Caribbean Natural Resources Institute


8-9 December 2004,
Cara Suites, Castries, St. Lucia

1.0 Background
The Regional Action Learning Group on Markets for Watershed Services and Improved Livelihoods was established in April 2004 to analyse and disseminate learning from the project Who Pays for Water: preparing for the use of market-based mechanisms to improve the contribution of watershed services to livelihoods in the Caribbean which began in February 2004. This was the second meeting of this grouping of individuals from key national and regional agencies and organisations who have been selected because of their position and potential to serve as “change agents”. It is envisaged that these individuals will play a key role in sharing learning on the project with their national institutions. A list of participants in this second ALG meeting is attached at Appendix 1. The meeting agenda is attached at Appendix 2.

This second meeting of the ALG was held immediately following a one-day Tourism Sector Forum in which ALG members also participated. The Forum was attended by tourism professionals and policy-makers and aimed to better understand how downstream tourism “beneficiaries” such as tourism associations, hotels, tour companies and tourists can better support the management activities of upstream watershed service “providers” such as watershed land managers and farmers. The report of that meeting is attached at Appendix 3.

2.0 Main decisions and conclusions of the meeting
2.1 Composition of the ALG
- It was felt that a member from one of the national or regional economic and financial decision making institutions should also be invited to be a part of the ALG. Ms. Donna Mae Knights, who is Senior Research Officer, Ministry of Social Service Delivery, Office of the Prime Minister, Trinidad and Tobago, was suggested and endorsed by the group.
- Due to the valuable input from Noel Bennett, rural sociologist from the Jamaica Forestry Department, who replaced Marilyn Headley, at this meeting, members felt that he should remain on the ALG in addition to Marilyn Headley.
- As a result of the tourism emphasis of this meeting and the project as a whole, members suggested that Sylvester Clauzel, Coordinator of the St. Lucia Heritage Tourism Programme, who attended the earlier Tourism Sector Forum, should also be invited to become a member.

2.2 Feedback on on-going project activities
- The paucity of longitudinal data and monitoring on water quality and quantity in the majority of islands in the Caribbean makes it very difficult to prove changes over time as a result of management interventions. This lack of data has affected research conclusions in the valuation study and hydrology assessment.
2.2.1 St. Lucia Action Learning Project

- The hydrology study of the Talvan water catchment provides a thorough overview of the management issues and challenges in the catchment. It presents a detailed plan for improved management of the entire watershed. Next steps will entail the use of this document to guide the management activities of the TWCG and testing of incentives.

- There continues to be scepticism, on the part of the authorities, on the value and effectiveness of the TWCG.

- Incentives identified and confirmed for testing in Talvan – (1) the implementation of a percentage (to be determined) of the new water tariffs to go towards supporting the efforts of water catchment groups (2) the establishment of a nursery on WASCO lands (pending submission of a proposal to WASCO) to support the TWCG's tree planting activities and provide livelihood to members and community persons; (3) private sector support to koudmeh activities of the group.

- It is imperative that the project gets key stakeholders (authorities in particular) to agree on key indicators of change that are realistic in the 12 month project period for testing incentives. Without a negotiation of agreed indicators, it is unlikely that there will be uptake post-project.

2.2.2 Jamaica Action Learning Project

- The valuation study of the Buff Bay/Pencar watershed, Jamaica provides an overall picture of the varying landuses and their values. The costs of those landuse practices to downstream beneficiaries are currently being valued.

- Results show that currently, coffee production is the greatest threat to land use in the watershed. Production grew from 40,000 to 400,000 boxes in the last 20 years.

- Incentives identified for testing in BB/P are: (1) Evaluation of existing incentives – provision of timber seedlings; remission of property taxes to landowners who keep land forested; income tax exemptions for approved farmers (2) Testing new incentives - contracts to LFMC for maintenance and establishment of demonstration farms; contracts between LFMC and FD for reforestation projects gained through private sector funding (3) Exploration of the potential for incentives and willingness for shade-cropping of coffee; small timber plot concessions for local entrepreneurs who harvest sustainably and provide an income for lower-income persons.

2.3 Design of specific project activities

2.3.1 Training

- In discussing the training activities planned, members felt that the first training activity on hydrology and land use decision-making tools should involve community managers as well as technicians. Due to the fact that community based management is a focus of the project, members felt that the training could help to build management capacity at the community level.

- Members suggested, where possible, a national focus for the training (to build national capacity and critical mass) as well as a regional focus should be explored.

2.3.2 Tourism sector study

- It was felt that rather than focus solely on tourism certification schemes the tourism sector study should be broadened to include case studies on good practices of private sector linkages with upland watershed managers. Lessons from the case studies could then inform certification schemes to make them more relevant to watersheds and livelihood issues.
More research needs to look at the willingness to pay and motivations of private sector individuals currently involved in tourism certification schemes, to better understand how certification schemes can be influenced to meet the project’s objectives.

2.3.3. Water sector study
This study should focus on monitoring the development, rather than the implementation, of the water sector reform in St. Lucia and Jamaica. The process of reform is taking longer than expected and is unlikely to be fully operational during the life of the project.

2.4 Review of tourism sector forum/next steps
There is a clear role for tourism to play in watershed management due to its heavy use of water and dependence on biodiversity.

As noted at 2.3.2, the tourism study needs to look for good examples and best practices to make the case for greater tourism investment in watershed management and to identify what linkages work and what, if any, are the existing incentives that can be built on.

2.5 Next steps for ALG
The next ALG will be held in June 2005 in Grenada where community based watershed management efforts in Grenada post hurricane Ivan will be profiled and documented.

The next sector forum will focus on the Water Sector, using Jamaica as the case study. This will be held in December 2005 to coincide with a number of changes within the pricing and privatisation of the water supply.

