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**Linking tourism to watersheds and people: A preliminary analysis of the potential of the tourism sector to contribute to payments for watershed services in Dunn's River, Ocho Rios, Jamaica and Speyside, Tobago**



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The views represented in this document do not necessarily represent those of the institutions involved, nor do they necessarily represent official UK Government and/or DFID policies.

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**Developing markets for watershed protection services and improved livelihoods**

Based on evidence from a range of field sites the IIED project, 'Developing markets for watershed services and improved livelihoods' is generating debate on the potential role of markets for watershed services. Under this subset of markets for environmental services, downstream users of water compensate upstream land managers for activities that influence the quantity and quality of downstream water. The project purpose is to increase understanding of the potential role of market mechanisms in promoting the provision of watershed services for improving livelihoods in developing countries.

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## Table of contents

Acronyms and abbreviations .....	5
Executive summary .....	7
1. Introduction.....	10
2. Research objectives and approach .....	11
3. Description of the case study sites .....	13
3.1 Socio-economic and environmental context in Dunn's River watershed .....	13
3.2 Socio-economic and environmental context in Speyside watershed .....	14
4. Institutional arrangements for watershed management in Dunn's River and Speyside.....	17
4.1 Stakeholders and institutional arrangements in Dunn's River watershed.....	17
4.1.1 Key stakeholders .....	17
4.1.2 Institutional linkages .....	20
4.1.3 Policy statements.....	22
4.2 Stakeholders and institutional arrangements in Speyside watershed .....	23
4.2.1 Key stakeholders .....	23
4.2.2 Institutional linkages .....	26
4.2.3 Policy statements.....	27
5. Outline of the tourism sector in Dunn's River and Speyside watersheds .....	29
5.1 Outline of the tourism sector in Ocho Rios .....	29
5.2 Outline of the tourism sector in Speyside .....	29
6. Benefits and values of watershed services to the tourism sector.....	31
6.1 Is the tourism sector in Ocho Rios a beneficiary of watershed services and if so, what is the value of the watershed services to the tourism sector ? .....	31
6.1.1 Benefits identified .....	31
6.1.2 Recommended process for valuing the contribution of the watershed services to the tourism sector .....	31
6.2 Is the tourism sector in Speyside a beneficiary of watershed services and if so, what is the value of the watershed services to the tourism sector ? .....	31
6.2.1 Benefits identified .....	31
6.2.2 Preliminary valuation of the contribution of the watershed services to the tourism sector .....	32

7. Tourism sector capacity and willingness to pay for watershed services .....	33
7.1 Does the tourism sector in Ocho Rios have the capacity to pay and is it a willing buyer of watershed services ? .....	33
7.1.1 Indirect evidence of willingness .....	33
7.1.2 Direct statements of willingness .....	33
7.1.3 Perceptions of other stakeholders about engaging the tourism sector .....	34
7.2 Does the tourism sector in Speyside have the capacity to pay and is it a willing buyer of watershed services ? .....	34
7.2.1 Indirect evidence of willingness .....	34
7.2.2 Direct statements of willingness .....	34
8. Do poor and vulnerable communities in watersheds have the capacity to provide watershed services and are they willing to do so? .....	35
8.1 Do the poor and vulnerable communities in Dunn's River watershed have the capacity to provide watershed services and are they willing to do so? .....	35
8.2 Do the poor and vulnerable communities in Speyside watershed have the capacity to provide watershed services and are they willing to do so? .....	36
9. Potential payment mechanisms .....	37
9.1 What are the potential payment mechanisms for payments for watershed services by the tourism sector in Ocho Rios?.....	37
9.1.1 Direct payment for environmental services via the Tourism Enhancement Fund .....	37
9.1.2 Eco-labelling and certification schemes.....	38
9.1.3 Private sector – community partnerships.....	39
9.1.4 Taxation schemes.....	39
9.2 What are the potential payment mechanisms for payments for watershed services by the tourism sector in Speyside?.....	40
9.2.1 Direct payment for environmental services via the Green Fund.....	40
9.2.2 Eco-labelling and certification schemes.....	40
9.2.3 Private sector – community partnerships.....	40
9.2.4 Taxation schemes.....	40
10. Preliminary conclusions and recommendations .....	41
10.1 General conclusions and recommendations.....	41
10.2 Conclusions and recommendations specific to Ocho Rios.....	42
10.2 Conclusions and recommendations specific to Speyside.....	43
References .....	45
Appendix 1: List of accommodation and attractions in Ocho Rios and environs.....	47
Appendix 2: Draft Report on Contribution of Tourism to the Community of Speyside, Tobago (Dennis Pantin and Justin Ram) .....	49

## **Acronyms and abbreviations**

ACS STZ	Association of Caribbean States Sustainable Tourism Zone
BRT	Buccoo Reef Trust (Tobago)
CANARI	Caribbean Natural Resources Institute
CBO	Community-based organisation
DA	Department of Agriculture (Tobago)
DFID	Department for International Development
DNRE	Department of Natural Resources and Environment (Tobago)
EFJ	Environmental Foundation of Jamaica
EMA	Environmental Management Authority (Tobago)
ESA	Environmentally Sensitive Area (Tobago)
ET	Environment TOBAGO
EU	The European Union
FOTS	Friends of the Sea (Jamaica)
GDP	Gross domestic product
HEART Trust	Jamaica's National Training Agency
HUDO	Hills United Development Organisation (Jamaica)
JAMPRO	Jamaica Promotions Corporation
JHTA	Jamaica Hotel and Tourism Association
JTB	Jamaica Tourist Board
IDB	Inter-American Development Bank
IIED	International Institute for Environment and Development
LFWMC	Local Forestry and Watershed Management Committee (Jamaica)
LIFE	Local Initiative Facility for the Urban Environment (Jamaica)
NEMA	National Emergency Management Authority (Tobago)
LWMC	Local Watershed Management Committee (Jamaica)
NEPA	National Environmental Protection Agency (Jamaica)
NGO	Non-governmental organisation
NHDC	National Housing Development Corporation (Jamaica)
NIWMP	National Integrated Watershed Management Council (Jamaica)
NRWRP	National Reforestation Watershed and Rehabilitation Programme (Tobago)
NTA	National Training Agency (Jamaica)
NWA	National Works Agency (Jamaica)
PDCs	Parish Development Councils (Jamaica)

PES	Payment for environmental services
PIU	Programme Implementing Unit (Tobago)
Project AWARE	Aquatic World Awareness Responsibility Education (Jamaica)
PRP	Poverty Reduction Programme (Tobago)
RADA	Rural Agricultural Development Agency (Jamaica)
RSHDC	Regional Social and Human Development Council (Tobago)
SADCO	St. Ann Development Company (Jamaica)
SDC	Social Development Commission (Jamaica)
TCPD	Town and Country Planning Division (Tobago).
TFT	Travel Foundation Tobago
THA	Tobago House of Assembly
TPDCo	Tourism Product Development Company (Jamaica)
TTHTA	Trinidad & Tobago Hotel and Tourism Association
UDC	Urban Development Company (Jamaica)
WPFW	Who Pays for Water? Project
WRA	Water Resources Authority (Jamaica)

## **Executive summary**

This study examined the potential and mechanisms for the tourism sector – as a downstream beneficiary of watershed services (e.g. erosion protection, water quality, water flow) – to provide support to the upstream watershed management practices that maintain these services.

The broad objectives of the research were to identify ways that the tourism sector can improve its contribution to the management of watersheds by upstream stakeholders, and to create or enhance linkages between downstream tourism industry stakeholders and upstream watershed management stakeholders that result in better watershed management practices at selected sites.

Four guiding questions were used in structuring this analysis:

1. Is the tourism sector a beneficiary of watershed services and if so, what is the value of the watershed services to the tourism sector?
2. Does the tourism sector have the capacity to pay, and is it a willing buyer of watershed services?
3. Do the poor and vulnerable communities in the watershed have the capacity to provide watershed services and are they willing to do so?
4. What are the potential payment mechanisms for watershed services by the tourism sector?

Two case study sites were examined: Dunn's River watershed, Ocho Rios, Jamaica and Speyside watershed, Tobago. These represent contrasting ends of the tourism spectrum. Ocho Rios is one of the biggest resort areas in the Caribbean and the largest cruise port in Jamaica; it has a well-developed tourism sector that generates an income well in excess of US \$357 million each year, reflecting 27% of Jamaica's annual tourism revenue. Contrastingly, the Speyside tourism industry focuses on a niche market – primarily diving and other nature-related activities – and brings in a total income contribution of US\$6.4 million annually. They also are of vastly different scales, with the Dunn's River watershed covering over 180 square kilometres (more than half the size of the entire island of Tobago) and encompassing several sub-watersheds, and the Speyside watershed being more typical of the small watersheds characteristic of many of the islands of the eastern Caribbean.

The study suggested that the tourism sector in the Dunn's River watershed is a potential buyer as it benefits directly from watershed services (e.g. erosion protection, water quality, water flow) and has the capacity for – and a strong direct interest in – ensuring the continued provision of these services in order to protect the tourism products, and the health and sustainability of tourism businesses.

The premier tourism attraction here is the Dunn's River Falls, supported by other nature-based marine, coastal and forest attractions. These attractions are dependant on watershed services which maintain water quality and flow and preserve landscape beauty. The tourism sector is therefore directly dependent on the provision of watershed services for the protection of the tourism products. Additionally, the tourism sector benefits from watershed services as water extracted from the upper Dunn's River is used to supply all the water to cruise ships free of charge (provided by the Government of Jamaica as an incentive to the cruise industry). Water extracted from Dunn's River also goes to consumers, including tourism consumers, in Ocho Rios.

Watershed services in Dunn's River are currently (or potentially) being provided by the Forestry Department, the St. Ann Development Company (a subsidiary of the Urban Development Company – a government body that owns much of the land in the upper watershed above the Dunn's River Falls), and Hills United Development Organisation (HUDO). Given the focus of the project research on the use of payment schemes that would benefit local livelihoods, especially those of the poor, HUDO was clearly identified as a potential provider of watershed services in Dunn's River, although some capacity needs have to be addressed.

Policy and institutional mechanisms to facilitate payments for watershed services in Dunn's River watershed can potentially include use of the Tourism Enhancement Fund to channel funding from the tourism sector to watershed management, as well as the creation of multi-stakeholder structures and processes from the national through to local levels by means of the development and implementation of the National Integrated Watershed Management Programme.

The rich institutional landscape in Jamaica and in Ocho Rios therefore provides an excellent foundation for the further analysis and facilitation of the development of mechanisms for the tourism sector, as a downstream beneficiary of watershed services, to provide support to the upstream watershed management practices that maintain these services in a way that will benefit the livelihoods of the poor in the upper watershed communities.

Speyside watershed, Tobago, is another possible site for continued research into the development of payments for watershed services. The tourism sector benefits directly from watershed services and there are potential mechanisms and intermediaries to facilitate payments.

Three of the major ecological attractions at Speyside are reef scuba diving, reef tours and bird tours (including the offshore island of Little Tobago), all of which are products that depend directly on watershed services which maintain water quality and flow, and preserve landscape beauty. The tourism sector is therefore directly dependent on the provision of watershed services for the protection of their tourism products.

The upper watershed in Speyside is in a relatively healthy condition as it is declared as a Forest Reserve. Management is currently undertaken by the Department of Natural Resources and Environment (DNRE) of the Tobago House of Assembly (THA), and the National Reforestation Watershed and Rehabilitation Programme (NRWRP). The latter is conducting an innovative participatory forest management programme that aims to utilise the community to assist its reforestation activities, while simultaneously facilitating community empowerment.

However, the community in Speyside is currently not playing a strong role (apart from the few members being employed in the NRWRP) and has fairly weak capacity generally. This is a barrier to the community acting as a seller of watershed services. Capacity building in areas such as negotiation and conflict management, organisational development and networking, and technical skills in watershed management, are critical.

Policy and institutional mechanisms to facilitate payments for watershed services might include use of the Trinidad & Tobago Green Fund (funded through a levy on the turnover of all companies) to channel funding from the private sector to watershed management. Speyside might also potentially be designated an Environmentally Sensitive Area, which would then mandate the establishment of a multi-stakeholder management committee, which could in turn be useful in developing linkages among stakeholders for integrated ridge-to-reef watershed management.



The study revealed that there is generally weak capacity in Speyside, yet an urgent need to facilitate sustainable livelihood development of the local community. As a microcosm of many of the issues faced in the watersheds of other small Caribbean islands, Speyside represents an interesting site to explore how to build the capacity needed to facilitate the development of payments for watershed services which will ensure good watershed management and protection of the natural resources while providing livelihood benefits, especially to the poor.

The preliminary analysis of these two very different case study sites therefore suggests that further work is needed to explore the potential for the development of mechanisms for payments for watershed services by the tourism sector in the Caribbean. However, despite the good intentions of the tourism private sector, they are generally unwilling to pay any additional taxes for any purpose, the environment included. The challenge may therefore be to provide the mechanism by which taxes already deducted may find their way back to local beneficiaries by better tailoring the existing fiscal instruments to address environmental and livelihood objectives.

Key requirements will include: conducting full economic valuations of the contribution of watershed services to the tourism industry and requirements for watershed management, as well as building supporting institutional frameworks so that payments can benefit the livelihoods of the poor and vulnerable (which will include the policies, structures and capacities of key stakeholders). A more comprehensive analysis of livelihood issues and the development of strategies to address these is needed.

Conducting action learning projects at sites such as Ocho Rios and Speyside that demonstrate existing potential will enable useful experimentation and analysis of lessons that can be applied across the Caribbean, where tourism is overwhelmingly the most significant economic sector.

