a regional conference.

- (ii) **Action-learning pilot projects:** Case studies from St. Lucia and Jamaica will look at the role of valuation in market development from two angles. The case in St. Lucia (described in more detail in Appendix C) will be used to test and demonstrate methods for valuing watershed protection services currently being provided by a community-based group, and for shaping market mechanisms for sustaining these services. The case in Jamaica (Appendix D) will create and test incentives leading to the development of markets that support improved returns from a range of watershed goods and services. In both cases the emphasis will be on creating the institutional and policy conditions to assure that poor and other vulnerable groups benefit from, rather than are hurt by, the development and expansion of markets for watershed services.
- (iii) **Research on strengthening links with key sectors:** Two studies will be conducted in order to understand the extent to which supply and demand side privatisation of the water sector (Appendix E) and tourism certification schemes (Appendix F) currently provide financial and other types of support for watershed protection by these sectors, and to demonstrate ways in which upstream-downstream linkages can be strengthened through the use of market-based approaches.
- (iv) **Case study analysis:** During the course of the project, the Action-Learning Group will expand its learning by selecting existing case studies to visit, briefly analyse, and draw lessons from. These might include the case of the Fondes Amandes community in Trinidad, where upper watershed squatters eventually succeeded in securing tenure from Government in recognition of their reforestation and rehabilitation activities, or that of the introduction in Grenada of a water charge rebate for farmers who implement good watershed practices such as terracing and reduced pesticide use.
- (v) **Dissemination of learning:** The Action-Learning Group will identify approaches, tools and methods needed to assure that market mechanisms develop in the right way, and disseminate them through national or regional training workshops, forums for key stakeholder groups (see above), a regional conference, and the production of learning materials. Three training workshops are planned, on the subjects of resource valuation, hydrology, and institutional arrangements for market-based approaches that improve livelihoods. Each of these will also be the subject of a small "guidelines" publication. Other dissemination activities will include a policy brief to share project learning with decision-makers and donors, as well as establishment of a page on CANARI's website where project information and documents will be posted. The team will make the most of opportunities to influence pro-poor market development in specific countries through the strong links developed in the Action Learning Group, the sector studies, and case studies listed above.

7. Management arrangements

7.1 The project will be a joint initiative of the member organisations of the Action-Learning Group. Individual members or teams of members will take responsibility for implementing the various project activities and documenting their results. CANARI will provide overall coordination and administration, serve as the key contact for international partners, and provide the secretariat for the Action-Learning Group.

7.2 Implementation partners - The project's relevance and approach have attracted the interest of several agencies and programmes whose financial and in-kind support has permitted the expansion of some project activities, particularly the action-learning pilot projects. These additional partners, whose support was catalysed through the DFID-funded first phase of the project, include the following:

- The regional *Project on Integrating Watershed and Coastal Area Management* (IWCAM), coordinated by the Caribbean Regional Coordinating Unit of the United Nations Environment Programme and the Caribbean Environmental Health Institute, will include a component that transfers and expands the learning of the St. Lucia action-learning component to an entire watershed on the west coast of the island. CANARI is collaborating with lead agencies in St. Lucia to develop the expanded project. Implementation is contingent on approval of funding for the 13-country project through the Global Environment Facility and a decision is expected in the first quarter of 2004. If approved, the regional project will also provide an important pathway for the dissemination of project learning and results to the wider Caribbean.
- The *Ridge to Reef Watershed Project*, implemented by the Government of Jamaica and the United States Agency for International Development, has pledged support to the implementation of watershed valuation activities, which form a component of the Jamaica action-learning project.
- The *Trees for Tomorrow Project*, implemented by the Government of Jamaica and the Canadian International Development Agency, has offered technical support and other forms of in-kind assistance, such as local transportation and logistical support, to the implementation of the Jamaica action-learning component.
- St. Lucia's Ministry of Agriculture, through its Water Resource Management Unit, has indicated its support of the project, including in-kind and financial support to specific activities.
- In Jamaica, the National Integrated Watershed Management Council has endorsed the project, and the Department of Forestry will be the lead implementing partner of the Jamaica action-learning component.
- The University of the West Indies' Sustainable Economic Development Unit has provided training on resource valuation at no cost to several key individuals from CANARI's staff and national partners, through a series of workshops it has given over the past several months.