3.0 Summary of presentations and discussions

3.1 Recap of outcomes from 1st ALG meeting and project overview
The roles of the ALG as defined at the first meeting were reviewed and confirmed. The main outcomes of that first meeting were also reviewed. Two quarterly progress reports – April to June 2004 and July to August 2004 presenting progress against logframe outcomes and activities were provided and presented to the group.

3.2 Presentation by SEDU on valuation of environmental services, markets and incentives.
Dennis Pantin presented the latest findings on the economic valuation studies for the two Action Learning projects: Buff Bay/Pencar watershed, Jamaica and Talvan water catchment, St. Lucia.

Main points of the presentation were:

3.2.1 Methodology for valuation study – Buff Bay/Pencar (BB/P)
- Through spot analyses the current land uses in Buff Bay/Pencar (BB/P) were established. With this information, the direct and indirect use values of the current land uses are then estimated and the impact of those land uses on eco-system services are then estimated.
- Assuming no management interventions, trends/changes in the current land use over the next 10 years are then projected.
- Alternative land use options with lower negative impacts are then identified and compared with the net benefits with and without interventions.

3.2.2 Characteristics of Buff Bay/Pencar watershed – BB/P
- There are currently 24,000 people on 20,258 hectares in the Buff Bay/Pencar watershed of which 7443 parcels are privately owned (1993). 6,053 of those parcels
are 2 ha or less in size. 484 parcels are under housing schemes and are less than 1/10 of a hectare. 101 parcels were larger than 8 ha. The remaining hectares are under Forest Reserve/National park jurisdiction.

3.2.3 Land Uses and Values – BB/P
- Direct use values of the watershed come from coffee, banana, timber, and mixed agroforestry production as well as its recreational and eco-tourist values.
- Estimated direct value of coffee (includes Blue Mountain as well as High Mountain coffee) is US $4 million gross, annually
- Indirect use values of the watershed relate to its water flow regulation; water quality maintenance; erosion and sedimentation control; protection of biodiversity and carbon storage services.
- Coffee production offers the greatest potential threat in terms of land use change in the watershed. Over the last 20 years, coffee production in Jamaica has leaped from 40,000 to 400,000 boxes. This increase in production could also lead to increased population inflows into the watershed.
- Alternative land uses identified that would reduce negative impacts in the watershed were – maintaining and enhancing forest cover; insitu control of soil and water flow; shifting from non-shade to shade production of coffee and other crops; shifting from artificial to natural chemical application; waste water reuse and recycling and developing a biodiversity-based, natural products and eco-tourism initiatives.

3.2.4 Comments and questions regarding the information presented on BB/P included:
- The study is now trying to assess the value of coffee vs. the costs of its land use and negative management practices surrounding coffee production
- To estimate the cost of negative management practices surrounding coffee production, the costs to downstream infrastructure and settlements due to flooding impacts. Data is currently being compiled on the costs of flood events.

3.2.5 Characteristics (water quality) – Talvan
- According to a 2003 CEHI water quality study, faecal coliform counts at the Talvan intake were consistently high. Turbidity at the intake is also significantly higher than at other sampled sites – even without rainfall.

3.2.6 Methodology for valuation of TWCG
- There is a paucity of longitudinal data for water quality and quantity making it difficult to determine the direct use values of the TWCG on water quality and quantity.
- For indirect uses, survey instruments were developed and applied randomly and in focus groups to assess attitudinal and livelihood changes as a result of TWCG’s activities on its members, employees, and other villagers.

3.2.7 Use Values – Talvan
- Water from the Talvan water catchment is pumped up to the Hill 20 water treatment station which provides some 347 million gallons of water per year at an estimated cost of 11 cents EC per gallon or total of annual estimated costs of $EC 4 million.
- 40-50% of Hill 20 water supply comes from Talvan. Therefore the direct use value of Talvan would be an estimated EC$2 million. However, note that 52% of all water supplied in 1999 was unaccounted for water and in 2000, this figure was 47%.

3.2.8 Summary results of TWCG members and employees survey
- From a survey of 13 members, 11 indicated that their quality of life had improved from involvement in the TWCG. Three indicated increased income and that 50-80% of income came from TWCG project work. 4 responded that they felt that there was
better water quality and more water. 3 said they believed that there was increased community cohesion as a result of the group’s efforts.

- Out of a total of 10 employees of TWCG, 9 indicated improved quality of life from employment in the project. 5 indicated that this came from increased income. 3 persons felt that there was better water quality and more water as a result of their efforts. 1 out of 10 felt that there was increased community cohesion as a result of the group’s efforts.

3.2.9 Comments and questions on valuation studies:

- Lack of longitudinal data on water quality and quantity make it difficult to accurately determine values of management interventions. A lot of money is being spent on studies without adequate data to support assumptions.
- In Jamaica, data has been collected in critical watersheds since 1999. More could be done to get communities to collect raw data such as rainfall.
- The purpose of the valuation study is to justify interventions which have costs but which have the potential to improve watershed services.
- Spatially, the upper watershed where there is greatest forest cover, provides the indirect services – water supply, biodiversity, carbon storage etc. The middle watershed comprises mixed land use and direct uses (e.g. coffee, banana production). The lower watershed and coastal areas have significant settlement located there and the value of that infrastructure can be used to determine what is at risk.