## **1. Introduction**

This report is a product of an action learning research project to examine and test the use of markets and incentives to improve the quality and delivery of watershed services such as water production, soil erosion, landslide and flood control, and biodiversity protection, for the purpose of improving local livelihoods, especially for the poor. The project, called 'Who Pays for Water? Preparing for the use of market-based mechanisms to improve the contribution of watershed services to livelihoods in the Caribbean', is implemented by the Caribbean Natural Resources Institute. 'Who Pays for Water?' is the Caribbean component of a global project 'Developing Markets for Watershed Protection Services and Improved Livelihoods', which is being implemented by the International Institute for Environment and Development with financial support from the United Kingdom Department for International Development. The initiative includes activities in India, Indonesia, South Africa, China and Bolivia, in addition to the Caribbean.

The project focuses on five countries: Grenada, Jamaica, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago. Project activities include action learning projects in St. Lucia and Jamaica to value watershed services and to test the usefulness of markets and incentives to address critical watershed management issues; establishment of an Action Learning Group to validate and critique project findings and results; research on the potential effects of water sector privatisation and of the incentive opportunities from the tourism sector for watershed protection services; and training activities in land use and hydrology tools, for use in valuation for environmental services. Project research is carried out in collaboration with the Sustainable Economic Development Unit of the University of the West Indies and the Forestry Departments in Jamaica, St. Lucia, Grenada, St. Vincent and the Grenadines, and Trinidad and Tobago.

The author wishes to acknowledge the contributions of all of the stakeholders who participated in the project consultations and gave freely of their expertise. Thanks also to consultants Matthew Harvey and Carolyn Hayle who assisted with gathering and analysis of information on the community and the tourism sector in Ocho Rios respectively, and Dennis Pantin and Justin Ram for their input into the economic valuation and analysis. Considerable contributions into the conceptualisation and analysis were also made by CANARI colleagues Sarah McIntosh and Sylvester Clauzel.

## 2. Research objectives and approach

This study examined the potential and mechanisms for the tourism sector – as a downstream beneficiary of watershed services (e.g. erosion protection, water quality, water flow) – to provide support to the upstream watershed management practices that maintain these services in Dunn's River, Jamaica and Speyside in Tobago. This study was part of a larger regional project (which is itself part of a global project) to explore the use of market-based approaches to improving watershed management in ways that have positive impacts on people's livelihoods, with a particular emphasis on the poor.

The initial focus of the project was an analysis of the potential for tourism certification schemes to stimulate transactions between upstream watershed service providers and the tourism sector for improved watershed protection. However, the project was reconceptualised during implementation, partly due to a change in project personnel and partly because initial investigations suggested that certification schemes seemed to offer limited opportunities for payments for watershed services. The revised objectives were:

- A. To identify ways that the tourism sector can improve its contribution to the management of watersheds by upstream stakeholders; and
- B. To create or enhance linkages between downstream tourism industry stakeholders and upstream watershed management stakeholders that result in better watershed management practices at selected sites.

Activities under the short time frame of the project were limited. In Ocho Rios these comprised two stakeholder consultations, telephone interviews, consultant reports, and a limited literature review. In Speyside, research activities consisted primarily of interactions with stakeholders via one stakeholder consultation, meetings with one of the government agencies leading on watershed management, a preliminary valuation of the contribution of tourism to the community of Speyside, and an assessment of the potential for community-based tourism in Speyside.

Collation and analysis of project findings was guided by a framework of five criteria for payments for environmental services (Wunder 2005), which note that a PES is:

1. A voluntary transaction
2. Focused on a well-defined environmental service (or a land use likely to secure that service)
3. 'Bought' by at least one buyer
4. From a minimum of one environmental service provider
5. If and only if the environmental service provider secures conditionality

From these criteria, the following guiding questions were developed and used in structuring the preliminary analysis and this report:

- Is the tourism sector a beneficiary of watershed services and if so, what is the value of the watershed services to the tourism sector?
- Does the tourism sector have the capacity to pay, and is it a willing buyer of watershed services?

- Do the poor and vulnerable communities have the capacity to provide watershed services and are they are willing to do so?
- What are the potential payment mechanisms for watershed services by the tourism sector?

Summary outlines of the stakeholders, institutional arrangements, and the environmental, socio-economic and institutional contexts of the watershed and the tourism sector are included as a prelude to the analysis.

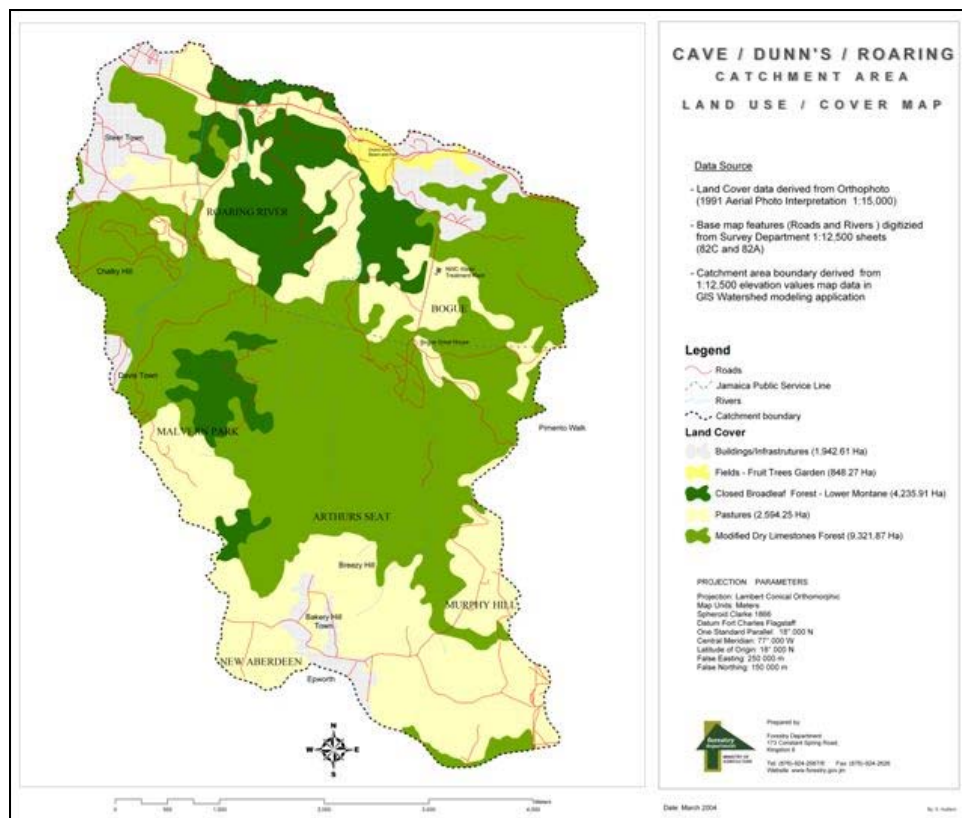
### 3. Description of the case study sites

#### 3.1 Socio-economic and environmental context in Dunn's River watershed

A recent seminal study documented the physical, biological, and social attributes of the Dunn's River watershed<sup>1</sup> and the findings of this study will not be repeated here. In summary, in the Dunn's River watershed, the dominant land cover in the upper watershed is currently forest, the mid-watershed has significant forest and agroforestry with little settlement, and the lower watershed has mixed use, with much more agricultural settlement, as well as beaches, ports, and town activities. See Figure 1 illustrating the land use cover for the watershed.

There are several unplanned settlements in the Dunn's River upper watershed – Parry Town, Pimento Walk and Snow Hill. Discussions were held with three groups in these communities – Hills United Development Organisation (HUDO) and the Pimento Walk and Parry Town youth clubs. These are the representative bodies identified by the project and these were the stakeholders interviewed during project activities.

**Figure 1: Land use cover in Dunn's River watershed (Source: Forestry Department of Jamaica)**



<sup>1</sup> The Environmental Foundation of Jamaica (EFJ) commissioned a comprehensive Baseline Environmental Assessment conducted by Environmental Solutions Ltd. (2002) of the Dunn's River watershed. This report outlines the physical, biological, and social attributes of the Dunn's River watershed as they relate to stream flow quantities, qualities and regimes; soil-slope vulnerabilities; ecological integrity; socio-economic characteristics; and land use. Particular attention was paid to the geological, hydrological, and soil conditions of the area; flora, fauna, and vegetation cover; demographics and settlement characteristics; land ownership and use; recreational uses; water and power supply; and to identification of degrading conditions. Surveys of land use, vegetation cover, flora and fauna, soil erosion, and hydrology were integral to the assessment.

**Table 1: Problem analysis by stakeholders in Dunn's River watershed identified in the stakeholder consultation held in Ocho Rios January 2006. Interpretation of the causes listed was not given by the stakeholders. (Source: Stakeholder Workshop Report 2006)**

<b>Effects</b>	<ol style="list-style-type: none"> <li>1. Water pollution (point and non point sources)</li> <li>2. Soil erosion and sedimentation, loss of soil fertility</li> <li>3. Blocked drains and flooding</li> <li>4. Lack of plant life</li> <li>5. Loss of biodiversity, including marine</li> <li>6. Beach damage as a result of flooding</li> <li>7. Loss of coral reefs</li> </ol>
<b>Causal factors</b>	<ol style="list-style-type: none"> <li>1. Deforestation</li> <li>2. Land degradation</li> <li>3. Poor farming practices</li> <li>4. Inappropriate use of agrochemicals</li> <li>5. Illegal livestock rearing</li> <li>6. Slash and burn</li> <li>7. Washing cars in rivers</li> <li>8. Pollution from mining</li> <li>9. Clearing land for housing developments</li> <li>10. Poor sewage disposal</li> <li>11. Poor solid waste disposal (e.g. household waste)</li> <li>12. Unplanned development of informal settlements (land clearing, inadequate infrastructure for sewage, grey water or solid waste disposal)</li> <li>13. Inappropriate tourism development</li> <li>14. Visitor levels exceeding carrying capacity</li> <li>15. Inadequate infrastructure – construction</li> <li>16. Mining</li> </ol>
<b>Root causes</b>	<ol style="list-style-type: none"> <li>1. Inadequate housing (provided by government)</li> <li>2. Planning failures – e.g. inadequate integrated planning</li> <li>3. Poor regulation and enforcement of policies – e.g. approval procedure for land development ineffective</li> <li>4. Corruption</li> <li>5. Land use and tenure</li> <li>6. Unemployment</li> <li>7. Lack of alternative livelihood options (other than informal agriculture and limited opportunities in the tourism sector)</li> <li>8. Poverty</li> <li>9. Lack of education</li> </ol>

There are various significant issues for watershed management as identified by the stakeholders and outlined in Table 1 above, including:

- Approximately 80% of the planned community has water closets while in the unplanned communities there is the use of pit latrines, barrels and other innovative methods.
- Approximately 80 % of the residents of the planned communities have access to water while only a small percentage of residents in the unplanned communities have access. Some residents in the unplanned area depend on public access pipes while others have illegal access to the water.

### 3.2 Socio-economic and environmental context in Speyside watershed

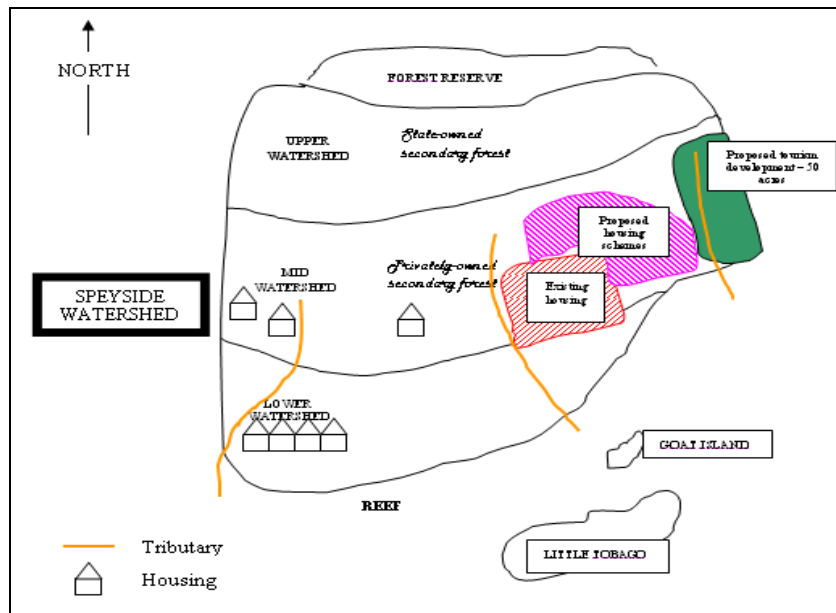
Tobago comprises approximately 300 square kilometres, with a population of approximately 55,000 persons (*Population and Housing Census 2000*). The island is characterised by a mountainous ridge running along its length. Much of this was declared a Forest Reserve in the eighteenth century so that a substantial portion of the uppermost watershed is still

forested. The upper watershed in Speyside forms part of this Forest Reserve and is in a good condition, although some of this forest has been degraded due to the impacts of hurricanes. Much of the lower slopes and practically all of the flat coastal areas in Tobago have been deforested for agriculture and housing. With the decline of the plantation economy and abandonment of the large estates, some of this agricultural land is reverting to secondary forest.

The mid-watershed in Speyside is largely former agricultural estate (cocoa, citrus, coconut, etc.), 80 acres of which was recently purchased by the THA for housing and other development (possibly eco-tourism) and the rest (200-300 acres) purchased by foreign investors. The local community is conducting subsistence agriculture on these lands. Stakeholders reported that the THA intends to regularise people's tenure on state land, but the community is concerned about what will happen on the private and state-owned former private lands. Development proposed on the private lands is currently under review by the Environmental Management Authority (EMA).

A diagrammatic representation of land use in Speyside is illustrated in Figure 2 and a photo of residential housing in the mid-watershed is in Figure 3.

