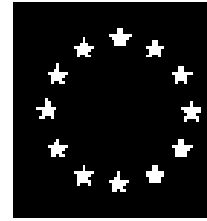




THE NATIONAL
FOREST PROGRAMME
FACILITY



Forests for People, People for Forests: Forest-based livelihoods in the Caribbean

Regional conference report

Cascadia Hotel, St. Anns, Port of Spain, Trinidad
May 4th – 7th, 2010

1. Summary

The Forests and Livelihoods regional conference ***Forests for People, People for Forests: Forest-based livelihoods in the Caribbean*** was organised by the Caribbean Natural Resources Institute (CANARI). It was primarily funded by the National Forest Programme Facility of the Food and Agricultural Organisation and the European Commission's Programme on Tropical Forests.

It called together 78 regional and local participants working at the local, national and regional levels in the English, French, Spanish, and Creole-speaking islands of the Caribbean, to share experiences and lessons learned in forest management, and to identify and promote policies and practices that support sustainable forest-based livelihoods. The participants included members of CANARI's Action Learning Group on Forests and Livelihoods who played key roles in the conference as presenters and rapporteurs.

The following are among the most important messages generated by the conference plenary:

- Involving rural communities in participatory forest management is providing them with important livelihood benefits.
- Building capacity in local communities to be able to effectively participate in forest management and negotiate their own positions takes time and resources.
- Specifically targeting the poorest people in community forestry initiatives is critical; otherwise they can be left out or even further disadvantaged.
- Adaptive, collaborative, ecosystem-based management approaches to forest management are possible and necessary. These approaches allow for managing for "uncertain landscapes", engage stakeholders, operate at multiple scales, and integrate ecological processes. However, they require capacity-building and supportive policies.
- An integrated, multi-sectoral approach to forest, land and water policy is essential.
- Governments should give poor rural communities formalised, secure, and long-term access to abandoned agricultural land to develop sustainable forest-based livelihoods.
- Conserving forests is cheaper than paying to replace the services.
- Rural communities that help provide ecosystem services from forests, either through protecting the forests or practicing sustainable use, need to get paid for their efforts.
- There are options for the Caribbean to get paid for reforestation, afforestation, or conserving existing forests, but on small islands this may not provide the level of financial benefit that is needed to promote forest conservation.

- It is essential that governance models are in place to ensure that such funding goes to local communities or civil society organisations managing the forests.
- Some climate change adaptation or mitigation actions have negative impacts on poor and marginalised people. However, they can be designed to benefit the poor and advance equity. This can best be achieved by involving poor and marginalised people in the design of these actions.

A policy brief on community forestry in the Caribbean was prepared out of the conference and is available at www.canari.org. This was presented at the Latin American and Caribbean Forestry Commission meeting held at the end of May 2010, and community forestry was endorsed as a priority issue by forestry departments from the Caribbean islands.

2. Background

This conference was held as part of CANARI's regional programme on Forests and Livelihoods. This programme seeks to enhance the contribution of forest goods and ecological services to sustainable livelihoods of the rural poor in the islands of the Caribbean. The programme encompasses research and analysis as well as building capacity at local, national and regional level for equitable participation and effective collaboration of stakeholders in the management of forest resources.

This conference called together 78 regional and local participants working at the local, national and regional levels in the English, French, Spanish, and Creole-speaking islands of the Caribbean, to share experiences and lessons learned in forest management, and to identify and promote policies and practices that support sustainable forest-based livelihoods.

The workshop was funded by:

- Food and Agricultural Organisation (FAO) National Forest Programme Facility
- European Commission (EC) Programme on Tropical Forests

The conference sought to share lessons learnt from and bring together participants involved in CANARI's EU and FAO-funded projects implemented over the period 2006-2010 in Barbados, Commonwealth of Dominica, Grenada, Jamaica, Saint Christopher (St. Kitts) & Nevis, Saint Lucia, Saint Vincent & the Grenadines, and Trinidad & Tobago.