3.3 Presentation by Lyndon John on the main findings of the Hydrology Assessment by Chris Cox

3.3.1 Outline of the hydrology study

The hydrologic assessment for Talvan water catchment considered:

- An assessment of the extent of watercourse degradation by way of a field reconnaissance of the river bank and map locations of degradation by GIS to establish the nature of degradation along riverbank.
- An assessment of levels of upland degradation by field reconnaissance. GIS mapping of present land cover, land capability analysis and land treatment identification. GIS mapping of land use.
- Impact of the Talvan Water Catchment Group’s interventions on water quality and quantity provided to the Talvan water intake.
- Recommendations for appropriate remedial measures to enhance water quality and supply from Talvan catchment.
- Identification of parameters for measuring impact of measures on water quality and quantity by establishing water quality sampling regimes; parameters and determining costs

3.3.2 Land tenure and land use

- Talvan is under a complex land management system. The majority of the land is under small, private holdings - 422 parcels between 1 to 5 hectares in size, all with different land owners.
- There is a trend away from farming in the catchment. Mixed farming with tree crops were predominant. Abandoned land accounted for 20% and rural settlement at 10%. Animal farming in the catchment is limited to a piggery and an aquaculture system. There is an incidental level of free grazing of cattle along the stream banks. There are signs of increasing urbanization in the catchment.
which is likely to exacerbate pollution in the catchment through increasing levels of solid waste, grey water and sewerage discharge. The study noted that the Talvan intake is an important source for Hill 20 because of the volume of water it provides, however, due to the levels of human impact it is considered to be a “dirty source”.

3.3.3. Land Capability
- Using information on soil type and steepness, land capability classes (LCC) for the Talvan watershed were generated by GIS. The LCCs were used as the basis for a proposed land management regime for the Talvan water catchment. Four perennial crop classes were modelled in the evaluation primarily on the basis of annual rainfall requirements.

3.3.4 Impact of TWCG on water quality and quantity:
- The study noted that given the level of land use change, particularly in terms of abandoned farming, mainly out of banana, it would be difficult to attribute any significant changes in water quality and quantity directly to the activities of the TWCG, particularly since the TWCG’s activities have been restricted mainly to stream bank stabilization. It is more likely that reduced farming activity would have played a more significant role in improving water quality.

3.3.5. Main recommendations for improved watershed management at Talvan
- Land use in the watershed should be zoned according to land use capability classes outlined above. Land use in the watershed should be zoned based on slope and soil quality
- Where possible, 50 m forested buffer zones should be established along rivers and around forest reserves
- Water quality monitoring needs to be improved as there is a paucity of data on water quality.
- Within land capability classes, vegetation types selected for planting should also be considered. Economically important tree species such as cocoa, julie mango, avocado and breadfruit could be encouraged.

3.3.6. Comments on the hydrology assessment:
- There was some concern that the “plan” or recommendations made for the watershed management in Cox’s study would need to be negotiated with the TWCG before being implemented
- Again the lack of data on water quality has hampered this study. Water quality monitoring parameters should also include tests for specific nutrient levels such as nitrates and phosphates. High levels of faecal coliform detected in the water could be due to the close proximity of the piggery.
- Some information may be gathered from the comparison of visual water quality and costs of water treatment between the Marquis and Talvan water catchment. The Marquis intake is located within the Forest Reserve and visually the difference in water quality is obvious.
- It was suggested that watersheds should be more closely used as units of management so that if there is need for infrastructural development, it is done during the dry season to minimize run off. Trees should be ready to be planted at the start of the rainy season. Local government arrangements should be established within watershed boundaries who would be responsible to make decisions on when and how to undertake development within the watershed.
3.4 Overview of project progress

3.4.1 Action Learning Project – Talvan (TALP)

- The project leader presented the main progress on the TALP
- Following the valuation studies and the hydrology assessment the project is now ready to embark on the testing of incentives.
- The incentive options that have been discussed with the key stakeholders in the project are:
  1. Support to the TWCG – provided through a percentage of the water abstraction license fees which would go towards the group’s management efforts.
  2. private sector support for koudmeh based watershed management activities. koudmeh – collective community based activities was the main modus operandi of the TWCG from its inception. Support from a water bottling company to pay for food and incidentals would continue to promote a community spirit.
  3. building and supplying of a tree nursery on WASCO lands in Talvan for the TWCG. Seedlings would be sold to farmers to improve tree cover on the watershed and all income and employment would go to the TWCG members.

Feedback on presentation:

- The WASCO representative felt that while the support to TWCG was feasible under the new water sector reform, it was not feasible in the project time frame
- The WASCO representative further pointed out that the new Water and Sewerage Act needed to be read a second and third time before being gazetted. This was not due to take place before the year end. Institutional arrangements will then change, meaning that WASCO will have no direct responsibility for watersheds but would be responsible for the issuing of licenses and abstraction fees.
- There is an expectation that tariffs will change but this is not likely to take place for a year or two
- The St Lucia Forestry representative pointed out that for the koudmeh to work there must be a cohesive community and organization and he was concerned that presently there is much fragmentation of the group.
- The WASCO representative pointed out that the land around water supply installations is supposed to be a secure area and it would be difficult to sanction the construction of a tree nursery on the site even though there is already significant activity taking place around the water intake. A suggestion was made regarding the possibility of looking at private land within the catchment for the nursery establishment.
- There was some debate between St. Lucian representatives suggesting that WASCO may be expecting too much from the TWCG and is not valuing the significant contributions that the group has already performed.

The project leader summarized the discussions and concluded that the TALP would look at:

- Documenting the process for implementing the use of tariffs to support TWCG activities. The implementation of new tariffs will not take place during the project’s life.
- Submission of a proposal to WASCO for the establishment of a nursery on WASCO lands.
- Exploration of private sector support to sustain koudmeh activities to manage the watershed.