Discussions are underway with a range of other potential partners in order to support the implementation and expansion of other project activities.

7.2 Linkages and dissemination of outputs - The composition of the Action-Learning Group will ensure that the key institutions involved in watershed management initiatives at the regional level and in the project countries share the ownership of the project. The involvement of several major regional institutions, all with somewhat different constituencies, will facilitate dissemination of project outputs to a wide audience. Project documents will be made available on the websites of these institutions, or on a shared project website.

7.3 Timing - CANARI has maintained project momentum since the completion of the diagnostic phase of the project through ongoing dialogue with project partners. Funding permitting, the three-year second phase will be formally launched in January 2004, when the two action-learning pilot projects are set to begin. A project timeline is attached at Appendix G.

7.4 Budget - The total cost of DFID-funded project activities is £240,000. Pledges of additional funding and in-kind contributions, including contributions from CANARI's own budget through a grant from the European Commission through Hivos, amount to approximately £77,000. If funded, the IWCAM project would allow for the expansion of the action-learning project in St. Lucia through an additional contribution of approximately £250,000. CANARI expects to be able to secure approximately £60,000 from additional partners to be brought on board for specific project activities to be implemented in years 2 and 3. A project budget indicating existing sources of support and additional amounts still to be secured is attached as Appendix H.

7.5 Risks - The following risks to the success of this project have been identified:

- The mandates of the agencies identified to play lead roles in the project could change, reducing their ability to serve as change agents on the issues the project will explore. Should this occur, the composition of the Action-Learning Group may need to be adjusted.
- Existing or new initiatives or policies related to watershed management or market and incentive-based instruments may be incompatible with rather than complementary to the aims of this project. Should this occur, the project may need to slightly shift its focus to the place of these instruments within strategies that emphasise other approaches.
- Valuation, hydrology and land use studies in the pilot projects may indicate that economic approaches are not appropriate in these cases. Should that occur, the lessons and analysis will still contribute to the learning that is the major aim of the project.
- Identified project partners may not have the resources to contribute to the project at the levels expected. This is a common risk in work of this type in developing countries, and can be overcome by either providing support to the partners to assure their participation or by seeking other partners.
- The development of markets for watershed services may outstrip the pace of this project and thus not be informed by its learning. If that occurs, the project will seek to involve the new initiatives in its learning aspects.

LOGICAL FRAMEWORK

Who Pays for Water? Preparing for the use of market-based mechanisms to improve the contribution of watershed services to livelihoods in the Caribbean - a component of the IIED global project “Developing markets for watershed protection services and improved livelihoods”

Intervention Logic	Objectively verifiable indicators	Means of verification	Assumptions
<p>Goal: To optimise the direct and indirect benefits provided by watersheds to upstream communities, downstream users, and the wider society, with particular emphasis on the poor and vulnerable</p>			
<p>Purpose: To create capacity in national and local institutions to assess the potential of economic instruments to enhance watershed protection services and improve livelihoods, and to design and employ such instruments when appropriate</p>	<p>Introduction of economic approaches results in improved watershed protection services and livelihood opportunities in project countries</p> <p>Policies related to markets and incentives for watershed services reflect aims of improved watershed management and enhanced livelihoods</p> <p>Tools and methods for developing markets and economic incentives for watershed services that optimise environmental and social benefits are widely adopted</p>	<p>Review and monitoring of new policy and programme initiatives related to economic approaches to watershed protection services</p>	<p>Policy environment remains favourable for testing market and incentive-based approaches to watershed management</p> <p>Mandates and roles of key institutional partners do not alter substantially over the course of the project</p> <p>Current interest in markets and incentives for environmental services evolves into concrete initiatives that can be tested and supported by project learning and outputs</p>