3. Goal and Objectives

The goal of the conference was:

- to identify, analyse and promote policies and management approaches that facilitate the effective involvement of stakeholders in the management of forest resources and the development of forest-based economic activities that benefit the poor in the Caribbean.

The principle objectives of the conference were:

- to share lessons from research, practices and policy initiatives that facilitate the development of sustainable forest-based livelihoods for the rural poor;
- to facilitate dialogue among participants to build their understanding of, and capacity to participate in decision-making about forest management in ways that support sustainable livelihoods and reduce poverty, including on key issues currently on regional and international agendas such as climate change, poverty alleviation, sustainable consumption

- and production, and biodiversity conservation;
- to formulate key recommendations from the region for presentation by stakeholders at the Latin American and Caribbean Forestry Commission meeting and Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) meetings in 2010, as well to the Organisation of American States (OAS), the Caribbean Community (CARICOM), and the Organisation of Eastern Caribbean States (OECS).

4. Target Audience

Participants in the conference represented a wide range of actors concerned with forestry and livelihoods in the Caribbean:

- representatives of community-based organisations (CBOs), non-governmental organisations (NGOs), private sector organisations, private landowners, and individuals from civil society working on forest conservation and forest-based livelihoods;
- policy-makers and technical staff from government agencies working in key sectors such as forestry, environmental management, tourism, land use planning, watershed management, poverty alleviation and community development;
- academic institutions;
- technical and financial support agencies;
- intergovernmental agencies; and
- media.

The list of participants is attached as Appendix 1.



Akilah Jaramogi, Fondes Amandes Reafforestation Project, one of the keynote speakers in the first session of the conference



Participants in a breakout session on the first day

5. Programme Overview

The conference format entailed two days of meetings and one day of field trips. There was also a pre-conference, one-day workshop for CBOs to share experiences and build capacity for participation in the conference (see www.canari.org for the report of the workshop). The programme was organised around five themes:

- a. Forests for sustainable livelihoods and poverty reduction
- b. Potential uses of abandoned agricultural estates to develop forest-based livelihoods
- c. Valuation of ecosystem services and its role in forest management
- d. Climate change and forests in small islands
- e. Adaptive, collaborative, ecosystem-based approaches to forest management

Each theme was introduced via a plenary session, followed by a set of simultaneous breakout sessions. Key policy messages from all five themes were identified and validated at a concluding plenary.

The brief agenda can be found in Appendix 2. The full programme, including presentation abstracts, is attached as Appendix 3. All presentations that were submitted in Powerpoint format can be accessed by hyperlinks in the full programme as it appears on the conference website: <http://www.canari.org/documents/FLregconfProgrammeFinal03-04-10.pdf>

6. Detailed Thematic areas

a. Forests for sustainable livelihoods and poverty reduction

In many islands of the Caribbean, forest managers are recognising the need to shift from commercial harvesting of timber and other forest products to managing forests to support sustainable livelihoods in rural communities and thereby to meet broader economic development and poverty reduction goals. CANARI will report on findings on forest-based sustainable livelihoods drawn from action learning and research projects. Presentations and discussions on this theme explored questions such as:

- What have been experiences of Caribbean CBOs and their partners with developing forest-based livelihoods?
- What policies, laws and structures need to be in place to enable sustainable forest-based livelihoods for the rural poor?
- Are poverty reduction strategies and programmes recognising the contributions of forests?