3.4.2 Action Learning Project – BB/P

- Once the valuation study is complete, this project is also now at the point of testing incentives
- Options for incentives identified are:
Evaluation of existing incentives – provision of timber seedlings; remission of property taxes to landowners who keep land forested; income tax exemptions for approved farmers

New incentives:
- Contracts to LFMC for maintenance and establishment of demonstration farms
- Contracts between LFMC and FD for reforestation projects gained through private sector funding
- Shade-cropping of coffee
- Small timber plot concessions for local entrepreneurs who harvest sustainably and provide an income for lower-income persons

These incentive options will be discussed at the next BB/P action learning meeting in early April 2005.

3.5 Recap of outcomes of Tourism Sector Forum and group analysis of results

The main outcomes of the tourism sector forum were reviewed by the facilitator (see Appendix 3 pgs 1-2). In light of these main outcomes, ALG members were asked to work in two groups to discuss what could be the next steps to follow up on these outcomes. The Forum showed that there is clearly a need for further research on the current situation and best practices already in place.

3.5.1 Group 1

1: Information gathering and research
   a. Research should be done into what is the existing situation with the tourism sector – tariffs, policies, taxation
   b. Determine where changes are needed in the existing policies and how will they be applied? What are the implications for other sectors?

2: Sensitization on watershed issues
All sectors involved should be sensitized to the issues of watershed management and market and incentive based approaches. A key consideration for the tourism sector will be that the allocation of resources goes towards watershed management and not into the government’s consolidated fund.

3: Allocation of roles and responsibilities
A process to identify stakeholders, including a forum for policy makers to analyse their roles and responsibilities should be undertaken.

4: Identify linkages
Existing linkages between tourism and watershed managers should be analysed to determine best practices. Some existing relationships were mentioned during the Forum and ALG: Santoy Farmers Group, Jamaica who act as an intermediary for market produce from farmers; Environmental Officers at the Sandals hotel chain; specific hotels that already source materials and products for their hotel from local craft producers; the provision of seeds by hoteliers to farmers for the produce that they want to sell at their hotel.

5: Develop structured programme
A structured programme to build organizational capacity of intermediary groups (such as the TWCG) should be put in place.

6: Make direct linkages
Direct links should be made between the tourist sector and upland managers and intermediary groups so that there is a direct link with the activities of the “managers” and production of goods and services to the tourist market.
7: Bring tourists to the watershed
Tours to the watershed should be organized that use local guides and local foods (as an alternative to the all inclusive structure).

8. Improve awareness and sensitization
A programme to raise tourist and the sector’s awareness of the water cycle, water production process and watershed management issues should be developed.

9. Institutionalize linkages
One of the tourism product agencies and/or marketing departments within the government should be responsible for the promotion of linkages within the watershed.

3.5.2 Group 2
1. Collection of data
Research should be carried out to identify and value the contribution of biodiversity to the tourism product

2. Model on environmental services
A model to present to the tourism sector should be developed. The model would present scenarios of what could happen with and without any intervention and the corresponding costs to environmental services. Scenarios would focus on the potential benefits of tourism’s involvement in watershed management.

3. ‘Adopt a watershed’
Hotels should be tied to a particular watershed and direct linkages made between producers and managers with the hotel. This could be done through Environmental Officers (like at Sandals). Hotels would be responsible for maintaining watershed integrity.

4. Education and awareness
Community based organizations could give presentations to hotels about challenges of upland management. Watersheds should be made “everybody’s business” (like the regional tourism awareness programme “tourism in everybody’s business”).

5. Expansion of linkages
Linkages should be expanded to the cruise ship sector and other niche tourism sectors.

3.6 Documentation and promotion of good linkages
The Asa Wright Nature Centre may make a good “best practice” case study of linkages.

3.6 Update and discussion on tourism sector study
The facilitator circulated copies of the tourism sector study concept note and discussed current ideas on the conduct of the study, which focuses on the use of tourism certification schemes as an incentive to improve tourism’s linkages with watershed managers.

In reviewing, ALG members felt that the study need not look just at certification / certified sites and hotels. Many tourism stakeholders are now questioning the value of external certification schemes and are abandoning or instead exploring local/national certification schemes. Therefore case studies should not only look at certified sites/hotels but also look at good practices and existing linkages between the tourism sector and upstream community linkages which may not be part of or instigated by a certification scheme but which might help inform certification schemes and tourism policies as a whole.

At certified sites, the study should demonstrate a clear link between certification to good watershed management. The study should also try to determine:
- Whether certification schemes raised participants awareness of watersheds,
- What would they be willing to pay or do to improved water supply and water quality?
What benefits were derived from certification on the hotels/site. The perspective of small hoteliers should also be sought
Are upstream communities aware of certification schemes operating downstream?

3.7 Update and discussion on water sector study
Copies of the water sector study concept note were also circulated and an update on research work given to ALG members. Representatives from the water resources authorities in St. Lucia and Jamaica provided an update on the water sector reform processes in each of their countries. In addition to what was already discussed in section 3.4.1, the St. Lucia WASCO representative informed members that due to the fact that there were no controls over the reform process in terms of timing, it was unlikely that any of the planned changes within the water sector would actually be implemented during the projects life. She also informed the group that it would take time to generate private sector investment in the sector.

It was suggested and agreed that the water sector study should therefore look at monitoring the development, rather than the implementation, of the water sector reform in St. Lucia.

For Jamaica, the Water Resources Authority (WRA) provided an update on the ongoing water sector reform process. The WRA currently manages surface and ground water resources but not the distribution of water at the household level. Separate, private companies are responsible for the distribution of water to households and must apply to the WRA for a license to supply water. Currently there is a JA$15,000 flat fee for water abstraction for a five year period, regardless of the quantity abstracted.