Outputs:	Activities:	Means of verification	Assumptions
1. Mechanisms for regional collaboration and experience sharing supported and sustained	1.1 Establishment of a regional learning group to study and analyse project outputs	Minutes of learning group meetings	Governments permit the participation of key agencies in the project A suitable regional organisation takes the role of project coordinator
	1.2 Project coordination, including expansion of partners and dissemination of outputs	Project technical and financial reports Project website(s)	
2. Methods and approaches for realising the economic value of watershed protection services for improved livelihoods adapted to the local context, tested, and refined	2.1 Pilot project in St. Lucia to evaluate water catchment protection services currently provided by a local group, analyse their costs and benefits, and develop and test market-based mechanisms for sustaining services and improving livelihoods of group members	Hydrology assessment Socio-economic baseline study Valuation and pricing study Final project report documenting and analysing results	Existing methods for valuation of environmental services can be adapted and used effectively in the context of the pilot projects Necessary background information on hydrology, land use, and existing market values is available or can be gathered
	2.2 Pilot project in Jamaica to value selected watershed services and goods they provide; identify interventions, particularly land use practices, that maintain or enhance services to specified beneficiaries; assess their costs; and design and test economic incentives to encourage their uptake	Valuation studies Land use studies Incentives and pricing study Policy study Final project report documenting and analysing results	
3. Potential for increasing contribution of key economic beneficiaries of watershed services to watershed protection assessed	3.1 Analysis of the effect of water sector privatisation and metering on the realisation of full-cost pricing of water, with associated benefits for watershed protection	Project interim and final reports	Private sector companies that are the focus of analysis will cooperate Project timeframe is sufficient to draw lessons and conclusions
	3.2 Analysis of the potential for tourism certification schemes to stimulate transactions between upstream watershed service providers and the tourism sector for improved watershed protection	Project interim and final reports	

4. Requirements for increasing sustainable local benefits from watershed protection services identified	4.1 Case studies of community-based watershed protection initiatives	Background papers Minutes of action learning group meetings	Adequate number of relevant examples exist for analysis and comparison
	4.2 Comparative study of experience from another global project research site	Report on study tour	Community groups and international partners agree to collaborate
5. Learning mechanisms for assessing and employing economic instruments for watershed protection incorporated by relevant institutions	5.1 Three regional training activities to transfer tools and approaches to key institutions	Training activity reports	Project results in the identification and development of transferable lessons, methods, and tools
	5.2 Three stakeholder forums to disseminate project learning to relevant sectors and institutions	Reports from stakeholder forums	
	5.3 Publications documenting project learning	Three publications providing guidelines on key issues Two policy briefs summarizing project results and conclusions Website providing access to project documentation	

Appendix A

Participants at the workshop on Markets for Watershed Protection Services and Improved Livelihoods, Port of Spain, Trinidad 21-21 November 2002

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Appendix B

Caribbean Markets for Watershed Services Action-Learning Group: initial membership

Grenada

- Forestry and National Parks Department
- National Water and Sewerage Authority

Jamaica:

- National Integrated Watershed Management Council (membership includes all major institutional actors in watershed management)

St. Lucia

- Forestry Department
- Water Resources Management Unit

Trinidad and Tobago

- Forestry Division
- Water Resources Management Unit, Water Resources Authority

Regional organisations

- Caribbean Environmental Health Institute
- Caribbean Natural Resources Institute
- Sustainable Economic Development Unit, University of the West Indies

Appendix C

The use of markets to sustain community-based watershed protection services: an action-learning case from St. Lucia

Objective:

To assess the potential for creating rural livelihood opportunities through the establishment of markets for watershed protection activities.

Context and approach:

In several Caribbean countries, communities in watersheds have taken the initiative to protect and secure watershed services through management interventions. One of the most interesting cases is that of the Talvern Water Catchment Group in St. Lucia, which has for the past several years protected the community's water intake from contamination and sedimentation through riverbank stabilisation, upstream tree planting, the relocation of pit toilets, and community education. Although only empirical evidence is available, these measures appear to have had a positive impact on quality and quantity of water abstracted from the intake, resulting in clearer water at the tap, less frequent outages, and lower treatment costs.

To date, the Group has covered the costs of its interventions through a series of small grants, and the Forestry Department has provided some technical assistance. St. Lucia is now undertaking a water sector reform process that includes the development of a new national water policy and a more fully market-based approach to the provision of water. These developments, and the draft water policy's emphasis on full cost recovery, provide the opportunity for the creation of a market for the Group's services. By supporting such a process, this activity would test the potential for the use of markets to expand the role of community groups in watershed protection.