Breakout groups included:

1. ***Community livelihoods from protected areas***
2. ***Government initiatives to promote community forestry***
3. ***CANARI's research on participatory forest management and livelihoods***
4. ***Exploring potential for forest based livelihoods in rural communities***
5. ***Forest poverty Interactions***
6. ***Panos Caribbean Communication Workshop***

b. **Potential uses of abandoned agricultural estates to develop forest based livelihoods**

The history of the cultivation of large agricultural estates (sugar cane, cocoa, cotton and coconuts) has left a landscape of abandoned or under-utilised estates across the Caribbean. Many of these lands have been left fallow for years, often as a result of unclear tenure or conflicts over ownership. They are often viewed as common property and provide

areas for the community to forage for fruits and herbs, to hunt and graze animals. Rather than explore viable forest-based alternatives, in many cases governments have resorted to converting these lands into housing developments. Presentations and discussions on this theme explored such questions such as:

- How can land use planning facilitate effective use of abandoned agricultural land?
- What are the tenurial issues and obstacles to potential common property or other effective and equitable arrangements for optimising benefits from these lands?
- How can agricultural, forestry, tourism, and other sectors work together to take advantage of the opportunities these lands offer for supporting sustainable rural livelihoods?
- What is the potential for reforestation of abandoned estates to contribute to climate change initiatives?

Breakout groups included:

1. ***Approaches to utilising abandoned agricultural lands***
2. ***Using abandoned agricultural land for livelihoods***

c. Valuation of ecosystem services and its role in forest management

Difficulties in quantifying and demonstrating the value of the multiple benefits that accrue from forest resources have contributed to the failure of decision-makers and the wider public to recognise their importance to sustainable livelihoods and the economy as a whole. Given the competing interests over land for the extractive and tourism industries, it could be argued that forest economic valuation serves a more important purpose when it is used to inform decision-making regarding land use and incentive structures rather than direct payment for ecosystem services. CANARI presented findings from recent research on payments for watershed services and policy and management implications arising from valuation of forests in Montserrat. Presentations and discussions on this theme explored questions such as:

- What do we know about the value of forest goods and services in the Caribbean?
- What are the issues in forest valuation in small Caribbean islands? What are some lessons about appropriate valuation methods?
- What are sustainable financing options for forest management?
- How can mechanisms be established to ensure that compensation flows to the vulnerable people providing the ecosystem services or suffering from lost opportunities?
- What are the opportunities and risks associated with carbon markets in the Caribbean?

There was only one breakout group:

1. ***Economic valuation and payments for ecosystems services***

d. Climate change and forests in small islands

Climate change and its impacts offer yet another challenge to the management of forest in the Caribbean. In some locations, increased intensity and frequency of storm and the changing flowering and fruiting seasons has led to reactive changes in forest management rather than the planned, strategic approaches needed to contribute to resilience of forests in the Caribbean. Under this theme CANARI will present the results of its recent collaborative research project to assess the impacts of climate change on forest biodiversity in the Caribbean, resulting impacts on forest-based livelihoods, and the resulting policy and

research recommendations. Presentations and discussions on this theme may explore questions such as:

- What are the current and projected impacts of climate change impact on forests in the Caribbean? What will be the resulting impacts on forest-based livelihoods?
- What responses are needed at the policy level and on the ground to adapt to these changes?
- What is currently being done in the Caribbean to address these challenges?
- How can Reducing Emissions from Deforestation and Forest Degradation (REDD) and regional policy initiatives be applied in the Caribbean to best support livelihoods for the rural poor?

Breakout groups included:

1. ***Climate change impacts on forests, possible management responses, and public awareness***
2. ***Climate change impacts on communities and their responses***
3. ***Climate change mitigation options and issues: what could work for the Caribbean? (Panel discussion)***

e. Adaptive, collaborative, ecosystem-based approaches in forest management

Ecosystem management, adaptive management, and participatory or collaborative management approaches have been developed to respond to the wider social, economic and ecological challenges for forest management in the 21st century, including a changing global climate. Yet, these new approaches are not being systematically applied in the Caribbean. The full range of state and private forests is generally not being effectively managed at the landscape scale and for multiple purposes that recognise multiple sectoral and stakeholder interests. Forest management takes place in the absence of unit management plans at national, regional, and local scales. Forest policies, laws, rules and regulations are often outdated, conflict with other sectoral policies, and do not effectively link with national development policies. As part of this theme, CANARI will report on recent work facilitating participatory planning and policy development in addition research on environmental mainstreaming. Presentations and discussions on this theme explored questions such as:

- What is the right scale for forest management planning? How can cross-scale management be achieved?
- How can issues of land tenure and multiple, competing interests be handled in an ecosystem management approach?
- How can management of the range of state and private forests be facilitated and coordinated across ownerships and landscapes?
- How is forestry governance evolving in the Caribbean? Are forestry departments restructuring, and if so, how? What new policies and innovative programmes are being developed?
- How can participatory processes enhance forest management? How are partners in civil society and the private sector getting involved?
- How can forest management more effectively support national development and the needs of other sectors?

Breakout groups included:

1. ***Partnerships for effective forest management***
2. ***Managing forests and ecosystems***
3. ***New direction in forest policy and planning***

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Conference participants exploring at Wa Samaki in Trinidad.



Conference participants receiving briefing during field trip at Nariva Swamp

7. Key messages: Lessons and recommendations

Before the final plenary session, the rapporteurs for all the themes met to draw out key messages, lessons and recommendations from all the sessions. These points were drafted into powerpoint format and were then projected as the rapporteurs presented their summary reports to the final plenary. The messages were then discussed, amended and extended by the plenary. In addition to the five conference themes, a set of the key messages from community-based organisations were presented that had been generated at the pre-conference workshop for CBOs. The key messages from each session are outlined below.

a. Forests for sustainable livelihoods and poverty reduction

- Rural communities should be involved in managing forests.
- Involving rural communities in participatory forest management is providing them with important livelihood benefits.
- Building capacity in local communities to be able to effectively participate in forest management and negotiate their own positions takes time and resources (especially with respect to climate change).
- Specifically targeting the poorest people in community forestry initiatives is critical, otherwise they can be left out or even hurt.
- Enabling policies, laws and governance structures are necessary to enable participatory forest management arrangements.
- Strong leaders are needed, but only those have a great interest and love for the environment and their communities (not themselves).

- Building trust between government agencies, local communities and other stakeholders is critical for successful participatory forest management.
- Capacity needs to be built in partner government agencies for participatory forest management.
- Relationships are critical and must be built over time.

b. Potential uses of abandoned agricultural estates to develop forest-based livelihoods

- Old agricultural estates have good potential to support eco-agro-knowledge tourism, contribute to food security, and generate livelihood opportunities for rural communities (employment, human development, etc.).
- Governments should give poor rural communities formalised, secure, and long-term access to abandoned agricultural land to develop sustainable forest-based livelihoods.
- A sustainable human settlement approach would result in sustainable self-sufficient communities dispersed on the national landscape. (All primary needs would be addressed within the community.)
- Indigenous and traditional systems provide many important lessons for sustainability.
- Abandoned agricultural estates should be converted to agriculture or forestry rather than housing. If housing is essential, use the human settlement approach.
- Permaculture (permanent agriculture) is a sustainable approach to agriculture that can:
 - contribute to food security;
 - improve forest cover and so help to sequester carbon;
 - improve resistance and resilience to climate change;
 - improve livelihoods of rural poor.
- Maintain “agricultural reserves”.
- It is important to plan fallow periods for agricultural land.

c. Valuation of ecosystem services and its role in forest management

- Forests are providing ecosystem services that produce key economic benefits, especially to key sectors in the Caribbean such as tourism, agriculture and fisheries.
- Forests are especially important for poor rural communities.
- Conserving forests is cheaper than paying to replace the services.
- Rural communities that help provide ecosystem services from forests, either through protecting the forests or practicing sustainable use, need to get paid for their efforts.
- There some initiatives for payments for ecosystem services (PES) currently underway, so far primarily for water.
- PES is only one part of a strategy to promote sustainable forest management for community welfare; we also need to look at incentives.
- There are many indirect, spin-off livelihood activities associated with PES.
- It is crucial to “sell” the value of forests and demonstrate tangible benefits in order to get support for forest conservation. It is also important to focus on communicating what it would cost if forests were lost.
- Put the human being at the centre of forest conservation.
- Economic valuation of forests is constrained by lack of data, access to data and/or an integrated, consistent approach to collecting, retrieving and sharing data.

d. Climate change and forests in small islands

- Climate change is already occurring, leading to extreme weather events, increasing aridity, and changing temperature; the Caribbean islands stand to be most affected.