A new Act is now going through Parliament and a new water resources master plan is almost complete and plans to implement an annual license for abstraction based on the company’s projected abstraction amount. It is anticipated that it will act as an incentive to conserve water usage as companies will pay for and abstract only the amount needed. The plan is that when the license is renewed, companies will reduce the actual usage level and license fees will be based on the true cost of water, including watershed services. The point of abstraction will be metered and monitored.

It is anticipated that the cost of water will have to increase but the WRA is reluctant to pass on that added cost to the consumer. At the moment, there is a 60% loss in the water system, and the plan is to increase the cost of water incrementally which would allow the WRA to work on reducing water loss in the meantime.

4.0 Plans for Third ALG meeting
In discussion with ALG members, it was agreed that the next meeting would be held in Grenada to look at community responses to watershed rehabilitation post hurricane Ivan. The next ALG will be held in June 2005 and the water sector forum, to be held in conjunction with the fourth ALG, will be held in November 2005.
Caribbean Natural Resources Institute

Regional Workshop
Second Meeting of the Regional Action Learning Group on Markets for Watershed Services and Improved Livelihoods
7-9 December 2004
St. Lucia

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Report of second Action Learning Group meeting: Who Pays for Water project
December 8-9, 2004
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Second Meeting of the Regional Action Learning Group on Markets for Watershed Services and Improved Livelihoods

7-9 December 2004
Castries, St. Lucia

Preliminary Agenda

Tuesday December 7th
Tourism Sector Forum

Wednesday December 8th
ALG meeting Day 1

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<td>9:00 – 9:15</td>
<td>Welcome and introductions</td>
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<td>9:15 – 9:45</td>
<td>Recap of project overview and main concepts</td>
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<td>9:45 – 10:00</td>
<td>Recap of outcomes from 1st ALG meeting</td>
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<td>10:00 – 10:15</td>
<td>Break</td>
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<td>10:15 – 11:15</td>
<td>Presentation by SEDU on valuation of environmental services,</td>
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<td>markets and incentives. Discussion</td>
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<td>11:15 – 12:00</td>
<td>Where are we on project progress? Overview of project progress</td>
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<td>12:00 – 1:00</td>
<td>Lunch</td>
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<td>1:00 – 3:00</td>
<td>Recap of outcomes of Tourism Sector Forum and group analysis of results</td>
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<td>3:30 – 3:15</td>
<td>Break</td>
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<td>3:15 – 5:00</td>
<td>Update and discussion on field work in Jamaica and St. Lucia</td>
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Thursday December 9th
ALG meeting Day 2

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<tr>
<td>9:00 – 9:15</td>
<td>Recap of previous day’s activities</td>
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9:15 – 10:30 Update and discussion on tourism certification study and water sector study

10:30 – 10:45 Break

10:45 – 11:30 Update on progress of global project

11:30 – 12:15 Discussion on design of a community “Action Learning Network”

12:15 – 1:00 Presentation of project brochure and website. Discussion on other dissemination needs of the project

1:00- 1:30 Plans for Third ALG meeting
Background
Watersheds play an essential role in the protection of tourism assets such as coral reefs, beaches and waterfalls. The tourism sector is also a major water consumer.

In recent years, the region has seen increasing awareness of the need to manage the whole watershed through “ridge to reef” strategies, which seek to protect valuable coastal resources from the negative impacts of upstream activities through a more holistic approach to land management and policy development. On the whole, however, linkages have remained weak between key watershed actors, such as between watershed management agencies and persons living and utilizing land in upper watersheds, and the downstream beneficiaries of watershed management, such as urban residential water consumers and the tourism sector.

Over the past few years, international organisations have begun to explore the potential for the use of incentives and markets as a way of improving environmental services and creating stronger linkages between water managers and the beneficiaries of those services. Improving these linkages could help to contribute to the sustainability of the assets and services on which the region’s important tourism sector depends.

The Forum
A one-day forum for tourism professionals and policy-makers was held as part of the Who Pays for Water project (see Appendix 1 for an outline of this global project) to better understand how downstream tourism “beneficiaries” such as tourism associations, hotels, tour companies and tourists can better support the management activities of upstream watershed service “providers” such as watershed land managers and farmers.

The Forum was also held as a precursor to the twice-yearly meeting of the project’s Action Learning Group (ALG). ALG members, who also participated in the Forum, include watershed management, planning and water sector professionals from around the region who assist in the analysis, dissemination and eventual application of the project’s research and outcomes. A list of participants is attached at Appendix 2.

Objectives of the Forum:
1. To assess the perspectives from the tourism industry on approaches for watershed management that address the needs of and optimize benefits to the sector.
2. To develop ideas on roles that the industry could play in supporting such approaches.
3. To discuss ways in which the key players in the watershed management and its beneficiaries can be better linked.
Main outcomes and conclusions from the Forum

1. There is a clear role for the tourism industry to play in watershed management due to its heavy water consumption and dependence on biodiversity and good water quality, both at the coast and inland.

2. There is a feeling within the industry that the sector is already being heavily taxed resulting in a reluctance from individual tourism stakeholders to contribute more financially, towards services.

3. Further research is needed to determine if the tourism industry is paying a true or reasonable price for water use.

4. Key stakeholders in the tourism sector perceive inadequate inter-sectoral linkages, poor governance and the absence of planning nationally and regionally as a major barrier to national development and to progress within the tourism sector. This has reduced their confidence in national and regional decision-making processes.

5. In order to stimulate the private sector stakeholders to play a role in and make a greater contribution to watershed management, there is a need to demonstrate clearly “what’s in it for them”.

6. Participants felt that there is a willingness to pay more for environmental services at the visitor level.

7. The tourism sector is made up of many different sub-sectors who place differing demands on water use and ecosystem services, thus making it complex to attribute costs across the sector. This underscores the need to make transactions as simple and as transparent as possible and to spread costs as equitably as possible across the sector.