Workplan:

Task 1 Hydrology assessment:

- X Describe the watershed protection services that are being provided by the Talvern Water Catchment Group (e.g. reforestation, river bank protection, awareness raising). This should include a reflection on the situation before the intervention. (The Water Resources Management Unit has already begun work on this activity)
- X Assess the impacts that the services have on the quality and quantity of water. (Being done by the Water Resources Management Unit)
- X Develop indicators to monitor these impacts.

Task 2 Socio-economic baseline study:

- X Describe the livelihood strategies of the members of the Talvern community and analyse the costs and benefits to them of providing watershed protection services (e.g. costs associated with planting *Gliricidia* rather than bananas). This should include a reflection on the situation before the intervention.
- X Assess the impacts of providing services on their livelihoods and develop indicators to monitor these impacts.

- X Identify the beneficiaries of the services provided by the Talvern group and assess the social, economic, institutional, and political factors that encourage or constrain their willingness to pay for the services.

Task 3 Valuation and pricing study:

- X Evaluate the direct and indirect services being provided by the Group that ensure the supply and quality of water and assess whether and to what extent additional activities need to be implemented to meet objectives.
- X Review the current mechanisms in use for compensating the group (e.g. provision of seedlings and cattle feed) and assess the extent to which these are adequate to maintain watershed protection and improve livelihoods.
- X Assess the factors preventing full cost recovery, including an investigation of the way in which water tariffs are currently constructed and a review of the legal and institutional barriers.

Task 4 Identification of options for cost recovery: Explore, in conjunction with Talvern community, the beneficiaries of the services being provided, and intermediary agencies (e.g. Small Enterprise Development Unit), potential strategies that could maintain watershed services and improve livelihoods, including mechanisms for financial compensation to service providers (e.g. from consumers directly through water rates or indirectly through taxation).

Task 5 Testing: If feasible, implement selected strategy on a pilot basis and monitor process and results.

Task 6 Analysis and documentation: Assess the lessons learnt from the experience at Talvern prior and subsequent to the project intervention, identify critical success factors as well as obstacles and constraints, and make recommendations for future action.

Implementation:

The Water Resources Management Unit in St. Lucia's Ministry of Agriculture will coordinate this activity.

Appendix D

Development of incentives to maintain critical watershed services: an action-learning case from Jamaica

Objectives:

- X To test, refine, and demonstrate valuation methods for a range of watershed goods and services
- X To test the effectiveness of incentives that are based on assessed values of watershed goods and services in achieving the project goals of more effective watershed management and improved livelihoods

Context and approach:

This research activity will be conducted in Jamaica, where watershed boundaries have been defined and watershed-based management is being employed by key agencies (Forestry Department and National Environmental and Planning Agency). Jamaica's National Integrated Watershed Management Council and the U.S. AID-funded Ridge to Reef Watershed Project are also actively exploring the use of incentives for improved watershed services.

The study will focus on the 20,258 ha Buff Bay/Pencar Watershed Management Unit in northeastern Jamaica. This watershed was chosen for two reasons. First, the watershed has for several years been the focus of pilot activities testing innovative approaches to watershed management. These activities have been carried out through the Trees for Tomorrow (TFT) project implemented by the Forestry Department with the support of the Canadian International Development Agency. The TFT project has compiled considerable background data required for the proposed study; no other watershed in Jamaica has a comparable base of information. Secondly, the watershed supports a range of upstream activities, from managed forests to small-scale farming to extensive coffee plantation, and thus provides a good representation of the range of land uses and impacts found in Caribbean watersheds.