- Climate change is already having negative impacts on forests: decreasing their extent, changing composition, shifting distribution, threatening endangered and vulnerable species, and increasing the prevalence of exotic species.
- SIDS are most vulnerable but have least capacity to respond to climate change.
- Reducing other negative impacts on forests helps to protect them and associated livelihoods against the negative impacts of climate change because healthier forests are more resilient and resistant.
- Creating and managing protected areas can help to protect forests and associated livelihoods against the impacts of climate change.
- People who depend on forests for their livelihoods will be threatened by climate change.
- Society depends on ecosystem services provided by forests and therefore human well-being will be seriously threatened climate change.
- Communication about climate change is critical to encourage people to take concrete actions.
- There are options for the Caribbean to get paid for reforestation, afforestation, or conserving existing forests, but on small islands this may not provide the level of financial benefit that is needed to promote forest conservation.
- It is essential that governance models are in place to ensure that funding goes to local communities or civil society organisations managing the forests. Funding mechanisms must be accessible to the people who need them.
- Some climate change adaptation or mitigation actions have negative impacts on poor and marginalised people. However, they can be designed to benefit the poor and advance equity. This can best be achieved by involving poor and marginalised people in the design of these actions.
- Building partnerships is critical to help address climate change.
- Resources need to be raised at the national level to allow for more control and flexibility in national responses.
- Caribbean islands should not let carbon funding schemes absolve them of their responsibilities.

e. Adaptive, collaborative, ecosystem-based approaches to forest management

- Forestry departments need to transform to ensure that they are effectively, efficiently, and transparently delivering services.
- The Caribbean needs to have a coordinated regional agenda on how to promote the sustainable management and use of forests (including a research agenda).
- An integrated, multi-sectoral approach to forest, land and water policy is needed. Forestry must move beyond timber.
- National scale forest management plans are important, with local level planning nested within this.
- Co-management arrangements of protected areas are providing economic and other livelihood benefits to surrounding communities, for example, through ecotourism.
- Multi-stakeholder groupings can be very useful to facilitate dialogue between government and civil society.
- “Development” and change is inevitable. Therefore we may need to manage for “tolerable” levels of degradation – what can we accept? – not only now, but in the longer term (factoring in climate change)?
- Adaptive, collaborative, ecosystem-based management approaches to forest management are possible and necessary. These approaches allow for managing for

“uncertain landscapes”, engage stakeholders, operate at multiple scales, and integrate ecological processes. However, they require capacity-building.

- Sustainable silvicultural practices are born out of specific circumstances, e.g. when the state has a need for local labour. Those systems are enabled by partnerships in which both the state and local resource users obtain direct benefits from practicing silviculture.
- Ideas from complex systems can be applied to forest management to facilitate innovation and adaptation to change.
- There is a gap between the kinds of skills that are valued and encouraged for forest management and the creativity that is required.
- Forest management is complex and we need to “learn by doing.”
- Forest management institutions as well as the forest managers in government agencies need to be able to learn and be flexible so that they can adapt to changing needs in the forestry sector. It is important to look at their governance.
- Stakeholder engagement is key.
- It is crucial to involve private landowners and provide them with incentives.

Other – general

- Engagement of the media needs to be a deliberate process, and popular artists are important champions.
- It is important to target senior decision makers in the effort to influence policy.
- There is a crucial need to sustain and recover the traditional agroecological knowledge of communities.
- Pay attention to equity.
- Pay attention to gender equity (women may be among the poorest of the poor and therefore most vulnerable).