8. Any monies collected should not go into the consolidated fund, but must be used for direct watershed improvements.

9. Simple efforts to bring upstream managers and downstream beneficiaries together would help each group of stakeholders to better understand each other’s needs and perceptions.

Summary of presentations and discussions:
An agenda for the Forum is attached at Appendix 3.

Why we are here: project background and market and incentive based approaches to natural resource management.

After the welcome and participant introductions, the facilitator presented the background to the Who Pays for Water? project, including the main funding and implementing organisations for the project and project objectives and approach. An overview of market-based approaches to watershed and natural resource management was then presented.

Main points of the presentation were:
Watersheds and watershed services

- A watershed is a topographically defined area having a common drainage system. The area can be defined broadly or narrowly depending on the management purpose.
- Typically, watershed protection has been the purview of state agencies but has now broadened to include civil society and private companies.
• Watershed services include: water flow regulation; water quality maintenance; erosion and sedimentation control; source of water and landscape beauty. Watershed services generally benefit downstream activities.
• There is often a complex mix of land use within watersheds that makes management complex

**Market mechanisms for environmental services**
• The growth of market-based mechanisms has grown out of the recognition that the benefits and services that are provided by natural ecosystems are not being adequately paid for by those that benefit from them. There is also concern that human economies are placing growing demands on those resources.
• This concern has led to efforts to value natural ecosystems and the benefits they provide. Valuation identifies the beneficiaries of services, the magnitude of those benefits and designs mechanisms to capture the costs of managing the ecosystem services.
• There is now a growing interest in the potential of markets for environmental services (MES) to meet development objectives. This is premised on the understanding that within watersheds, upland (often rural) communities and farmers are the managers of watershed integrity. If they provide an environmental service or can change negative land use practices, they should be compensated for that.

**The project faces a number of challenges:**
• Determining the management approaches and stakeholder behaviours required to improve watershed services;
• Designing incentives for watershed-friendly behaviour that effectively target key stakeholder groups, including the poor and landless;
• Identifying the main beneficiaries of the services: “who pays” or “who should pay”;
• Assigning realistic and acceptable values for watershed services that can form the basis for compensation mechanisms, incentive programmes, and upstream/downstream transactions;
• Creating a well-informed community of watershed stakeholders who understand what constitutes watershed-friendly behaviour and incentive mechanisms.

**Some examples of MES**
Some examples of market-based mechanisms were provided and discussed. These were – direct payment for environmental services; purchase or leasing of land; eco-labelling and certification schemes; tax breaks and concessions; compensation through credits; private sector – community partnerships; watershed protection contracts.

**Lessons learned**
• Main lessons learned so far from the project are that:
  o There is a great deal of interest in MES but still limited knowledge about their effectiveness and impact on livelihoods and the environment.
  o The design of approaches needs to be useful to national and local agencies and build on existing systems and initiatives that work.
Watersheds as part of the “tourism landscape”. Making the case for improved linkages between upstream “managers” and downstream tourism “beneficiaries”.

After a brief discussion, the facilitator then presented and discussed the potential role of tourism in watershed management. It was noted that:

- Tourism is the Caribbean’s largest growth industry, yet contributions to rural areas and towards environmental management have been much lower than expected.
- The tourism sector is a key beneficiary of watershed services, particularly from water quality maintenance; soil erosion control and fertility; and biodiversity and landscape beauty. The industry is also a major water consumer.
- The “tourism landscape” is often perceived as a small area around the hotel, site or attraction but those assets are affected by the activities and actions within the entire watershed.
- Some of the threats to tourism assets from the watershed include pesticide run off; sewage effluent and upland deforestation which have resulting impacts on water quality for bathing and recreation at the coast and at inland waterfalls; coral reef health and beach integrity.
- The tourism industry’s motivation for developing MES would include: market advantage; access to land and resources upland; minimizing environmental risks through better links and support to management upland; increasing public and political pressure for the tourism industry to increase its contributions.

A number of key questions were posed to participants for discussion:

- What are the key challenges faced by the tourism industry with regard to watershed management?
- Are there existing upper and middle watershed management initiatives by communities and farmers that could be supported by the tourism industry?
- What are the objectives of local and national tourism industry players with regard to improving environmental standards (including, watershed management) and spreading tourism benefits?
- Are there existing or developing transactions and partnerships between tourism agencies and the private sector to compensate watershed managers or to encourage environmentally friendly behaviour in the watershed?
- What are the existing systems or policies to facilitate partnerships and transactions?

In the discussion, many expressed their frustration at the approach to planning within the tourism sector and within national development planning initiatives in general. It was felt that the present tourism paradigm needed to change as the Caribbean was not being innovative in its approach to planning and development and needed to catch-up with the progress currently being made in other parts of the world. Others were frustrated at the lack of change within the sector despite numerous meetings and consultations. It was also felt that despite the rhetoric, there is very little genuine participation in decision-making.

Many agreed that the benefits of tourism need to be more widely spread and that national and regional awareness of where tourism impacts our society needs to be enhanced.

Tourism participants made it clear that private sector stakeholders within the sector are in it to make a profit and that the bottom line is their most important consideration. Within the context of the WPFW project, it is important that the project understands “what makes a hotelier tick”. Many of the hoteliers would not become involved in certification without the
pressure from the tour operators who demand that beaches have good water quality and adequate monitoring measures.