**Figure 2: Diagram of land use in the Speyside watershed (Source: Clarence Bacchus, Coordinator of NRWRP)**





**Figure 3: Photo of residential housing in the mid-watershed and the Forest Reserve in the upper watershed in Speyside**

Participants at a stakeholder consultation in October 2005 identified key issues for watershed management in Speyside as shown in Table 2 below. More information is needed to be able to determine the extent of the threats and potential threats identified, including threats and impacts on the offshore environment.

**Table 2: Problem analysis by stakeholders in Speyside watershed**

Area in watershed	Issues identified
Upper watershed	<ol style="list-style-type: none"> <li>1. Inadequate protection (and funding for this)</li> <li>2. Expansion of the protected area</li> <li>3. Balancing/managing use by tourists, hunters, and other non-timber forest product harvesters</li> </ol>
Mid-watershed	<ol style="list-style-type: none"> <li>1. Squatting/slash and burn agriculture</li> <li>2. Indiscriminate logging</li> <li>3. River mining on private estates</li> </ol>
Lower watershed	<ol style="list-style-type: none"> <li>1. Existing development – waste management (solid and liquid)</li> <li>2. Proposed development – lack of engagement/participation of the Speyside community and other stakeholders</li> <li>3. Loss of forest type</li> <li>4. Beach sand mining (less of an issue in Speyside)</li> </ol>
Offshore environment (this incorporates the marine environment, including the coral reefs and the island of Little Tobago.)	<ol style="list-style-type: none"> <li>1. Siltation</li> <li>2. Sewage/grey water</li> <li>3. Over use? (need to monitor)</li> <li>4. Conflicting uses (carrying capacity)</li> <li>5. Poaching</li> </ol>

Nature-based tourism is the primary driver of the economy in Tobago, and the Speyside community appears to be heavily dependent on tourism activities, with a wide range of tourism accommodation properties ranging from small hotels to guest houses, as well as restaurants and souvenir shops.

There are few other livelihood opportunities in Speyside and most other people are employed as civil servants either in Speyside or in other communities including Scarborough.



## 4. Institutional arrangements for watershed management in Dunn's River and Speyside

### 4.1 Stakeholders and institutional arrangements in Dunn's River watershed

#### 4.1.1 Key stakeholders

The institutional arrangements for watershed management in Ocho Rios, as in the rest of Jamaica, are extremely complex, with multiple stakeholders, structures and policies. The sections below outline the key stakeholders, institutional linkages and policy statements. Table 3 identifies a few of these as key actual (or potential) buyers and sellers of watershed services as well as those playing an intermediary role.

**Table 3: Selected actual (or potential) buyers and sellers of Dunn's River watershed services, and those playing (or potentially playing) an intermediary role**

	Actual or potential sellers	Actual or potential intermediaries	Actual or potential buyers
Governmental and government-appointed	<ol style="list-style-type: none"> <li>1. Forestry Department</li> <li>2. St. Ann Development Company (SADCO) / Urban Development Company (UDC)</li> </ol>	<ol style="list-style-type: none"> <li>1. Forestry Department National Integrated Watershed Management Council (NIWMP)</li> <li>2. National Environmental Protection Agency (NEPA)</li> <li>3. Jamaica Tourist Board (JTB)</li> </ol>	St. Ann Development Company (SADCO) / Urban Development Company (UDC)
NGO / CBO	<ol style="list-style-type: none"> <li>1. Hills United Development Organisation (HUDO)</li> <li>2. Local watershed management committees (LWMCs)</li> </ol>	Local Initiative Facility for the Urban Environment (LIFE)	
Private sector	Farmers	Jamaica Hotel and Tourism Association (JHTA)	Tourism sector – cruise ship industry, hoteliers, tour operators, attraction operators, tourism service providers (restaurants, shops, attractions, piers, transport)

#### A. Public sector (tourism)

1. Tourism Product Development Company (TPDCo): responsible for the management and development of the tourism product in Jamaica. As a result of reduced resources, TPDCo has shifted from a funding agency role to being largely a facilitator and catalyst for the development of direct tourism projects.
2. Resort Board: this body includes hotels, tour operators, tour guides, ground and air transportation, watersports operators, duty-free merchants, craft vendors, attraction operators, trail operators, and marine park operators.

3. St Ann Development Company (SADCO): a subsidiary of the Urban Development Corporation (UDC). The latter has responsibility for urban areas and resorts. SADCO operates the Dunn's River Falls and the Ocho Rios Beach, as well as Green Grotto Caves, a Green Globe certified attraction.
4. Jamaica Promotions Corporation (JAMPRO): this is Jamaica's export and investment promotions agency, providing details of opportunities for trade, investment and production within the island. The emphasis is on facilitating investments at the macro level, but it also focuses on providing hands-on assistance at the micro level.
5. Jamaica Tourist Board (JTB) – responsible for developing all aspects of the tourist industry in Jamaica, including promotions, marketing, tourist entry (including shipping and airline facilities), and amenities. Under the *Tourist Board Act (1951)* and associated regulations.
6. Tourism Enhancement Fund Unit – administers the Tourism Enhancement Fund. This fund is only one year old. Income for the fund is gained through a head tax on air travellers of US \$10 and on sea travel (cruise ships) of US \$2. The objectives of the fund (*Tourism Enhancement Fund Act 2005*) are:
  - Encouraging sustainable development of the Jamaican tourism sector.
  - Promoting the generation of growth in the tourism sector.
  - Enhancing the experience of tourists visiting Jamaica.
  - Facilitating greater linkages with other sectors in the economy.
  - Encouraging better management of environmental resources in Jamaica.

B. Public sector (water and watershed management and planning)

1. National Integrated Watershed Management Council (NIWMC) – the NIWMC has overall responsibility for implementation, monitoring, and ongoing revision of the National Integrated Watershed Management Programme (NIWMP). This is a multi-stakeholder group with representatives from key government agencies and civil society and was developed to improve the co-ordination of watershed management and to be an advisory body to Cabinet. The Integrated Watershed and Coastal Zone Management Branch of the National Environment and Protection Agency (NEPA) acts as the Secretariat. The Council lacks legal status and funding and has inadequate human resources. Currently it does not have a strategic plan for its work, but a sub-group is working on a new action plan and strategy.<sup>2</sup>
2. National Water Commission (NWC): a quasi government agency which is responsible for the supply of water in Jamaica.
3. St Ann Health Department: department of the Ministry of Health responsible for public health and safety (including water quality).
4. Water Resources Authority (WRA): regulates underground water resources.
5. Forestry Department: this is a Government of Jamaica department charged with the responsibility for preserving and managing Jamaica's forests.
6. Rural Agricultural Development Agency (RADA): a department within the Ministry of Agriculture.

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<sup>2</sup> Interview with Jacqueline da Costa, Chair of the National Integrated Watershed Management Council (NIWMC), 30 August 2006.

7. National Environment and Protection Agency (NEPA): an executive agency of the Government of Jamaica responsible for regulating the environment and land use in Jamaica, including watersheds and coastal zone management. It is also the executing agency for the National Integrated Watershed and Management Plan (NIWMP).
  8. Jamaica Bauxite Mining Ltd: a quasi government agency which is the lessee of the watershed. However, the watershed is actually managed by the Forestry Department.
  9. Environmental Foundation of Jamaica (EFJ): an organisation operated by the governments of Jamaica and the United States of America for the purpose of providing financial support to environmental stewardship in Jamaica. It is part of the first "debt to nature" swap in the world.
  10. Commissioner of Lands: the 'trustee' of all lands owned by the Government of Jamaica.
  11. National Housing Development Corporation (NHDC): provides housing. A statutory agency.
  12. National Works Agency (NWA): responsible for infrastructure development.
  13. Planning Institute in the Ministry of Finance – responsible for the development and implementation of policies and programmes (e.g. national economic plans and strategic plans), including donor or counterpart projects.
- C. Public sector (social development)
1. Social Development Commission (SDC): responsible for social development and the mobilisation of communities.
  2. HEART Trust/National Training Agency (NTA): provides education and training in technical/vocational areas. A statutory agency.
- D. Community-based organisations (CBOs)
1. Hills United Development Organisation (HUDO): this is a community-based organisation (CBO) that was created as part of a Friends of the Sea (FOTS) Dunn's River watershed reforestation project, funded by the Environmental Foundation of Jamaica (EFJ), which provided funds for the planting of 120,000 trees over a 230-hectare area in order to restore and sustain the functions of the watershed. The organisation is comprised of Pimento Walk Police Youth Club, Parry Town Youth Club and other groups in the immediate area. Their purpose is to provide sustainable alternative livelihood strategies for the members of Pimento Walk, Parry Town and Snow Hill. The communities are interested in a variety of activities including initiatives in agriculture and agro-tourism, nature trails, and reforestation.
  2. Pimento Walk Police Youth Club and Parry Town Youth Club: these youth clubs have taken a leadership role in their communities by engaging different stakeholders within and outside their communities to get help to improve their social standing and protect the environment – which is a source of income for the majority of the communities, as they all depend on tourism (SDC Profile, Jan 2005).
  3. Local watershed management committees (Associates in Rural Development, Inc. 2005) – LWMCs represent structures that are not properly recognised in the *Watershed Policy* or *Watershed Protection Act*, but are promoted by the NIWMC. The initial outline of the NIWMP called for the establishment of local watershed management committees (LWMCs) with representatives from parish development

councils (PDCs), CBOs, and the private sector and state agencies, who would be appointed by the NIWMC. The NIWMC retreat, held on February 1, 2002, proposed that LWMCs should be established for each of the twenty-six watershed management units in the island, with the NIWMC playing a key role in co-ordinating the activities of the LWMCs. However the approach now taken by the NIWMC through its Local Group Coordination Working Group is to recognise existing organisations as LWMCs rather than to create new entities by direct appointment of membership. There are different levels at which LWMCs can be established: a) the watershed management unit level, such as the Great River and the Rio Grande watershed management committees; b) the sub WMU level, such as the Buff Bay or Pencar local watershed management committees; and (c) the community level, such as Retrieve, Cambridge, or Boundbrook. It is unclear if the Dunn's River watershed has a functioning LWMC.

#### E. Non-governmental organisations (NGOs)

1. Friends of the Sea (FOTS): this is a non-governmental organisation that operates in the St. Ann area.
2. Local Initiative Facility for Urban Environment (LIFE): this organisation was hired by the FOTS to mobilise the communities associated with the above EFJ project.

#### F. Tourism private sector

1. Jamaica Hotel and Tourism Association (JHTA) – this is an association of hotel and tourism-related businesses, with chapters in different areas (including Ocho Rios).
2. Accommodation: the accommodation/tourism sector in Ocho Rios is made up as follows: 27 hotels, 26 attractions, 12 villas, and 8 apartment complexes. See Appendix Table 1 in Appendix 1 for a listing of these.
3. Attractions: Dunn's River watershed features 26 major tourist attractions listed in Appendix Table 2 in Appendix 1.
4. Cruise industry: the main cruise lines in Ocho Rios are Carnival Cruise Lines, P&O Cruise Lines, and Royal Caribbean. Lannaman and Morris (Shipping) Ltd. is responsible for the management of the Ocho Rios Pier.

### **4.1.2 Institutional linkages**

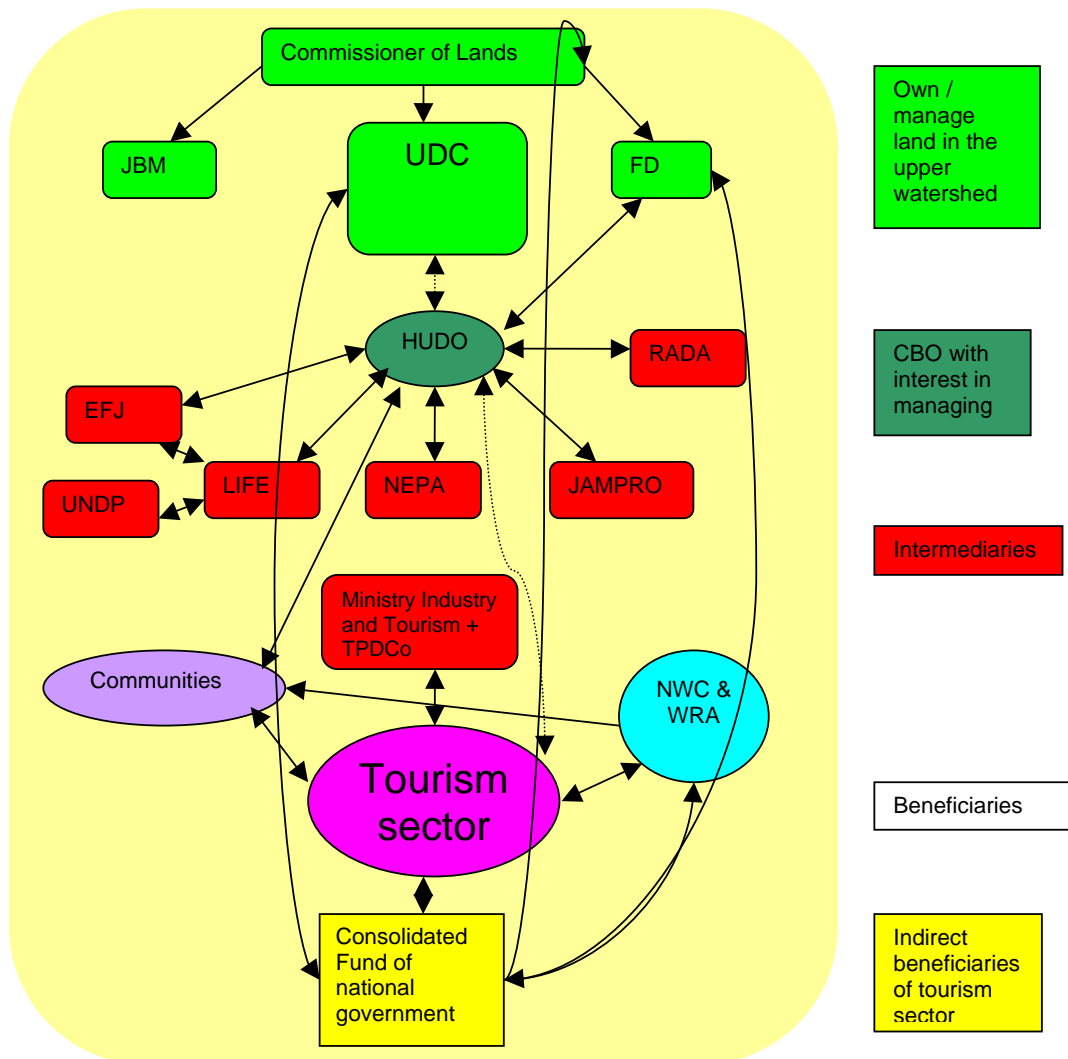
Linkages among stakeholders for integrated watershed management in Ocho Rios are generally weak (as illustrated in Figure 4 below), for example:

- Direct linkages between the tourism sector as a major beneficiary of watershed services and the managers of watershed services are almost nonexistent. Indirect economic linkages exist through taxes paid to the Tourism Enhancement Fund and the Consolidated Fund, part of which goes towards watershed management.
- Direct linkages between HUDO, JHTA and NEPA are weak.
- While there is some awareness by TPDCo about HUDO, they are not directly involved in HUDO's current projects, or in the conceptualisation and development of community -based tourism projects by HUDO.
- Currently there is no linkage between RADA and HUDO, although several of the HUDO projects are directly related to agriculture.