Key messages from workshop for community-based organisations

- CBOs are already playing a role in forest management.
- Community participation is needed to for effective forest management.
- User fees and environmental levies should be directed to CBOs.
- A participatory, democratic relationship with government is required in order to create an enabling environment for

Box 1: Presentation by CBOs at the regional conference

Who are we? The CBOs / NGOs of the Caribbean – stakeholders of the forest

CBOs are already playing an important role in forest management and community livelihoods – for example the Buff bay Local Forest Management Committee in Jamaica
Most important – we need you to have confidence!!! Yes we can!

At present we are:

- Encouraging each other
- Sharing ideas and experiences
- Collaborating on projects

We need more support for the above

“The forest is our backyard”.

We want a participatory democratic relationship with you for the development of an enabling environment – policies, laws, MOUs, lease for access to land and resources
For people, by people, with people

We need / want support:

- Networking
- Facilitation
- Capacity development
- Technical support
- Funding

We need our work to be valued – our labour, our time, our ITK – “Man can’t work on hungry belly”

Environmental levies should be directed to communities. All forest users need to pay for using the forest and contribute to managing the forest

We can make what you write / plan become a long lasting reality

community forestry.

- It is important to develop strong partnerships between CBOs and state agencies and to build strong interpersonal relationships within them.
- CBOs need donor funding for projects and programmes, technical support and resources from government divisions and more networking opportunities.
- CBOs can make policies for forest conservation a long lasting reality if they are given the necessary support and adequate resources.

9. Conclusion

Many participants were enthusiastic about the quality and relevance of the conference organisation, presentations and discussions. They expressed in particular how much they valued the networking opportunities it provided.

This conference provided a rare opportunity for diverse participants from across the entire Caribbean to come together to share the work they are doing in implementing and learning about forest management that improves rural livelihoods. Representatives of all the major linguistic groups and a wide range of institutions and actors (including, CBOs, NGOs, private sector, government agencies, academic institution, the media) grasped the opportunity to reflect collectively on what has been learnt, what remains to be discovered, and what is the best way forward towards instituting enabling policies and building capacity at the local, national and regional level for equitable participation in the management of forest resources that supports sustainable livelihoods of the rural poor.

The conference succeeded in bringing about:

- enhanced understanding of, and appreciation for, methods and approaches that facilitate the effective involvement of stakeholders in the management of forest resources and the development of forest-based economic activities that benefit the poor; as well as,
- new and strengthened networks among forest users and managers in the region across sectors and among local, national and international levels.

On the basis of this interaction and analysis the conference was able to identify:

- key messages conveying lessons and recommendations for practices and policy initiatives that facilitate the development of sustainable forest-based livelihoods for the rural poor.

These messages reaffirmed the importance of forests to the livelihoods of rural communities in Caribbean and the important contribution that communities make to sustainable ecosystem management. They also argue that this contribution can be greatly enhanced when community efforts are supported by responsive partnerships with state agencies as well as enabling integrated land and forest policies.

List of Appendices:

Appendix 1: Participants

Appendix 2: Agenda

Appendix 3: Full programme (including abstracts)

Appendix 4: Rapporteur reports on sessions

Appendix 5: Rapporteur reports on the field trips

Appendix 1: Participants

*“Forests for People, People for Forests:
Forest-based livelihoods in the Caribbean”*

*May 4th – 7th 2010
Trinidad*

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Appendix 2: Agenda



CARIBBEAN NATURAL RESOURCES INSTITUTE

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“Forests for People, People for Forests: Forest-based livelihoods in the Caribbean”