Others felt strongly that consumers do not really have a clear understanding of where water comes from and that they are not paying the true cost of watershed management. It was felt that education and awareness activities were important but only scratching the surface and that policy makers need to do more to conserve more land, encourage partnerships between government and private landowners and managers, and to develop incentives for private owners to adopt better management practices. It was felt that although the policy and decision-makers are talking about sustainable development and poverty alleviation, they were not really dealing with these issues and making or affecting the required attitudinal shift.

One participant reminded the group that people in the upper watersheds are often stigmatized as polluters but that it is important to remember that they are often not the major offenders and that many ordinary people do not have any access to water at all.

**The priority watershed issues for the tourism industry**

After lunch, participants were asked to identify the main priority watershed issues for the tourism industry and the main stakeholders involved.

<table>
<thead>
<tr>
<th>Priority issues</th>
<th>Who is responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siltation from banana farming</td>
<td>Small farmers</td>
</tr>
<tr>
<td>Physical development (including residential) along water courses caused by poor land use management</td>
<td>The authorities – physical planning departments</td>
</tr>
<tr>
<td>Rural poverty causing migration to the coast</td>
<td>Poor and landless stakeholders</td>
</tr>
<tr>
<td>Pesticide and agrochemical run off</td>
<td>Small and large farmers</td>
</tr>
<tr>
<td>Poor water quality monitoring</td>
<td>Water resource authorities, coastal zone and watershed management authorities and the private sector</td>
</tr>
<tr>
<td>Deforestation</td>
<td>Small and large farmers; residential developers</td>
</tr>
<tr>
<td>Lowland flooding caused by poor land use management</td>
<td>The authorities – physical planning departments</td>
</tr>
<tr>
<td>Quarrying and sand mining</td>
<td>Private landowners and the building sector</td>
</tr>
<tr>
<td>Squatting</td>
<td>Landless stakeholders</td>
</tr>
</tbody>
</table>

**Group work**

Following the plenary discussion, participants worked in groups to answer the following questions:

**Group 1:** What incentives and transactions could be supported and employed by stakeholders in the tourism industry to improve watershed management? What mechanisms and approaches can be used to facilitate their implementation?
Using a matrix to help answer the above question, group members were asked to breakdown the tourism sector into sub-sectors to better understand the components of the sector and to help identify all the tourism stakeholders that benefit from watershed services.

<table>
<thead>
<tr>
<th>Services</th>
<th>Who benefits</th>
<th>Who supplies</th>
<th>Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water quality (rivers/marine)</td>
<td>o Accommodation o Water sports o Dive ops o Tour operators o Vendors o Local communities, tourists (local/international), o Food service and beverage o Safari tours o Sport fishing</td>
<td>o Min of Health o Water resources authority o Water companies, o Environmental agencies o LFMC, farmers/landowners</td>
<td>o Direct payments; o Adopt a watershed programme o Contracts for replanting; o Hotels purchase produce from upland farmers who use good techniques; o Government subsidies o Target employment and training from upland communities; o Fund local initiatives, o Credit for local environmental management activities; o Greater recognition for people e.g. via an award</td>
</tr>
<tr>
<td>Flow regulation</td>
<td>o Accommodation o Water sports o Dive operators o Tour operators o Water companies o Local communities</td>
<td>o Landowners o Farmers; o Min of Ag; o Public Works Agencies o Water Resources Authority; o Quarry Operators</td>
<td>o Private planting programme; o Subsidize seedlings o Improve markets for tree crops; o Agrotourism</td>
</tr>
<tr>
<td>Soil erosion Control</td>
<td>o Accommodation, water sports, o Dive ops, o Tour operators, o Water companies o Local communities</td>
<td>o Landowners; o Farmers; o Min of Ag, o Public works agencies o Water resources authority o Quarry operators</td>
<td>o Contract with farmers for mitigation measures; o Support local environmental initiatives; o Support replanting through supply of seedlings o Recognition through awards and publicity</td>
</tr>
</tbody>
</table>

**Group 2: How can standards and certification programmes be structured to improve upstream and downstream linkages?**

Group 2 began by discussing some of the underlying issues surrounding this question. Members of the group noted that the rationale for market-based approaches for environmental services
means that payment for services should go towards managing the supply of that service. Presently, however, all of the payments for water services go into the consolidated funds of the region’s governments.

It was also felt empirical evidence would suggest that hotels and other major industries in the Caribbean are not paying a fair price for water and at the moment locals are subsidizing the water usage costs of tourists.

The group noted that one of the challenges faced in developing MES for the tourism sector is that it is influenced by politics and is very complex. In breaking down the industry into its major components, the group categorized the industry as follows:

- Cruise ships
- Land-based:
  - All inclusive hotel
  - Bed & Breakfasts
  - EP (European Plan)
  - Attractions
  - Ground transportation

Group participants were of the opinion that a starting point would be to make links with existing standards and certification schemes relating to water supply flow regulation, potable water supply and water quality. Without the details of these schemes available, it was difficult for the group to suggest the best mechanisms for inserting incentives or partnerships within the existing certification schemes.

The development and use of indicators to monitor environmental and human development changes within the watershed would also be beneficial. The group also felt that incentives should include:

- Being required to pay the real cost of water
- Rewards for good practices
- The application of user fees wherever feasible

**Group 3: How can we improve tourism decision-makers’ understanding of the requirements for and benefits of more effective protection of tourism assets through upstream and downstream linkages?**

**What are the policy gaps that should be addressed to foster better linkages?**

The group sought to address this question by first determining who the main tourism decision-makers were. The follow broad categories were identified:

1. Private sector (including developers)
2. Public sector (Environment, Finance, Health, Tourism, Planning)
3. General public

It was felt that greater advantage should be taken of ongoing events and activities to influence the agenda and to raise awareness of watershed management issues and the need to improve linkages. The following ideas were raised:

- Attend and make presentations at high level forums for decision makers such as CARICOM and Caribbean Heads of Government. The need to plan for the medium- and long-term and the risks of short term planning needs to be highlighted.
Better use should be made of current technology to sensitize and demonstrate best practices to policy and decision makers

The growth in Corporate Social Responsibility (CSR) programmes could provide a useful platform to promote the positive role that the private sector could play in watershed management and the potential to use their support for watersheds as a marketing tool

The World Cup Cricket 2007 is a major event for the tourism industry. Opportunities should be sought to use the event as a test for achieving long lasting, sustainable impacts locally, from the event.