However, there is a multitude of organisations from government and civil society acting as brokers, facilitators, or catalysts for community involvement in watershed management in Dunn's River. For example, partnerships exist between:

- FOTS and HUDO on a reforestation and education project, and beekeeping and nature trail projects.
- Forestry Department and HUDO for management of the Bogue Estate (a 243 ha designated protected area), including development of a nature trail and patrols by the Junior Rangers.
- Various partnerships between HUDO and other community groups (Walkers Wood, Mango Valley, Oxford) on community tourism projects.
- LIFE training and technical assistance for HUDO in organisational development, proposal writing, and project development.

**Figure 4: Draft institutional map of key stakeholders in watershed management in Ocho Rios (September 2005)<sup>3</sup>**



<sup>3</sup> Developed at the stakeholder consultation in September 2005, Ocho Rios. From final workshop report.

It is also significant to note that environmental NGOs (LIFE and FOTS) are playing a critical role in facilitating linkages between the community and other stakeholders. For example, through the current HUDO/FOTS/LIFE project (funded by the EFJ), several stakeholders from outside the community serve on the project steering committee, including the NWC, NEPA, the Forestry Department, and the St. Ann Chamber of Commerce.

#### **4.1.3 Policy statements**

Review of all environmental legislation in Jamaica is currently underway, with a view to consolidation and increasing coherence. Current key policy documents are listed below, with a brief note on the pertinent statements regarding watershed management in the context of the 'Who Pays for Water?' Project.

- A. *Watersheds Protection Act* (1963) – this is the main existing legislation governing watershed management in Jamaica and focuses primarily on the conservation of water resources. It provides for the establishment of watersheds protection committees, with relatively broad and unspecified functions in support of the Act. However there has been an ongoing process in recent years to update the legislative and policy framework for watershed management (Associates in Rural Development, Inc. 2005).
- B. *Master Plan for Sustainable Tourism Development* – outlines strategies, including community-based tourism development. No copies are currently available (hard or electronic).
- C. *Jamaica Environmental Management Systems* – the policy makes some reference to incentive mechanisms - commitment to use “special non-financial incentive schemes”, and financial schemes under the *National Industrial Policy* will be examined and adjusted if necessary to encourage environmental management systems implementation.
- D. Tourism Product Development Company – a community-based tourism development programme. The programme notes that “Community-based development is a strategy used by tourism planners to mobilise communities into action to participate in broadening the scope of offerings in the industry. The goal is socio-economic empowerment and a value-added experience for local and foreign visitors. This process opens new niches for destination Jamaica, most notably for the nature, culture, and adventure traveller.” It defines a community-based tourism project as one that “directly involves the community – providing both social and economic benefits”.
- E. *Watershed Policy* – the main goals include putting in place a coherent and rationalised legislative and institutional framework; provision of adequate human, financial and technical resources for effective watershed management; increased public awareness for improved participation in watershed management; and support for initiatives to encourage proper land use. The *Watershed Policy* outlines the existing institutional framework for watershed management in Jamaica, including the recognition of local watershed management entities at the watershed management unit, sub-unit and community levels (Associates in Rural Development, Inc. 2005).
- F. *National Integrated Watershed Management Programme (NIWMP) Framework* (Chambers 1999) – a status report on implementation of the NIWMP 2000 – 2005 is currently being drafted by the NIWMC for submission to Cabinet (Blake 2006). The programme:
  - Recognises that environmental restoration could be achieved primarily through the sustainable development of watershed communities, and that the pattern of unrelated watershed projects needs to be replaced by an integrated national approach and programme.

- Notes that watershed degradation – in the form of soil erosion – has also resulted in the intensified sedimentation and pollution of the island's beaches, bathing areas and coral reefs, and has begun to adversely affect recreational activities; reduce the availability of, and increase the price of, seafood; and seriously threaten the continued expansion or survival of tourism, Jamaica's main economic activity.
- Notes that "Jamaica cannot afford the burden of the enormity of the real financial opportunity costs likely to be incurred if watershed deterioration is not reversed. Opportunity costs include the possibility of seriously diminished foreign exchange earnings from the tourism sector, the inability (without watershed protection) to effectively capitalise on the expanding world eco-tourism market."
- Includes recognition that the development of the eco-tourism market and diversification of the tourism product in Jamaica is dependent upon the integrity of its watersheds.
- Notes that incentive mechanisms for watershed management are necessary but need to avoid "emergence of beneficiary dependency syndromes so evident in the past" and that "small farmers in particular will be called upon to become involved in conservation activities which will substantially benefit downstream communities, including the tourism sector. Because of the positive externalities to be generated and the prevailing low income levels of small farmers, some assistance to them is both justifiable and necessary."

## 4.2 Stakeholders and institutional arrangements in Speyside watershed

### 4.2.1 Key stakeholders

The institutional arrangements for watershed management in Speyside are relatively simple due to the low number of key stakeholders. However, this is complicated by the influence of stakeholders, programmes, and policy statements derived from – and based in – Trinidad, e.g., the National Reforestation Watershed and Rehabilitation Programme (NRWRP). The sections below outline the key stakeholders, institutional linkages, and policy statements. Table 4 identifies a few of the key stakeholders as key actual (or potential) buyers and sellers of watershed services as well as those playing an intermediary role.

**Table 4: Selected actual (or potential) buyers and sellers of watershed services in Speyside and those playing (or potentially playing) an intermediary role**

	Actual or potential sellers	Actual or potential intermediaries	Actual or potential buyers
Governmental and government-appointed	<ol style="list-style-type: none"> <li>1. National Reforestation Watershed and Rehabilitation Programme (NRWRP)</li> <li>2. Department of Natural Resources and Environment (DNRE)</li> </ol>	Environmental Management Authority (EMA)	<ol style="list-style-type: none"> <li>1. Central Government</li> <li>2. Tobago House of Assembly (THA)</li> </ol>
NGO / CBO	<ol style="list-style-type: none"> <li>1. Village Council</li> <li>2. Speyside Youth Group</li> </ol>	<ol style="list-style-type: none"> <li>1. Environment TOBAGO</li> <li>2. Travel Foundation</li> <li>3. Buccoo Reef Trust (BRT)</li> </ol>	
Private sector	Farmers	Tobago Hotel Association	Tourism sector – hotels, guest houses, dive operators, reef boat operators, tour guides

A. Public sector (tourism)

Division of Tourism, Transportation, Enterprise Development and Settlements: Department of Tourism - responsible for setting local policy, and marketing and facilitating development of the tourism industry in Tobago, which is largely based on natural assets (the Main Ridge Forest Reserve, other forested areas, and the coastal and marine environment).

B. Public sector (water and watershed management and planning)

1. Tobago House of Assembly (THA) – the THA is the island-specific government authority and decision-making body that guides the overall development and management of Tobago. The *THA Act* of 1996, which replaces the original 1980 Act, gave the THA greater political, social and financial autonomy (Task Force Appointed by the Government of Trinidad and Tobago to Prepare a Comprehensive Economic Development Plan for Tobago 2005).
2. Division of Agriculture, Marine Affairs and the Environment: Department of Natural Resources and the Environment (DNRE), THA – the primary focal point for the management of forested lands in Tobago. Responsible for managing state-owned forested land (including the Main Ridge Forest Reserve), parks and open areas, and wildlife. The DNRE has broad responsibility for management of natural resources in Tobago and takes an integrated watershed approach. However, some responsibility still lies with agencies that are part of central government in Trinidad, most importantly the Environmental Management Authority (EMA) and the Town and Country Planning Division (TCPD).
3. Ministry of Public Utilities and the Environment: National Reforestation and Watershed Management Programme (NRWRP)<sup>4</sup> – as part of its 2020 Vision, the Government of Trinidad and Tobago included environmental protection and preservation and allotted TT\$767,534 million (USD \$121 million) for a reforestation programme that would restore forest assets lost through fires and other activities, as well as rehabilitate watersheds. The objective of this approach was to reduce greenhouse gases and limit flood damage. The government created the NRWRP in November 2003 with the mission to “rehabilitate and protect forests and watersheds using community-driven, creative and sustainable approaches to provide forest products and services through a committed, competent staff working in collaboration with partners”. Accordingly, a plan was developed to replant 33,030 acres of forest over 10 years, of which 11,000 acres will be devoted to watershed rehabilitation. NRWRP was designed with the following objectives:
  - The sustainable management and use of existing forests.
  - The reforestation of areas affected by deforestation.
  - The use of forests for recreation and eco-tourism.
  - The strict enforcement of updated legislation against deforestation and the destruction of endangered species, and the encouragement of community participation to combat squatting and to foster responsible use of the natural environment.
  - NRWRP is implemented by a small unit with four technical staff based in Tobago. The Speyside watershed was the second watershed targeted in Tobago. The programme is implemented using NGO/CBO intermediaries as ‘contractors’ (in

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<sup>4</sup> Information obtained from interviews with staff of the NRWRP June 2005 and Williams and Associates, LH Scotland and Associates (2004) *National Reforestation & Watershed Rehabilitation Programme: Strategic Plan 2004 – 2009*.



Speyside it is the village council) to manage thirty community members (mainly youth, and two-thirds female in Speyside) as 'technicians' who are conducting the replanting and cutting and maintenance of trails in the Forest Reserve.

Technicians are paid TT\$75 (about US\$12) per day and work in three gangs of 10 people each. Each gang is supervised by a foreman who is paid TT\$125 (about US\$21) per day and a technical supervisor from the contractor NGO/CBO, which is paid 20% of the total wages of the gang. This is an innovative attempt to link participatory forest management with community livelihood development as income earned by the contractor is intended to be used towards community development in Speyside. The programme operates five days per week and a working day is 4 hours.

- The Business Development Strategy of the programme recognised the potential for recreation and ecotourism activities in the rain forests, and identified the development of activities such as nature trails and mountain biking trails in partnership with community groups and TIDCO (Williams and Associates, LH Scotland and Associates 2004) – now TDC (Tourism Development Company).
4. Division of Agriculture, Marine Affairs and the Environment: Department of Agriculture (DA) – responsible for the agricultural sector in Tobago and conducts extension work to farmers in communities, including Speyside.
  5. Environmental Management Authority (EMA) – functions to co-ordinate environmental management in Trinidad and Tobago, dealing primarily with the “brown” issues but also making a significant contribution to the management of the biodiversity resources of the country through the designation of Environmentally Sensitive Species (species of special conservation concern e.g. those that are endangered or threatened) and Environmentally Sensitive Areas (protected areas requiring conservation and management).

#### C. Public sector (social development)

1. Division of Community Development and Culture: Department of Community Development – responsible for development of communities. Registers NGOs and CBOs and conducts some capacity building. Co-ordinates activities of the village councils.
2. Poverty Reduction Programme (PRP), Ministry of Social Development: Programme Implementing Unit (PIU) and Regional Social and Human Development Council (RSHDC). The PRP is a programme funded by the European Union (EU) to the Central Government of Trinidad and Tobago for poverty reduction through decentralisation of social delivery services and increased integration and collaboration. This is facilitated by the RSHDC structure, which is tailored towards delivery of small grants to community-based organisations. Livelihood opportunities based on natural resources are some of the community initiatives. Activities in Tobago are co-ordinated through a Tobago PIU and a Tobago RSHDC.

#### D. Community-based organisations (CBOs)

1. Speyside Village Council – the village council in Speyside is comprised of elected community members with a broad mandate to support community development. In Trinidad and Tobago, village councils are generally considered to be politically partisan. The village council in Speyside functions as the contractor for the NRWRP and three members work in the programme. Income earned by the village council as contractor is intended to be used towards community development in Speyside.

2. Speyside Youth Group – a vibrant group that was recently given responsibility for managing a beach facility on the waterfront, after winning the tender among a group of other potential leasers. Conduct regular community cultural activities.