May 4th – 6th, 2010

Cascadia Hotel, St. Anns, Port of Spain, Trinidad

Agenda

Time	Topic	Activity
Monday 3rd May		
5:30 – 6:30 pm	Registration	
6:30 pm	Opening ceremony and cocktails	
Tuesday 4th May		
7:30 – 8:30 am	Registration	
8:30 – 10:30 am	Forests for sustainable livelihoods and poverty reduction	Plenary: Ms Akilah Jaramogi, Fondes Amandes Reforestation Project, Trinidad Breakout groups (1-3)
10:30 – 11:00 am	Break	
11:00 am – 1:00 pm	Forests for sustainable livelihoods and poverty reduction (cont'd)	Breakout groups (4-5) Workshop on building relationships with the media (facilitated by Panos Caribbean) Plenary reporting
1:00 – 2:00 pm	Lunch	
2:00 – 5:00 pm	Potential uses of abandoned agricultural estates to develop forest-based livelihoods & Valuation of ecosystem services and its role in forest management	Plenary: Mr Ivan Laughlin, ILESI Breakout groups Plenary reporting

Wednesday 5 th May		
8:00 am – 6:00 pm	Field trips	<p><u>Assemble at 7:45 am – bus departs promptly at 8:00 am</u></p> <ol style="list-style-type: none"> 1. Community reforestation for carbon sequestration, Nariva Swamp, south-east Trinidad (hosted by the Environmental Management Authority) 2. Private forestry initiatives, south-central Trinidad (hosted by the Forestry Division) 3. Community reforestation and agroforestry projects, Nature Seekers, north-east Trinidad 4. Community reforestation and agroforestry projects, Fondes Amandes, north-west Trinidad 5. Permaculture, Wa Samaki Ecosystems, central Trinidad
Thursday 6 th May		
8:00 – 10:30 am	Climate change and forests in small islands	<p>Plenary: Professor John Agard, University of the West Indies</p> <p>Plenary: Dr Ulric Trotz, Caribbean Community Climate Change Centre (CCCCC)</p> <p>Breakout groups</p>
10:30 – 11:00 am	Break	
11:00 – 11:30 am	Climate change and forests in small islands (cont'd)	Plenary reporting
11:30 am – 12:30 pm	Adaptive, collaborative, ecosystem-based approaches to forest management	<p>Plenary: Ms Marilyn Headley, Forestry Department, Jamaica</p> <p>Plenary: Mr Cletus Springer, Department of Sustainable Development, Organisation of American States</p>
12:30 – 1:30 pm	Lunch	
2:00 – 4:00 pm	Adaptive, collaborative, ecosystem-based approaches to forest management (cont'd)	<p>Breakout groups</p> <p>Plenary reporting</p>
4:00 – 6:00 pm	Wrap-up and closing session	<p>Reports from CBO workshop and field trips</p> <p>Rapporteurs present key messages from the conference</p> <p>Thanks and close</p>



THE NATIONAL
FOREST PROGRAMME
FACILITY



Caribbean Natural Resources Institute (CANARI)

“Forests for People, People for Forests: Forest-based livelihoods in the Caribbean”

May 4th – 6th, 2010

Cascadia Hotel, St. Anns, Port of Spain, Trinidad

PROGRAMME

Overarching goal: To identify and promote policies and practices that support sustainable forest-based livelihoods in the islands of the Caribbean, based on sharing of stories, experiences and lessons learned from the findings and conclusions of Phase 1 of CANARI’s project funded by the Food and Agricultural Organisation (FAO) National Forest Programme Facility and its project funded by the European Commission (EC) Programme on Tropical Forests, as well as the experiences of other participants.