Policy gaps
1. There are currently no policies that require formal linkages or partnerships or meetings between upstream and downstream stakeholders. Therefore neither stakeholder group is aware of the concerns and needs of the other and concerns of the least prominent stakeholder are frequently not factored into the decision-making process.

2. Tourism policies fail to make inter-sectoral linkages, particularly with the natural resource management sectors such as watershed management.

3. There is no formal communication or opportunity for dialogue between water agencies and tourism decision-makers.

4. Existing policies favour the tourism and industrial sector while communities residing in the watershed are given a much lower priority. This situation does not provide encouragement to the upland communities whose management practices we are trying to change.

Wrap Up
After the presentations of group activities, the Forum was drawn to a close by the facilitator who noted that the discussion during the Forum covered a wide range of issues within the sector that needed to be considered in the implementation of market-based approaches and systems. Although the sector clearly has a role to play in watershed management, issues such as poor governance and non-inclusive planning approaches affect the willingness of private sector stakeholders to invest in management and incentive approaches.

The discussion also highlighted the need for greater understanding of how watersheds work, how management systems operate and to promote the efforts of upstream stakeholders and their potential role as “guardians” of the watershed and not the polluters.

One participant noted that tourism should be seen by decision-makers as a mechanism to improve the lives of local people and not an end in itself.
Appendix 1

Caribbean Natural Resources Institute

Who Pays for Water? How Market-Based Approaches Can Improve the Contribution of Watershed Services to Livelihoods

An Action-Learning Project for the Caribbean

There is growing concern in the Caribbean about the deterioration of watersheds and the associated impacts on the services they provide, which include maintenance of water quality, regulation of flow, soil stability, erosion control, and biodiversity protection. Watersheds are under pressure in most countries, and conversion of upper watershed forests for agriculture and housing is resulting in losses of biodiversity, timber and other forest products, and nature tourism opportunities. Land use decisions rarely take the provision of services such as water production into account. Poor water supply, quality, and reliability affect consumers and threaten key economic sectors. Soil erosion, landslides and flooding cause substantial economic losses each year. Those hurt the most are often the poor, and particularly the rural poor, whose hillside crops suffer from soil erosion, whose access to markets can be cut off by landslides and floods, and who are given the lowest priority when water supplies must be rationed.

Caribbean countries have relied on a range of tools for watershed management, including regulation and enforcement, state management of forest reserves, education, and stakeholder participation. While all of these have had some successes, they have not been able to reverse the loss of tree cover and deterioration of watershed services. Markets that link watershed services “providers” (e.g., upstream farmers) to beneficiaries (e.g., water consumers) have been effective in some parts of the world, but their actual environmental benefits as well as their impact on livelihoods need to be understood before market-based approaches can be incorporated into the region’s assortment of management tools.

This project, which is implemented by the Caribbean Natural Resources Institute (CANARI) in collaboration with the International Institute for Environment and Development and funding from the United Kingdom Department for International Development, builds on an initial scoping study to explore interest in the use of market and incentive-based approaches to watershed protection. The project initially focuses on four countries: Grenada, Jamaica, St. Lucia, and Trinidad and Tobago.

The aims of the project are:

- To improve understanding within key institutions of the roles that market-based approaches can – and cannot – play in watershed protection and livelihood improvement
- To develop and test economic instruments for improving watershed services in selected countries and contexts
- To explore the potential for increasing the contribution of economic sectors that benefit from watershed services, such as the water and tourism industries, to their protection
- To identify the requirements for increasing and sustaining local benefits from watershed services
- To transfer skills and methods for assessing and employing economic instruments for watershed protection.

The project, which is being implemented with a wide range of national and international partners, got underway in January 2004 and will run until mid-2006.
Appendix 2

Caribbean Natural Resources Institute

Regional Workshop

Who Pays for Water? - Tourism Sector Forum

7 December, 2004
St. Lucia

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Tuesday December 7th

8:30 – 8:45 Welcome and introductions

8:45 – 9:15 Why we are here: background on Who Pays for Water project and markets and incentive based approaches to natural resource management

9:15 – 10:30 Watersheds as part of the “tourism landscape”. Making the case for improved linkages between upstream “managers” and downstream tourism “beneficiaries”.

10:30 – 10:45 Break

10:45 – 11:45 Discussion and feedback from participants on experiences of watershed management and existing linkages between watershed management and the tourism sector.

11:45 – 12:00 Summing up of main issues arising from plenary discussion

12:00 – 1:00 Lunch

1:00 – 2:30 Group work on:
   (a) What incentives and transactions could be supported and employed by stakeholders in the tourism industry to improve watershed management? What mechanisms and approaches can be used to facilitate their implementation?
   (b) How can standards and certification programmes be structured to improve upstream and downstream linkages?
   (c) How can we improve tourism decision-makers’ understanding of the requirements for and benefits of more effective protection of tourism assets through upstream and downstream linkages? What are the policy gaps that should be addressed to enable better linkages?

2:30 – 2:45 Break

2:45 – 3:30 Summing up of main findings from the group work and presentation of research studies being undertaken in St. Lucia and Jamaica.

3:30 – 3:45 Next steps and closure