#### E. Non-governmental organisations (NGOs)

1. Environment TOBAGO (ET) – an NGO with a broad scope of interest in environmental conservation in Tobago, including forest management.
2. Buccoo Reef Trust (BRT) – an NGO which focuses on research and management of the marine resources of Tobago, but recognises that the integrity of these is directly linked to the management of land-based ecosystems such as forests. Strong interest in stimulating the designation of a marine park in Speyside. Has a current research project on Speyside.
3. Travel Foundation Tobago (TFT). This is a unique partnership between stakeholders from government, the private sector, associations, NGOs and resource users, which was catalysed by Travel Foundation, UK but is now seeking to establish a more autonomous identity. TFT currently implements a small grant programme to build the capacity of civil society organisations to engage in projects which protect natural resources and tourism assets, and which distribute tourism benefits to local people – including a project to stimulate linkages with the agricultural sector through an 'Adopt a Farmer' programme for hotels funded by the Inter-American Development Bank (IDB).

#### F. Tourism private sector

1. Trinidad & Tobago Hotel and Tourism Association, Tobago Chapter (TTHTA) – an influential association of tourism businesses that depend on Tobago's natural assets for its tourism product. Three hotels in Speyside are members and the general manager of one (Blue Waters Inn) sits on the Environmental Committee.
2. Tobago Chamber of Commerce – a powerful association of tourism and other businesses that depends on Tobago's natural assets for its tourism product and for driving the island's economy.
3. Tour operators and tour guides: Incoming Tour Operators Association, Tour Operators Association of Tobago, and Tobago Tourguide Association – there are several associations of tour operators and tour guides in Tobago.

### 4.2.2 Institutional linkages

In general, current institutional structures in Trinidad and Tobago do not effectively support integrated planning and management co-ordinated by inter-sectoral and multi-stakeholder mechanisms. There is an absence of effective structures to facilitate communication and co-ordination at all levels:

- Horizontally: intra-agency, inter-agency, and between government and civil society.
- From the community/local level to the national level.
- Vertically up and down the political and institutional hierarchy.

The primary structure that has been used to facilitate co-ordination among sectors and stakeholders at a national and regional level is the multi-stakeholder committee, for example the Environmentally Sensitive Area (ESA) multi-stakeholder committees established under

the EMA; the National Wetlands Committee; and the RSHDCs established under the PRP. However, some of the existing multi-stakeholder committees still have weak (or no) representation from the social and economic sectors, for example the National Wetlands Committee and the ESA management committees. In addition, some stakeholders tend to be excluded – the private sector, community groups, and resource users. Some committees are assisting with facilitating communication but are not yet effectively facilitating co-ordination and integration.

This multi-stakeholder model can be refined and applied to the Speyside watershed. The designation of Speyside as a marine park, which has long been proposed, could provide the opportunity since – if this is enacted under the *Environmental Management Act* – a multi-stakeholder management committee will be appointed. Travel Foundation Tobago (TFT) is an innovative multi-stakeholder structure that might be further utilised to facilitate linkages between the tourism sector and the community.

The absence of linkages among some Speyside stakeholders was clearly highlighted at the stakeholder consultation. The consultation was successful in contributing in a small way towards establishing and enhancing linkages among stakeholders, and this preliminary foundation needs to be built upon in future project initiatives. Stakeholders at the forum called for the development of a local structure to co-ordinate watershed management and facilitate communication and collaboration among stakeholders. Other potential areas for enhancing collaboration were highlighted, including:

- Involving the THA Tourism and the Tobago Tour Guide Association in the NRWRP initiative to train 'technicians' as tour guides.
- Soliciting input from THA Agriculture Department and farmers in developing sustainable methods of agriculture in the watershed.

#### **4.2.3 Policy statements**

The policy environment in Tobago is characterised by an abundance of policy statements. Key formal policy documents include:

*Forests Act*, (1915 and last amended 1955) *Draft Forest Policy of Trinidad & Tobago*, 1998  
*Environmental Management Act*, 2000 *Draft National Environmental Policy*, 1998  
*North-east Tobago Management Plan 2002* *Tourism Policy of Trinidad and Tobago*, 2001  
*Tourism Development Act*, 2000 *Tobago House of Assembly (THA) Act*, 1996  
*Tourism Plan for Tobago* *State Land Management Authority Policy*  
*National Biodiversity Strategy and Action Plan 2001*  
*Vision 2020* and national and sector strategic plans various dates  
*Trinidad and Tobago Tourism Master Plan*, 1995  
*Strategic Plan of the Ministry of Public Utilities and the Environment Draft 2005*  
*Draft National Reforestation and Watershed Rehabilitation Programme (NRWRP) Strategic Plan 2004 – 2009*  
*A Comprehensive Economic Development Plan for Tobago*, 2005  
*Technical Agenda for the Division of Agriculture, Marine Affairs and the Environment*  
*National Emergency Management Authority (NEMA) Plan for Tobago*

However, among these formal policy documents there are overlapping directions for resource use and management, and a lack of clarity on which policy has precedence. There are also several areas where no policy exists but there is urgent need to develop one, for

example: a National Physical Development Plan, a Policy on Informal Settlements, and a Watershed Management and Protection Policy. Although Trinidad and Tobago is a signatory to numerous relevant international agreements (e.g. the Convention on Biodiversity; the Framework Convention on Combating Desertification), there are significant conflicts or gaps between the international commitments and the local legislation and policies needed to enact and implement them. The inadequacy of the formal policy environment is compounded by the gap between formal policy and implementation or enforcement, since unwritten policy or practice does not always follow the formal policy.

## **5. Outline of the tourism sector in Dunn's River and Speyside watersheds**

### **5.1 Outline of the tourism sector in Ocho Rios**

Ocho Rios is one of Jamaica's major resort towns. In terms of visitation, Ocho Rios accounted for 19.7% (291,925 visitors) of the total stopover arrivals by intended port of stay for Jamaica in 2005. Ocho Rios has the largest cruise port in the island and receives the most cruise passengers on an annual basis (71% of the cruise passengers visiting Jamaica in 2005, numbering 804,863). This was accounted for by a total of 318 cruise ship calls for 2005, which was an increase of 2.6% from 2004.

Tourism in Ocho Rios generates an income well in excess of US \$357 million each year (Jamaica Tourism Board 2000). This reflects 27% of Jamaica's annual tourism revenue (according to the information on the FOTS website). The average expenditure of cruise ship passengers for 2005 was US\$85.21. Thus the projected contribution of the cruise ship industry in Ocho Rios can be calculated as US\$68,582,376.

The accommodation sector in Ocho Rios is made up of 27 hotels, 12 villas, and 8 apartment complexes (listed in Appendix 1, Appendix Table 2) and had a total of 7,405 rooms in 2005, with an average hotel room occupancy rate of 60.3% in 2005. Although the hotel sector possesses only 5% of the number of units (hotels, guest houses and villas) in the accommodation sector, it has 74% of the rooms. Furthermore, in Ocho Rios eight large hotels (each with more than 200 rooms) have 60% of the rooms in the accommodation sector.

There are twenty-six attractions in Ocho Rios, most of which are nature-based. These include Dunn's River Falls, which is the premier tourist attraction in the Caribbean with over a million visitors annually (Peterkin 2006). Other attractions are listed in Appendix 1, Appendix Table 3. The Ocho Rios Marine Park is not listed as an attraction by the Tourism Product Development Company Limited, and although it was established in 1999, there is no management plan, no local agency directly managing it (overall responsibility is under the National Environmental Protection Agency), and its status is considered as non-operational (Anderson, Best and Richards 2002). Recreational water sports and other nature-based activities are common tourist activities in Ocho Rios. (Additional information in this sub-section drawn from Jamaica Tourist Board *Annual Travel Statistics* 2005.)

### **5.2 Outline of the tourism sector in Speyside**

Tobago as a whole depends largely on the European market, with the UK enjoying the largest share (71% in 2002), and Germany in a distant second position (16% in 2002).

The pristine coral reefs off Speyside offer numerous dive sites and this is the draw for the international divers that are the primary market for the area.

Most tourism-related enterprises in the community are owned by expatriates, including people from Trinidad. There is a significant presence of German entrepreneurs involved in tourism, and this is also reflected in the significant numbers of German visitors. Local ownership and management of tourism enterprises is limited to two major restaurants, 'Frank's' and 'Jemma's', and some small dive shops that include 'Top Ranking', 'Redman' and 'Frank's'. Local people are employed in the various tourism businesses. Evidence of business entrepreneurship is largely limited to the few people identified above who are involved in tourism-related businesses. There are other small entrepreneurs, and one small craft vendor established at the lookout point is worthy of note.

Although there are approximately 100 rooms available in Speyside, nearly 50% are not certified. In addition, most of the existing certified rooms at two major properties visited during the assessment are of two-star quality. Given the growing trend of visitors seeking 'value for money' accommodation, the rates are not competitive with other Caribbean destinations. Since Saint Lucia, Barbados, and Antigua are significant competitors for the UK market, Tobago will need to seriously examine its competitive niche.

Cruise tourism has grown rapidly in the Caribbean over the past 10 to 15 years, but Tobago has experienced sporadic fortunes and no significant growth in this sector, with an average of approximately 15,000 passengers per year over the period 1995-2002 (Department of Tourism). However, cruise visitors are important to Speyside tourism entrepreneurs, who say that they account for some of their business during the cruise season (December to April) as passengers take day trips from Scarborough (a 1.5 to 2 hour drive one way along the scenic windward coast).

The preliminary valuation report on the contribution of tourism to the community of Speyside (Appendix 2) indicates that Speyside has been experiencing a significant growth in the importance of the tourism industry over the last decade. In terms of the life cycle of tourist destinations, Speyside could be seen to be past the incipient, initial stage of discovery and is now on a rising curve. (Information in this sub-section was obtained from an assessment of the potential of the Speyside community conducted by Sylvester Clauzel as part of the WPFW project.)

## **6. Benefits and values of watershed services to the tourism sector**

### **6.1 Is the tourism sector in Ocho Rios a beneficiary of watershed services and if so, what is the value of the watershed services to the tourism sector ?**

#### **6.1.1 Benefits identified**

The tourism sector in the Dunn's River watershed (including Ocho Rios) benefits directly from the provision of watershed services in two ways:

1. Water extracted from the upper Dunn's River is used to supply all the water to cruise ships. The Government of Jamaica provides this at no charge as an incentive to the cruise shipping industry. Water extracted from Dunn's River also goes to consumers, including tourism consumers, in Ocho Rios.
2. The primary tourism products for Ocho Rios are the Dunn's River Falls and other river-based and marine attractions that are dependant on the maintenance of water quality and flow.

#### **6.1.2 Recommended process for valuing the contribution of the watershed services to the tourism sector**

Project time was insufficient to conduct a full valuation of the contribution of watershed services to the tourism sector, but a recommended process for this would include (Pantin 2006):

- Estimation of the value of the land uses upstream of the Dunn's River Falls, including those which may be impacting positively or negatively on the quantity and quality of water at the Falls.
- Estimation of the income generated directly from the Dunn's River Falls, including its contribution to the cruise ship industry water supply and the surrounding communities.
- Estimation of costs of interventions to maintain or enhance the quality and quantity of the water supply and environmental buffer zones (on aesthetic grounds) at Dunn's River, and identify sources of sustainable funding for such interventions.
- Analysis of the overall cost-benefit of the Dunn's River Falls.

### **6.2 Is the tourism sector in Speyside a beneficiary of watershed services and if so, what is the value of the watershed services to the tourism sector?**

#### **6.2.1 Benefits identified**

A consultation was held with twenty-four stakeholders from Speyside and the key government and civil society organisations working in Speyside. Key watershed services in Speyside were identified by these stakeholders as:

- Erosion control
- Flow regulation
- Water quality and quantity
- Biodiversity
- Landscape beauty

The natural resources of Speyside make them very competitive with anywhere in the region as high value tourism products. Speyside is a relatively undisturbed watershed, with many interesting avifauna, tropical plant, and tree species as well as scenic vistas. The coral reefs are internationally reputed to be of very high quality, especially in comparison with the condition of other more popular reefs in Tobago (such as Buccoo Reef) and in the wider Caribbean region. The Speyside reefs feature the largest brain coral in the western hemisphere, sea fans, and an abundance of manta rays, sharks, etc. Other tourism activities include bird watching, diving and snorkelling, viewing through glass-bottom boats, and hiking. (Assessment of the potential of the Speyside community conducted by Sylvester Clauzel as part of this WPFW project.)

### **6.2.2 Preliminary valuation of the contribution of the watershed services to the tourism sector**

A preliminary valuation of the contribution of tourism to the community of Speyside was conducted as part of this project and the report is attached as Appendix 2. Key highlights of this report are outlined below.

- A. There are three hotels in Speyside with a combined 81 room capacity. On the basis of survey data on room capacity, price and occupancy, the estimated 2005 income of the accommodation sector in Speyside was estimated at US\$3.5 million, together with a total direct employment of 150 people.
- B. Three of the major ecological attractions at Speyside are reef diving, reef tours, and bird tours – including those to the offshore island of Little Tobago. There are five dive shop operators in Speyside with an estimated combined dive boat seating capacity of about 100. Based on the per person costs of diving and the related aggregate estimated dive income, together with similar data on reef/bird tours, it was estimated that this sub-sector generated close to US\$1 million in 2005 (US\$900,738).
- C. The Speyside tourism industry in total is estimated to currently employ some 700 people (695), with 235 of these being direct jobs and another 460 persons estimated to be employed indirectly. The latter includes those employed in the taxi/bus tour service sector, who either drive/accompany day visitors to the community or are employed in office and vehicle maintenance support services, together with those working in restaurants, bars and shops along the road routes to Speyside.
- D. The annual direct income contribution of the Speyside tourism industry is estimated at US\$4.8 million, together with indirect income of US\$1.6 million, and hence a total income contribution of US\$6.4 million or TT\$40.2 million. The government is estimated to be earning nearly US\$1 million annually in revenue from these tourism activities.
- E. The estimated GDP contribution of tourism in Speyside was US\$5.6 million in 2005. This represents 5% of Tobago's tourism GDP and 2% of the island's economy. This is significant when bearing in mind that 90% of all tourist rooms in Tobago are located in south west Tobago, with the remaining 10% distributed throughout the rest of the island.