Workplan:

Task 1 Stakeholder identification and analysis

- X Identification of the stakeholders who benefit from selected watershed services (water production, flood control, tourism and recreation, and timber and other forest products) and analysis of their perception of the value of such services to them
- X Identification of the stakeholders who contribute or who could contribute to the production of these services and analysis of the factors that motivate their actions, whether positive or negative
- X Identification of the institutional actors involved in watershed management, the initiatives in train, and how these could potentially contribute to the development of incentives for improving practices that impact on the selected watershed services

Task 2 Valuation of watershed services

- X Using selected existing valuation methods, conduct assessments of the value of:

- * critical watershed services that are not currently controlled by markets (water production and flood control), and
- * important economic goods, with established markets, that the Buff Bay/Pencar watershed provides (tourism/recreation, and timber and other forest products²).

X Document the methods used, assess their effectiveness, and make recommendations for future use.

Task 3 Land use studies: Identify and cost measures to optimise returns to specified beneficiaries (groups and sectors) from each service³

Task 4 Identification and testing of potential incentives:

X Where watershed services are currently inadequate or threatened, develop, on the basis of the results of Tasks 1-3 and in collaboration with stakeholders, incentives that would encourage improved practices by watershed service providers or increased contributions from beneficiaries.

X Select two or three options that appear most workable for testing (note that tax incentives will have to be excluded from this pilot study as they can only be implemented on a national basis).

X Implement selected incentives on a pilot basis and monitor results.

Task 5 Development of policy instruments and institutional arrangements. Identify the policy instruments and governance mechanisms required to sustain those incentives that are found to be effective, and advocate for their adoption.

Task 6 Analysis and documentation: Assess the lessons learnt and make recommendations for future action.

Implementation arrangements:

Jamaica's Forestry Department will coordinate the implementation of this activity, and the National Integrated Watershed Management Unit will provide oversight. The Ridge to Reef Watershed Project is expected to play a major role in implementation.

² Most of the required background information on forest products has already been collected in earlier studies by the TFT project. Information on tourism should be available from the Ministry of Tourism.

³ Much information on current land use has been gathered through the TFT project, as well as information on recommended land use for optimising timber production, recreation, and flood protection. Timber and some other forest product values and management costs have been established.

Appendix E

Water sector reform and improved watershed protection services

Objective:

To determine the extent to which market-based approaches at both the supply and demand sides of the water cycle will lead to the internalisation of the costs of watershed protection services.

Context and approach:

Countries of the region are increasingly moving away from public sector control of the water industry, with several countries creating spaces for private investment and St. Lucia the first country to adopt a policy goal of full privatisation. In theory, governments should be less willing to subsidise the costs of watershed protection, including the management of forest reserves, when its benefits largely accrue to the private sector.

On the demand side, several countries of the region have given up flat (often token) rates for residential and commercial water and turned toward metering in order to encourage conservation and improve cost recovery. In some cases, such as Jamaica, meters have been employed for many years. In other countries, their introduction is recent or confined largely to urban areas. By increasing consumer consciousness of the cost of the water they are consuming, metering should theoretically stimulate demand for quality and reliability, which are linked to watershed protection.

This study would review experiences in four countries, St. Lucia, Jamaica, Grenada, and Trinidad, to assess the impact metering and privatisation have actually had and could potentially have on the willingness of the water industry to internalise costs of watershed protection.

Activities:

- Task 1: Monitoring of the implementation of cost assessments and regulatory measures related to St. Lucia's privatisation process over a period of two years
- Task 2: Assessment and analysis of decisions, policies, and actions of the regulatory body, the water company, and other key actors related to cost-pricing for water production and protection services
- Task 3: Comparison of the experience in St. Lucia with experiences of private water company regulation in Jamaica and Trinidad
- Task 4: Review of the experiences of water metering in sample countries (Grenada, St. Lucia, and Jamaica) to assess the extent to which it has impacted on the internalisation of the costs of watershed protection services
- Task 5: Documentation of findings of the research and development of recommendations for improving cost recovery of watershed protection by the water industry, through the regulatory process or other means

Implementation arrangements

This activity will be coordinated by the University of the West Indies Sustainable Economic Development Unit with the collaboration of relevant partners in each of the four countries in the study.

Appendix F

Tourism certification programmes and improved watershed services

Objective:

To determine whether tourism certification programmes can improve understanding in the tourism sector of upstream/downstream linkages and if so, in what ways they could make the industry more amenable to internalising upstream costs of water quality and supply.