## **7. Tourism sector capacity and willingness to pay for watershed services**

### **7.1 Does the tourism sector in Ocho Rios have the capacity to pay and is it a willing buyer of watershed services?**

#### **7.1.1 Indirect evidence of willingness**

There is an existing broad interest from some hotels in environmental programmes generally. For example, Sandals Dunn's River is Green Globe certified; has received commendations for environmental performance from EFJ, Friends of the Sea (FOTS) and Project AWARE; sponsors and hosts meetings for FOTS and the St. Ann Environment Protection Association; volunteers in community environmental activities; lends boats and staff for the water quality monitoring programme; offers guests nature-based island tours; and uses Project AWARE (Aquatic World Awareness Responsibility Education) and other educational materials in pre-dive briefings (R. May 2006).

One interesting initiative of the JHTA is a current collaboration with several advocacy environmental NGOs (e.g. the Northern Jamaica Conservation Association) to hold an environmental summit in late 2006. The goal of this summit is to identify actions the government and the private sector will be able to take to correct and reverse current environmental degradation and prevent future degradation (Peterkin 2006).

#### **7.1.2 Direct statements of willingness**

Interviews were conducted with several stakeholders operating businesses in the tourism sector<sup>5</sup> and revealed an overall general appreciation of the importance of the natural environment to the long-term sustainability of the tourism sector. For example, businesses noted their support for protected area and wetland conservation.

However, valuation of watershed services was seen to be only at a qualitative level and there does not seem to have been any quantification of value. Tourism stakeholders opined that the tourism sector needs to see concrete data for full appreciation of the value of watershed service to their product. Horace Peterkin, President of JHTA, reported that he had read a study that identified the value of the north coastline (including the Dunn's River area) at US \$180 million.

Although it was stated that general environmental degradation was apparent in the watershed, tourism businesses interviewed stated that they had not yet seen or experienced any direct impact of watershed degradation on their product (e.g. visitors had not yet stopped going to Dunn's River Falls). They perhaps felt that the environment had not reached a severely degraded state, so these impacts were not yet of serious concern to the tourism sector – or the tourism sector was 'in denial' about the problems. Informal settlements in the upper watershed were identified as a primary concern of tourism businesses as they were perceived to be the main cause of watershed degradation.

Through the interviews it was also apparent that 'watershed management' is a concept that is not directly linked with 'environmental management' and clarification of what this entails ('ridge-to-reef') is needed. A clear identification of how watershed services impact on the tourism product is also essential.

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<sup>5</sup> Interviews conducted with Vana Taylor, Chair of the Ocho Rios Chapter of the Jamaica Hotel and Tourism Association and a member of the Jamaica Association of Villas and Apartments, and Horace Peterkin, President of the Jamaica Hotel and Tourism Association and General Manager of Sandals Montego Bay, 30 and 31 August 2006.

Despite this expressed interest in environmental programmes, the tourism sector is collectively unwilling to pay any additional taxes generally – including those linked to the environment.

### **7.1.3 Perceptions of other stakeholders about engaging the tourism sector**

The Ministry of Tourism reported that the tourism sector says that it recognises the value of watershed management to its product, but felt that there is a need to collect data on visitor profiles, visitor satisfaction, and other indicators to better quantify value (Johnson and Williams, Ministry of Tourism 2006).

Consultations with other stakeholders involved in watershed management in Ocho Rios (*Stakeholder Workshop Report 2006*) revealed the perceptions that:

- The tourism sector tends not to participate in any process unless and until the situation reaches such a crisis point that it will be directly and significantly negatively impacted.
- Communication with tourism stakeholders must be done at the level of key decision-makers in the industry (as opposed to the 'lower level workers') at both the local and national levels in order to get a meaningful response.

## **7.2 Does the tourism sector in Speyside have the capacity to pay and is it a willing buyer of watershed services ?**

### **7.2.1 Indirect evidence of willingness**

Some evidence of recognition of the value of responsible tourism can be seen in the corporate sponsorship initiatives of Blue Waters Inn and 'Jemma's' restaurant. Good environmental management seems to be a priority for Blue Waters Inn, which has several local and international awards for this and is Green Globe certified. Its general manager also serves on the Environment Committee of the Hotel and Tourism Association in Tobago. Décor at Manta Lodge is themed around local flora and fauna.

### **7.2.2 Direct statements of willingness**

All of the stakeholders interviewed during this project perceived that the Speyside community has a strong awareness of the linkages between activities in the upper watershed and impacts on the bay and coral reefs.

Two tourism businesses<sup>6</sup> said that they would consider contributing directly for watershed management if value could be demonstrated.

Despite this expressed interest in environmental programmes, the tourism sector is generally unwilling to pay any additional taxes for any purpose, the environment included.

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<sup>6</sup> Interviews with the Mr. Frank, owner of 'Frank's' restaurant and one of the glass-bottomed boat operations, and Mr. Kenny, General Manager of Blue Waters Inn, June 2005.

## **8. Do poor and vulnerable communities in watersheds have the capacity to provide watershed services and are they willing to do so?**

### **8.1 Do the poor and vulnerable communities in Dunn's River watershed have the capacity to provide watershed services and are they willing to do so?**

The community-based organisation HUDO is based in the poor and vulnerable communities in the unplanned settlements in the upper watershed in Ocho Rios. HUDO demonstrates strong interest in being involved in income-generating activities linked to watershed management and tourism, and has experience implementing and/or planning several relevant initiatives as outlined below.

- A. HUDO is implementing or developing several projects including honey production, developing a nature trail on the Bogue Estate managed by the Forestry Department, and managing the Junior Rangers Programme for the Forestry Department.
- B. HUDO has been establishing a network of strategic partnerships with a number of other communities. These partnerships are geared towards the establishment of economic enterprises that will link into the agro-tourism industry for local and export markets. Among these partnerships are the following:
- Walkers Wood is a community tourism project which is one of the major agro-processing companies in the region. HUDO will supply Walkers Wood with peppers, pimento, guava and Seville oranges. These will serve as inputs in the Walkers Wood agro-processing business.
  - Mango Valley is a community tourism project involved in the production of honey. HUDO will partner with Mango Valley in the production and distribution of honey.
  - Oxford is a community tourism project which focuses on the creation of craft from straws and other natural fibres. HUDO will partner with Oxford in the production and distribution of handicrafts which target the tourism sector.
  - Jeffery Town is a farming community that produces inputs for Walkers Wood. HUDO will partner with Jeffery Town in the production of inputs for Walkers Wood.
- C. HUDO would like assistance in establishing the following programmes, as they envision these proposed activities as possible additional community tourist attractions and viable economic enterprise (\* indicates the ones approved by the Forestry Department):
- Ornamental fish farming\* is proposed as a major activity. It was proposed instead of freshwater fish farming because there is an existing export market for ornamental fishes. It also uses less water and is less likely to pollute the water on a property.
  - Poultry rearing: HUDO has also proposed rearing poultry as another activity to complement the organic farming activities.
  - Upgrading and regulating Ire Beach – another plan suggested by the community is using Ire Beach, a river beach used for swimming and recreation, as a major tourist attraction in the community.
  - Honey Festival – the production of goods that contain honey as the major input for sale in an organised annual festival – like the ones that already exist in other communities (e.g., the Trelawney Yam Festival). This would generate significant

revenue and public awareness of the activities being undertaken by HUDO, as well as encouraged other communities to engage in community tourism while sustaining the environment.

D. HUDO has shown interest in other activities with opportunities to link with the tourist industry, including:

- Organic farming
- Camp site
- Craft making
- Rafting on lake
- Spring water bottling facility\*

E. The youth clubs are primarily interested in sport and recreational activities, and some livelihood opportunities (chicken farming, with RADA).

However, there are clear capacity needs in HUDO which are barriers to their full engagement in the provision of watershed services – some of which are being addressed through technical assistance, capacity building and support from Friends of the Sea, HEART Trust, and the Forestry Department. Capacity needs include:

- Conflict management between HUDO and the youth clubs, which feel excluded.
- Capacity building in organisational development, developing linkages with other stakeholders, and participatory approaches and conflict management.
- Financial and material resources.

## **8.2 Do the poor and vulnerable communities in Speyside watershed have the capacity to provide watershed services and are they willing to do so?**

The primary initiative involving the community in watershed management in Speyside is the NRWRP. The Speyside 'technicians' have developed a trail in the main watershed and some members take visitors on tours, but the capacity of the rest of the group to do this is uncertain. In addition, the NRWRP promotes the "taungya system", whereby workers plant cash crops mixed with tree species. However a cursory observation reflects some concerns:

- Poor technical supervision of the trail development, evidenced by inappropriate use of contours in design, over-clearing of underbrush, and planting of incompatible species e.g. sea grapes.
- Subsistence gardens in the upper watershed are generally not sustainable activities.
- Marketability of cash crops to the tourism industry or other markets has not been assessed.
- Marketing strategy of the nature trail to visitors has not been determined.

In general, the capacity of the community to engage in watershed management and tourism-related business activities is uncertain. The youth group has some experience in event and business management and may have the capacity to further expand. (Assessment of the potential of the Speyside community conducted by Sylvester Clauzel as part of this WPFW project.).

## **9. Potential payment mechanisms**

### **9.1 What are the potential payment mechanisms for payments for watershed services by the tourism sector in Ocho Rios?**

#### **9.1.1 Direct payment for environmental services via the Tourism Enhancement Fund**

The focus of the Tourism Enhancement Fund is to complement and add to the activities of other government ministries and agencies through incremental projects to add value to the tourism product, and to tackle "special challenges" on a one-off basis (Minister of Tourism, sectoral debate 2006-2007). Income for the fund is gained through a head tax on air travellers of US \$10 and on sea travel (cruise ships) of US \$2. The objectives of the fund are:

1. Encouraging sustainable development of the Jamaican tourism sector.
2. Promoting the generation of growth in the tourism sector.
3. Enhancing the experience of tourists visiting Jamaica.
4. Facilitating greater linkages with other sectors in the economy.
5. Encouraging better management of environmental resources in Jamaica.

Several of these objectives resonate directly or indirectly with community watershed management.

The fund is managed by a separate unit in the Ministry of Tourism and operates through proposals being submitted to the Board of the Fund for approval. The fund is only one year old and most monies so far have gone towards hard infrastructure development (e.g. J\$50 million (US\$10 million) granted for beautification projects) and a small amount to training.

Projects for watershed management would fall directly under the objective of 'environmental management'. Only a small portion (probably about 10%) of the fund would be allocated towards environmental management and the only initiative so far to fall under this objective is one to alleviate the impact of the tourism industry on the environment. Discussions are currently being held with JHTA to develop a programme (that will be administered by JHTA as the umbrella organisation) giving grants to their members for environmental audits and remedial actions arising out of these. No programme has yet been developed to protect tourism products through protection of the environmental services upon which they depend but the unit is very interested in developing such a programme. The desired model would be for a programme to be conducted by an umbrella organisation, which would have to be a national agency (e.g. NEPA, Forestry Department). Criteria and the mechanism for grants out of this agency would need to be developed in collaboration with the unit. The unit would welcome a proposal for technical assistance to develop such a programme (Neita 2006).

The JHTA is interested in accessing this fund for an environmental management programme and appointing a project manager to manage the programme on their behalf (Peterkin 2006).

The NIWMC will be applying to Cabinet for a percentage (20%) of the Tourism Enhancement Fund to go towards watershed management, with the NIWMC acting to advise and endorse projects. The Chair favours a programme that emphasises the provision of technical assistance to watershed managers and communities (following the Forest Conservancy model) (da Costa 2006).

## 9.1.2 Eco-labelling and certification schemes

There are three certification schemes – Blue Flag, Green Globe, and the Association of Caribbean States (ACS) Sustainable Tourism Zone (STZ) of the Caribbean – currently operating at the property and destination level, details of which are described below.

- A. The Blue Flag certification scheme. The Blue Flag Campaign is a voluntary certification programme for beaches that meet four sets of criteria relating to a) water quality; b) environmental management; c) environmental education and information; and, d) safety. A National Blue Flag Committee was formed in Jamaica with NEPA assuming responsibilities as Committee Chair and National Co-ordinator. Locally, the campaign is community-driven (not private sector-driven) through a local area NGO. In Dunn's River watershed FOTS is the local/regional co-ordinator for implementation of the programme, working in collaboration with the Urban Development Corporation (UDC) and the St. Ann Development Company (SADCO). Blue Flag Committees operate under the auspices of a lead local organisation and its members include representatives of the local chambers of commerce, JHTA, the health department, NGOs, and other community-based representatives.
- B. The Green Globe certification scheme: there are two types of Green Globe certification – at the facility and destination levels. Sandals Ocho Rios and Sandals Dunn's River, as well as Green Grotto Caves, are Green Globe Certified. Destination certification is being sought by Portland Parish and they are at the benchmark stage. This process is being driven by JHTA. Discussions held with the national Green Globe Co-ordinator (Hayle 2006) revealed that the opportunity for the tourism sector to work with the community is built into two areas: 1) for them to purchase from environmentally friendly suppliers (which can be the community); and 2) the property owner's environment must be kept in good standing at all times. Discussions with the certifier indicated that criteria could be interpreted to include stimulating better upper watershed management (but sometimes businesses will be looking to do the minimum required to get certification and thus this may not be relevant).
- C. The Association of Caribbean States (ACS) Sustainable Tourism Zone (STZ). This initiative developed out of the Convention Establishing the Sustainable Tourism Zone of the Greater Caribbean (2001), which proposed to contribute to the achievement of sustainability in the tourist destinations and to develop tourism indicators which would bring about changes leading to the attainment of sustainability by ACS countries (Ministry of Tourism 2006). Ocho Rios is a pilot project co-ordinated by the Ministry of Tourism – the preliminary assessment is confidential at this stage. In order to get relevant data, the Ministry is using the statistical office's definition of Ocho Rios, but this is narrower than its own definition of the Ocho Rios resort area and smaller than the watershed. They are doing the Gap Analysis – as specified by the ACS – to try to apply the indices. As was the case for CANARI with the Buff Bay Pencar component of the Who Pays for Water? Project, one of the findings has been that data are not available, or not available at a suitable scale (e.g. collected at parish level, or individual facility level). The Action Plan being developed by the Ministry of Tourism under this ACS pilot project will seek to address how these data will be collected. The Ministry of Tourism is interested in developing a system to collect data – this system would have to be co-ordinated through the Ministry of Finance as it would also be collecting economic data. The Ministry of Tourism sees this as complementary to Green Globe and Blue Flag certification schemes (Johnson and Williams 2006). The Ocho Rios chapter of the Jamaica Hotel and Tourism Association (JHTA) is aware of the project.