Context and approach:

Tourism certification schemes in the Caribbean, including the well-known and widely adopted Green Globe and the Blue Flag (which originated in Europe and is now being introduced to several countries in the region on a pilot basis), were developed in part to encourage greater involvement by the tourism industry in the protection of the environmental assets which it uses and on which it depends. There has been widespread criticism of the effectiveness of these schemes (e.g., WWF-UK, 2000, *Tourism certification: an analysis of Green Globe 21 and other tourism certification schemes*), which has been met by adjustments in existing schemes and introduction of new ones that claim to be more stringent.

Most schemes, including Green Globe, encourage collaboration between its members and local communities on efforts to improve management of shared environmental resources. The Blue Flag scheme, which applies to beaches and marinas, includes water quality criteria that imply a requirement to support upstream watershed protection. Such schemes therefore may offer the potential for upstream/downstream transactions for improved watershed management.

The research will review and analyse experiences with tourism certification programmes and their impact on watershed management in two countries where such programmes are in place, St. Lucia and Jamaica.

Workplan:

- Task 1 Survey of existing tourism certification schemes in both countries, the tourism businesses and sites involved, and criteria relevant to watershed protection.
- Task 2 Assessment of the value of upstream watershed management services to selected participating sites and hotels, based on the actual or potential cost of meeting certification criteria without the services.
- Task 3 Identification and documentation of any existing activities related to watershed protection that have been stimulated or supported by any of the schemes.
- Task 4 Sharing of preliminary research results with stakeholders in both countries, through one-day seminars that would also seek to increase awareness of the potential for upstream/downstream collaboration and transactions. Development, with stakeholders at the seminars, of indicators for monitoring changes in environmental quality and levels of community participation.
- Task 5 Monitoring of the certification process at selected hotels or sites over a two-year time period, to determine how water quality and community participation issues are addressed and whether upstream/downstream relationships evolve.

Task 6 Analysis and documentation of research results and development of recommendations to optimise the opportunities provided by certification schemes to encourage improved watershed management and stimulate collaboration with upstream stakeholders through incentives, disincentives, and markets.

Implementation arrangements

CANARI will coordinate this activity in collaboration with relevant partners such as the Caribbean Tourism Organisation.

Appendix G

Project Timeline (all activities to be completed by June 2006)

	Year 1 Jan-Mar 04	Year 2 Apr 04-Mar 05	Year 3 Apr 05-Mar 06	Year 4 Apr-June 06
<u>Regional learning group meetings</u>		Apr and Oct 04	Apr and Oct 05	Apr and June 06
<u>Action learning research</u>				
St Lucia				
Talvern pilot project and report	Start Jan 04		End Dec 05	
Mabouya IWCAM project and interim report		Start Jan 05	Continue	Report Apr 06
Jamaica (Buff Bay/Pencar)				
Situation analysis	Feb 04			
Valuation studies, watershed products		Apr-Jul 04		
Valuation studies, watershed services		Apr-Jul 04		
Hydrology study		Apr-Jul 04		
Incentives and pricing study		Sep-Dec 04		
Implementation/testing of recommendations		Start Jan 05	End Mar 06	
Study on policy requirements			Start Jan 06	End Apr 06
Analysis and documentation of results	Start Jan 04	Continue	Continue	End Jun 06
<u>Sector initiative studies</u>				
St. Lucia water privatisation study and report		Start Apr 04		End Apr 06
Tourism certification study and report		Start Jul 05		End Apr 06
Editing, printing, dissemination				May-Jun 06
<u>Case study analysis (2)</u>				
Case study 1			Oct-Dec 05	
Case study 2			Jan-Mar 06	
<u>Training activities (3)</u>				
Hydrology		Nov 04		
Valuation		Mar 05		
Institutional arrangements			Feb 06	
<u>Stakeholder forums</u>				
Water sector partners	Apr 04			
Civil society partners		Oct 04		
Tourism sector partners			Apr 05	
<u>Publications</u>				
Guidelines (3)			Start Jul 05	End Jun 06
Policy briefs (English and Spanish)		Jul 04	Jul 05	
Final project report			Start Jan 06	End Jun 06
<u>Coordination</u>	Throughout project-----			