The Blue Flag certification scheme is of direct relevance for watershed management as it focuses on water quality, and is of relevance for community participation in watershed

management as projects can include working with the community in the upper watershed to address practices that compromise the quality of the water in the marine environment.

Green Globe certification is applicable both at the level of sites and accommodation and, less commonly, at the level of a destination. The destination level certification could become important for watershed management if criteria and indicators for the tourism sector's contribution to management of the upper watershed are included.

While the ACS STZ scheme is being applied at the destination level, the STZ again does not focus specifically on the tourism sector's contribution to management of the upper watershed. Given that this scheme is in the pilot stage, and Ocho Rios is being used as a case study, there may be a significant opportunity to influence the development of the STZ criteria and indicators.

### **9.1.3 Private sector – community partnerships**

There is considerable potential in Ocho Rios for the strengthening of existing relationships and the development of new linkages between the private sector in the tourism industry and communities living in the upper watershed, so that tourism businesses can directly facilitate or support watershed management. Potential opportunities for action by the tourism sector include:

- Purchasing, and assisting with the marketing of, 'watershed-friendly' products (agricultural ones, for example) from community suppliers. HUDO currently produces agricultural and craft products.
- Sharing information and resources, and building capacity for the use of watershed-friendly technologies currently employed by the tourism industry and applicable in upper watershed communities (in particular for sewage disposal).
- Building organisational capacity of community groups (including in proposal and project development and management, marketing, governance and networking) through technical assistance, sponsorship, and serving on advisory committees of community groups (e.g. for the HUDO/LIFE/FOTS EFJ watershed project).
- Serving as high-profile 'champions' for community participation in watershed management – giving recognition to achievements, and lobbying for/supporting representation of community groups in multi-stakeholder advisory and management committees (e.g. the Resort Board).
- Serving as the umbrella group and channelling funds from the Tourism Enhancement Fund for watershed management by community groups.
- Catalysing the development of – and serving on an institutional mechanism for – networking, communication and co-ordination of integrated watershed management at the watershed level – possibly using the local watershed management committee (LWMC) mechanism under the National Integrated Watershed Management Programme (NIWMP) or the local forest management committees (LFMCs) established under the *Forest Act*.

### **9.1.4 Taxation schemes**

The cruise ship industry currently receives extremely favourable consideration from the Government of Jamaica, for example in terms of lower head charges – under the *Tourism Enhancement Act* – than those charged for tourists arriving by air, and free potable water from the Dunn's River. Adjusting these payments to better reflect the cruise ship industry's benefits from watershed services is an option, but remains challenging in a highly

competitive sector where countries feel that they may lose business to neighbouring islands. Thorough economic analysis and justification, and strong political support, would be required before attempts could be made to adjust rates to reflect full cost pricing.

The tourism sector in Jamaica, as in the rest of the Caribbean, perceives that it is highly taxed already. The development of additional taxation schemes is unlikely to be supported.

## **9.2 What are the potential payment mechanisms for payments for watershed services by the tourism sector in Speyside?**

### **9.2.1 Direct payment for environmental services via the Green Fund**

One potential mechanism to secure financial support for civil society is the Green Fund established by the government under the *Environmental Management Act* as a taxation mechanism to channel funding from the private sector directly to civil society for environmental management. This fund is not yet operational although its worth is estimated by some to be as much as several billion TT\$.

### **9.2.2 Eco-labelling and certification schemes**

Agriculture in Tobago has declined to such a level that it cannot sustain the local market, and the local population – including the tourism sector – relies largely on imports from Trinidad. The potential to build an 'Adopt a Farmer' programme with the Speyside tourism businesses exists and this can promote watershed-friendly crops and methods. The Travel Foundation currently has a Tobago-wide programme and this can be applied in Speyside. The tourism sector requires a reliable and high quality product and one businessman interviewed (Duane Kenny, General Manager of Blue Waters Inn, June 2005) indicated that he does buy from Speyside farmers as much as possible and would be willing to buy much more but unreliability was a barrier. One of the largest hotels is Green Globe certified and this can become significant if criteria and indicators for the tourism sector's contribution to management of the upper watershed are included.

### **9.2.3 Private sector – community partnerships**

Linkages between the private sector and the community are weak and take the form mostly of corporate sponsorship programmes. Many of the employees in the sector come from outside the watershed as capacity within the community is limited. There is the potential for stronger and more direct linkages but work will need to be done to build the capacity of all of the partners. One critical area for developing partnerships is between the private developers of the mid-watershed and the community.

### **9.2.4 Taxation schemes**

It is unlikely that the tourism sector in Speyside will accept additional taxation schemes, especially given current concerns on airlift issues and the impact of escalating crime.



## **10. Preliminary conclusions and recommendations**

### **10.1 General conclusions and recommendations**

The preliminary analyses conducted on these two very different case studies suggest that there is clear potential for the tourism sector to contribute payments for watershed services that will benefit the livelihoods of poor and vulnerable communities in the watersheds. In both cases studied, the dependence of the tourism sector on watershed services for the integrity and sustainability of their nature-based tourism product was evident. The tourism sector recognises its dependence on watershed services and has demonstrated interest in protecting these assets. In both of the case studies there are also existing mechanisms that can potentially be structured to focus existing payments being made by the tourism sector towards supporting watershed management. However, the tourism sector feels that it is already over-taxed, and the challenge may therefore be to provide the mechanism by which taxes already deducted may find their way back to local beneficiaries by better tailoring the existing fiscal instruments to address environmental and livelihood objectives. This can be through avenues such as:

1. Livelihood pursuits, such as capacity building initiatives in entrepreneurial development in order to reduce dependence on consumptive natural resources practices; or
2. Environmental services like reforestation schemes, river bank stabilisation programmes, etc.

The livelihood needs of the poor and vulnerable were pressing issues in both case study sites, albeit the research was unable fully to analyse them. Specific strategies to address these via payments for watershed services will need to be developed. In both Dunn's River and Speyside there are community groups involved in different aspects of watershed management that demonstrate the potential to play a meaningful role in the provision of watershed services, but capacity issues will need to be addressed. Despite there being in both cases several government and civil society agencies playing an intermediary role, linkages between the tourism sector (as a beneficiary of watershed services) and the communities (who are providing these services) are very weak. While some preliminary economic data was collected, it emerged that a more complete economic valuation of these benefits would be important in presenting the case to the tourism sector and to the government agencies and other stakeholders that would be involved in the transaction.

The analysis suggests that there are sites in the Caribbean suitable for the potential development of payments for watershed services by the tourism sector that are focused on a well-defined watershed service, 'bought' by at least one buyer from a minimum of one environmental service provider (see Wunder's 2005 framework of five criteria for payments for environmental services mentioned previously). There are several possible payment mechanisms. Although some of these (e.g. Tourism Enhancement Fund and Green Fund) are not voluntary but government-mandated, they can be adapted to more specifically address livelihood and environmental objectives in the watershed where the payments are being made and conditionality can be assigned to the delivery of these services.

Further work to explore the potential for payments for watershed services by the tourism sector that will benefit livelihoods of the poor and vulnerable should therefore include further research to:

- Conduct a full economic valuation of the watershed services benefiting the tourism sector.

- Identify institutional requirements (including policy, legal, and structural) for payment mechanisms.
- Engage the tourism sector and other stakeholders in analysing opportunities, and developing appropriate mechanisms to facilitate payments to the poor and vulnerable, which would provide for addressing issues of conditionality.
- Identify and address capacity needs of communities engaging in watershed management.
- Identify and address capacity needs of other stakeholders (including intermediaries) to participate in payments for watershed services.
- Conduct a comprehensive analysis of livelihood issues (needs and opportunities) and develop strategies to address these via payments for watershed services.

## **10.2 Conclusions and recommendations specific to Ocho Rios**

Preliminary analysis of the limited data collected in this study suggests that:

- A. The tourism sector in Ocho Rios is a clear beneficiary of watershed services (primarily erosion control, water flow regulation, and landscape beauty), although economic data quantifying the value of these benefits is weak or absent.
- B. The tourism sector in Ocho Rios has some awareness of the general value of environmental management for the sustainability of its product. Sector-driven initiatives, as well as statements from the sector, indicate potential willingness to pay.
- C. There are sizable informal settlements in the upper watershed that, with significant external facilitation, have mobilised into the Hills United Development Organisation (HUDO), which has demonstrated willingness and potential to play a role in watershed management but still requires considerable capacity building.
- D. Institutional mechanisms (policies, structures and practices) exist nationally and at the local level to facilitate payments for watershed services, including:
  - Direct payments via the Tourism Enhancement Fund.
  - Adapting/applying eco-labelling and certification schemes to have a more direct benefit on community watershed management.
  - Private sector – community partnerships.
  - Taxation and incentives regimes.

The study identified several possible opportunities for taking some of these ideas further, including the potential to:

- A. Conduct a full economic valuation building on existing data (available through the study of the physical, biological and social attributes of the Dunn's River watershed as they relate to stream flow quantities, qualities and regimes, soil-slope vulnerabilities, ecological integrity, socio-economic characteristics and land use and application; data collected by the Jamaica Tourism Board, Forestry Department Geographic Information Surveys; data collected by the St. Ann Development Corporation on Dunn's River Falls visitation; and socio-economic surveys conducted by the Social Development Commission and others).

- B. Conduct an assessment of livelihood needs and opportunities in Dunn's River and use this to inform the development of mechanisms for payments for watershed services that benefit livelihoods of the poor and vulnerable.
- C. Collaborate with the Tourism Enhancement Fund to guide the development and implementation of a programme of payments for watershed services to benefit community groups.
- D. Input into the proposed environmental summit to be co-ordinated by the JHTA by presenting a clear economic argument to the tourism sector about the value of watershed services to their product, and engaging them in developing strategies for their involvement in payments for watershed services initiatives.
- E. Catalyse the designation of HUDO as a local watershed management committee (LWMC).
- F. Catalyse the development of a LWMC to co-ordinate integrated watershed management for the Dunn's River watershed and to facilitate the development of stronger linkages between the private sector, HUDO and government agencies.
- G. Facilitate capacity building of the National Integrated Watershed and Management Council (NIWMC) to clarify its strategic role in co-ordinating integrated watershed management.
- H. Influence the design of the Association of Caribbean States (ACS) Sustainable Tourism Zone (STZ) of the Caribbean indicators for a more specific and direct focus on community watershed management.
- I. Advise the Ministry of Tourism on the design of indicators and a system for collecting data on the linkages between watershed management and the tourism sector, beginning with the current ACS STZ Ocho Rios pilot project.

## **10.2 Conclusions and recommendations specific to Speyside**

Preliminary analysis of the limited data collected in this study suggests that:

- A. The contribution of the tourism sector to the economy of Speyside is extremely significant, with an annual direct income contribution of the Speyside tourism industry estimated at US\$4.8 million together with indirect income of US\$1.6 million and hence a total income contribution of US\$6.4 million or TT\$40.2 million.
- B. The Speyside tourism industry is contributing significantly to employment in Speyside and surrounding communities, and in total is estimated to currently employ almost 700 people (695), with 235 of these being direct jobs and another 460 people estimated to be employed indirectly.
- C. The contribution of the tourism sector in Speyside to government revenue is significant, and is estimated to be nearly US\$1 million annually.
- D. The tourism sector in Speyside is primarily based on activities around the coastal marine ecosystems, which are fragile and highly sensitive to watershed degradation.
- E. Linkages between all stakeholders in the watershed, including between the tourism sector and the community, are generally weak.
- F. The tourism sector shows some appreciation of the tourism product's dependence on watershed services but their willingness to pay has not been fully evaluated.

- G. The capacity of the community to provide watershed services is weak but there is potential to build capacity.

The study identified a few possible opportunities for taking some of these ideas further including the potential to:

- A. Share the findings of the preliminary economic valuation study with policy-makers and other decision-makers in order to catalyse change in thinking about linkages between watershed management and downstream benefits to the economy and local livelihoods.
- B. Conduct an assessment of livelihood needs and opportunities in Speyside and use this to inform the development of mechanisms for payments for watershed services that benefit livelihoods of the poor and vulnerable.
- C. Facilitate capacity building in the community, including through catalysing involvement of government agencies and programmes (e.g. Poverty Reduction Programme) and civil society (e.g. Environment TOBAGO, TFT).
- D. Facilitate the development of partnerships between the private developers of the mid-watershed and the community.
- E. Recommend utilisation of some of the THA lands in the mid-watershed for watershed-friendly agriculture.
- F. Recommend investigation of the feasibility of development of an 'Adopt a Farmer' programme in Speyside.
- G. Explore whether the Travel Foundation Tobago can facilitate linkages between the tourism sector and the community in Speyside.
- H. Input into the ongoing design and implementation of the NRWRP.
- I. Support the designation of Speyside as a marine park in order to protect the watershed and the tourism sector of Speyside, which is important to the local economy as well as to the economy of Tobago.
- J. Facilitate the development of a local structure to co-ordinate watershed management and facilitate communication and collaboration among stakeholders.
- K. Recommend allocation for community watershed management from the Green Fund.

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## Appendix 1: List of accommodation and attractions in Ocho Rios and environs

**Appendix Table 1: List of accommodation in Ocho Rios and environs (Source: Hayle 2006)**

Hotels	Villas	Apartments
<ul style="list-style-type: none"> <li>• Breezes Runaway Bay (Runaway Bay)</li> <li>• Caribbean Isle Hotel (Runaway Bay)</li> <li>• Club Ambiance (Runaway Bay)</li> <li>• Couples Ocho Rios</li> <li>• Franklyn D Resort (Runaway Bay)</li> <li>• Golden Seas Beach Resort (Oracabessa)</li> <li>• Heart Runaway Bay Hotel</li> <li>• Hibiscus Lodge (Ocho Rios)</li> <li>• Hedonism III (Runaway Bay)</li> <li>• Jamaica Inn Hotel (Ocho Rios)</li> <li>• Sandals Grande (Ocho Rios)</li> <li>• Pineapple Hotel (Ocho Rios)</li> <li>• Pipers Cove Resort (Runaway Bay)</li> <li>• Rooms on the Beach (Ocho Rios)</li> <li>• Royal Decameron Club Caribbean (Runaway Bay)</li> <li>• Royal Plantation and Spa (Ocho Rios)</li> <li>• San Souci Resort and Spa (Ocho Rios)</li> <li>• Sand Castles (Ocho Rios)</li> <li>• Sandals Dunn's River and Spa</li> <li>• Sea Crest Beach Resort</li> <li>• Shaw Park Beach Hotel and Suites</li> <li>• Silver Seas Beach Resort (Ocho Rios)</li> <li>• Tamarind Tree Resort (Runaway Bay)</li> <li>• Village Hotel (Ocho Rios)</li> <li>• Sea Palms Resort (Oracabessa)</li> <li>• Crane Ridge Resort</li> <li>• Sunset Jamaica Grande</li> </ul>	<ul style="list-style-type: none"> <li>• Amonoka Villa (Discovery Bay)</li> <li>• Amore Villas (Discovery Bay)</li> <li>• Bal-Inn (Mammee Bay)</li> <li>• Cara Mia Villa (Discovery Bay)</li> <li>• Carleens by the Sea (Ocho Rios)</li> <li>• Carey Island (White River)</li> <li>• Carousel Villa (Runaway Bay)</li> <li>• Coco Palms (Mammee Bay)</li> <li>• Encore (Runaway Bay)</li> <li>• Four Winds Villa (Old Fort Bay)</li> <li>• Frangipani Villa (Prospect, Ocho Rios)</li> <li>• Golden Acres Villa (Ocho Rios)</li> </ul>	<ul style="list-style-type: none"> <li>• Alamanda Clusters (Ocho Rios)</li> <li>• Chrisanns Beach Resort (Tower Isle, St. Mary)</li> <li>• Columbus Heights (Ocho Rios)</li> <li>• Condo Rios (Old Fort Bay, St. Ann)</li> <li>• Fisherman's Point (Ocho Rios)</li> <li>• Humming Bird Clusters (Ocho Rios)</li> <li>• Pier View Apartments (Ocho Rios)</li> <li>• Rose Garden (Ocho Rios)</li> <li>• Tower Cloister Apartments (Tower Isle, St. Mary)</li> </ul>

**Appendix Table 2: Major attractions in Ocho Rios (Source: Hayle 2006)**

<b>Attractions</b>
Chukka Cove Farms Ltd. (Richmond Llandoverly, St. Ann)
Original Canopy Tour (Cranbrook Flower, St. Ann)
Enchanted Gardens
Jamaica ATV Safari
H' Evans Scent Limited (Free Hill, St. Ann)
Happy Retreat Farm Tour (St. Ann)
Hollywood Horseback Riding (Drax Hall Estate)
Greencastel Estate (Robins Bay, St. Mary)
Brimmer Hall Plantation Tour
Coyaba River Garden and Museum
Cranbrook Flower Forest (Laughland, St. Anns Bay)
Hooves Limited (Seville Great House, St. Anns Bay)
Prospect Plantation Tour
Shaw Park Botanical Garden
Sun Valley Plantation Tours and Trails (Crescent, Oracabessa)
Wilderness Resorts Ltd. (Goshen, St. Mary)
Dolphin Cove Limited (Belmont, St. Ann)
Calypso Rafting (Exchange, St. Ann)
Dunn's River Falls
Firefly (Grants Town, Port Maria)
Seville Great House (Priory, St. Ann)
Green Grotto Caves (Discovery Bay, St. Ann)
Murphy Hill (Epworth, St. Ann)
Reggae Explosion (Island Village)
Bob Marley Museum (Nine Miles, Rhode Hall)
White River Valley (Endeavour, St. Mary)



## **Appendix 2: Draft Report on Contribution of Tourism to the Community of Speyside, Tobago (Dennis Pantin and Justin Ram)**

### **Introduction**

The community of Speyside in Tobago has been experiencing a significant growth in the importance of the tourism industry over the last decade. In terms of the life cycle of tourist destinations, Speyside could be seen to be past the incipient, initial stage of discovery and now on a rising curve.

### **Hotels and guest house accommodation sector**

There are three hotels in Speyside with a combined 81 room capacity. In addition there are at least four known guest houses with a capacity of 18 rooms. As Table 1 shows the largest hotel has a 38 room capacity with the two other hotels being roughly of the same size: 22 and 21 rooms, respectively. Table 1 also details high and low season occupancy and room rates based on a survey of these hotels. Similar data were obtained on the room capacity of the guest houses in the area. However, occupancy and room rates were estimated. On the basis of these data the estimated 2005 income of the accommodation sector in Speyside was estimated at US\$3.5 million (as shown in the penultimate column of Table 1) together with a total employment of 150 persons.

**Table 1: ACCOMMODATION SECTOR**

Hotel/ guest house	Capacity (rooms)	High season	Low season	High season	Low season	Estimated income <sup>1</sup>			Employment 1.5 persons per room <sup>2</sup>
		Occupancy over (No years)		Room Rate <b>US\$</b>		High Season	Low Season	Year	
<b>Hotel</b>									
1	38	72% (3 years)	55%	\$110	\$90	974,700	413,820	1,388,520	57
2	22	65% (2 years)	28 % (1 year)	\$120	\$100	308,880	110,880	419,760	33
3. Average of 1 + 2 re: occupancy	21	69% <sup>e</sup>	42% <sup>e</sup>	\$115 <sup>e</sup>	\$105 <sup>e</sup>	404,271	166,698	570,969	32
<b>Guest houses</b>									
1.	5	69% <sup>e</sup>	42% <sup>e</sup>	\$90 <sup>a</sup>	\$50 <sup>a</sup>				8
2.	3	69% <sup>e</sup>	42% <sup>e</sup>	\$90 <sup>a</sup>	\$50 <sup>a</sup>				5
3.	6	69% <sup>e</sup>	42% <sup>e</sup>	\$90 <sup>a</sup>	\$50 <sup>a</sup>				9
4.	4	69% <sup>e</sup>	42% <sup>e</sup>	\$90 <sup>a</sup>	\$50 <sup>a</sup>				6
						<b>201,204</b>	<b>68,040</b>	<b>269,244</b>	
<b>Sub-total</b>	<b>99</b>							<b>2,648,493</b>	
Food and drink								874,003	
<b>TOTAL</b>								<b>3,522,496</b>	150

**e** – Estimated

**a** – Assumed

<sup>1</sup> – Occupancy rate x capacity x average room rate (high and low season) x 30 days x 6 months

<sup>2</sup> – Rounded to nearest whole number

**Table 2: TOUR OPERATORS/GUIDES INCOME**

	Capacity (seating)	Per person (cost \$US)	Income <sup>1</sup> (\$US)		Total annual (\$US)
			High season	Low season	
<b>a. DIVING</b>					
1	20 <sup>a</sup>	\$42	\$104,328	\$63,504	\$167,832
2	20 <sup>a</sup>	\$25	\$62,100	\$37,800	\$99,900
3	20 <sup>a</sup>	\$36 <sup>e</sup>	\$89,424	\$54,432	\$143,856
4	20 <sup>a</sup>	\$36 <sup>e</sup>	\$89,424	\$54,432	\$143,856
5	20 <sup>a</sup>	\$42	\$104,328	\$63,504	\$167,832
<b>b. REEF/BIRD TOURS<sup>2</sup></b>					
1	20	\$10	\$24,480	\$15,120	\$39,600
2	22	\$15	\$40,986	\$24,948	\$65,934
3	24	\$15	\$44,712	\$27,216	\$71,928
<b>TOTAL</b>	<b>168</b>				<b>\$900,738</b>

e – Average of known diver boat costs per person

a – Assumed

1 – Assumed high/low season is same as for two (2) leading hotels: i.e. boat capacity x average occupancy rate x per person price x 180 days

### Diving, reef/bird tour operators

Three of the major ecological attractions at Speyside are reef diving, reef tours and bird tours, including to the offshore island of Little Tobago. There are five (5) dive shop operators in Speyside with an estimated combined dive boat seating capacity of some 100. Table 2 provides further details on the per person costs of diving and related aggregate estimated dive income together with similar data on reef /bird tours. It is estimated that this sub-sector generated close to US\$1 million in 2005 (US\$900,738)

### **Aggregate economic contribution of Speyside tourism industry**

As Table 3 illustrates the Speyside tourism industry is estimated to currently employ some 700 persons (695), with 235 of these being direct jobs and another 460 persons estimated to be employed indirectly. The latter includes those employed in the taxi/bus tour service sector who either drive/accompany day visitors to the community or are employed in office and vehicle maintenance support services together with those working in restaurants, bars and shops along the road routes to Speyside.

The annual direct income contribution of the Speyside tourism industry is estimated at US\$4.8 million together with indirect income of US\$1.6 million and hence a total income contribution of US\$6.4 million or TT\$40.2 million. The Government is estimated to be earning some TT\$ 6 million in revenue from these tourism activities.

### **Aggregate Tobago-wide contribution of tourism**

The world travel and tourism council (WTTC) prepared a report in 2005 for the Tourism Development Company of Trinidad and Tobago entitled *Trinidad and Tobago: The impact of travel and tourism on jobs and the economy*. This report estimates that in Tobago, direct and indirect employment attributable to the tourism industry was approximately 14,800 in 2005. The overall contribution of tourism to the GDP of Tobago was estimated at US\$119.7 million in 2005, or 46% of the island's GDP. The relevant tourism data for Trinidad and Tobago is given in table 4 below. The period covered is 2003 to 2005<sup>7</sup>.

The data from the tourism satellite accounts are aggregated estimates for both Trinidad and Tobago, and therefore it is not immediately discernible what the contribution of Speyside's tourism product is to the GDP of Tobago. However, based on these estimates from the tourism satellite accounts, employee productivity factors can be calculated, which can then be used to estimate Speyside's contribution. For Tobago, the total tourism GDP contribution per employee (direct and indirect) in 2005 was US\$8,067. The estimated employee productivity factors are given in Table 5. Using the employment estimates from Table 3, which gives total employment in Speyside attributable to tourism as 695, multiplied by the employee productivity factor for 2005, the estimated GDP contribution of tourism in Speyside was US\$5.6 million in 2005. This represents 5% of Tobago's tourism GDP and 2% of the island's economy. This is significant when bearing in mind that 90% of all tourist rooms in Tobago are located in south west Tobago, with the remaining 10% distributed throughout the rest of the island.

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<sup>7</sup> 2004 and 2005 are estimates.

**Table 3: ESTIMATED CONTRIBUTION OF TOURISM TO SPEYSIDE, TOBAGO (2005)**

DIRECT	EMPLOYMENT	INCOME	
		US\$	TT\$
Hotels and guest houses <sup>1</sup>	150	\$3,522,496	
Diving/reef/bird/marine tours <sup>2</sup>	45	\$900,738	
Restaurants	40a	\$371,200a	
<b>Sub-total</b>	<b>235</b>	<b>\$4,794,434</b>	
Indirect	460 <sup>3</sup>	\$1,582,163 <sup>4</sup>	
<b>TOTAL</b>	<b>695</b>	<b>\$6,367,597</b>	<b>\$40,172,561</b>
Estimated amounts to Government Revenue <i>(Income Tax + VAT 15%)</i>			\$6,025,884

1 – See Table 2 for details.

2 – See Table 3 for details.

a – Assumed restaurant employment of 40 and income of US\$371,200 based on 232 seating capacity x 320 days x 50% capacity utilisation x US\$10 per person.

3 – Assumed two(2) indirect for each direct set including drivers of vehicles who bring tourists to Speyside for day trips and those working in small restaurants, bars and shops – both in Speyside and in communities *en route* to Speyside.

4 – Indirect income assumed to be 33% of direct income, although based on two indirect jobs but with assumed lower rates of pay.

**Table 4: Tourism employment and GDP**

	2003	2004E	2005E
<b>Employment (direct and indirect) (000)</b>			
Trinidad and Tobago	85.8	91.2	96.5
Tobago	11.1	14.8	14.8
<b>GDP (direct and indirect)</b>			
Trinidad and Tobago	1,491.1	1,499.0	1,902.0
Tobago	94.5	110.0	119.7

Source: Trinidad and Tobago: *The impact of travel and tourism on jobs and the economy*, WTTTC, 2005.

**Table 5: Employment productivity factor US\$**

	2003	2004E	2005E
<b>GDP (direct and indirect) per employee</b>			
Trinidad and Tobago	17,375	16,445	19,701
Tobago	8,487	7,444	8,067

[MSOffice1]