Tuesday 4 th May 2010 8:30 am- 01:00 pm			Theme Forest for sustainable livelihoods and poverty reduction
8:30 – 9:00 am Conference room 1			Plenary presentation
Name	Organisation/ Institution	Presentation	Abstract
2 Akilah Jaramogi,	Fondes Amandes Reforestation Project, Trinidad	Role of community organisations in developing sustainable forest-based livelihoods	<p>The Sustainable Livelihoods approach to poverty reduction came about as a result of the limitations of conventional methods, and through a new understanding of the nature of poverty. This approach focuses on increasing income but also, significantly, on reducing the factors that prevent a community's ability to make a living in an economically, ecologically and socially sustainable way. In our presentation, the Fondes Amandes Community Reforestation Project (FACRP) will show the importance of the forest in preserving our ecosystem (fresh water, plants, wildlife), supporting biological diversity and preventing natural disasters, for example forest fires, and the link between conservation and the sustainability of both the environment and the human beings who live within the forested areas. FACRP began as an individual family's effort to bring people together to preserve the forest in the Fondes Amandes area of the St Ann's valley, in Trinidad. It is now recognized as a successful community development project that continues to grow and expand its activities, while keeping its focus on conservation and community.</p> <p>The main modules in FACRP's calendar of activities are:</p> <ul style="list-style-type: none"> • Bush Fire Prevention in the dry season • Tree Planting • Animal Husbandry • Wildlife Conservation • Organic nursery • Agro-forestry products • Jewellery made from seeds and other natural materials gathered from the forest • Eco Tourism

			<ul style="list-style-type: none"> • Vacation Camp for children • Disaster Prevention Caravan <p>The presentation will show the development of the project from its origins to the work we are doing at present and discuss where we would like to see the project go in the future.</p>
<p>9:00 – 10:30 am Conference room 3</p>			<p>Breakout Group 1 <i>Community livelihoods from protected areas</i></p>
Marlon Beale	Jamaica Conservation and Development Trust	Protecting the Forests of Jamaica: The Jamaica Conservation and Development Trust - Management of the Blue and John Crow Mountains National Park	<p>The Blue and John Crow Mountains National Park is located in eastern Jamaica, and covers the upper sections of ten watershed management units. It has a planimetric area of 495.5km² and protects thirty percent of the island’s remaining Closed Broadleaf Forest. The property is managed for the protection of its biological diversity, ecosystem services and recreational opportunities. Operational management is the responsibility of a non-government organisation, the Jamaica Conservation and Development Trust under a delegation agreement with the Natural Resources Conservation Authority and a collaborative management agreement with the Forestry Department. Management of the National Park is guided by a management plan which describes six programmes. These programmes are geared at addressing the root causes of the threats to the park’s ecosystems.</p> <p>The conservation sciences programmes are focused on forest conservation, monitoring and rehabilitation activities. These activities act as both mitigation and adaptive management strategies for Park management. The objective of “facilitating capacity building, through education and training of communities” is an important part of the education and public involvement programme. It also highlights the minimal use of natural resources to generate income through environmentally friendly activities. The other management programmes focus on encroachment reduction to the park boundary and income generation through two established recreational areas, and diversified tourism based activities. Critical to management success and enhancement is the incorporation of lessons learnt through project activities and the participatory approaches with government agencies and buffer communities of the Blue and John Crow Mountains National Park</p>
Rildez Sanchez	Reserve Ebano Verde, Dominican Republic	Livelihood benefits from managing a forested protected area	Not submitted.

Veronica Anadon	Birdlife, Puerto Rico	Important Bird Areas for forest conservation and community livelihoods	Important Bird Areas (IBAs) - key sites for conservation - have been designated throughout the Caribbean with a high number laying in forests for their outstanding biological attributes and exceptionally important for community livelihoods. Many people rely on forest resources, and the ecosystem services they provide but unsustainable use (e.g. through charcoal production and timber extraction) and other threats such as mining, unplanned urban sprawl and tourism have been fragmenting these sensitive ecosystems, and compromising their ecosystem services provision. 57% of these IBAs are partially or wholly within formal protected area systems though management capacity and political will to establish new protected areas is lacking in most countries. BirdLife International has been supporting partners to implement actions for forest conservation and sustainable livelihoods in communities around IBAs. In Cuba, the National Centre for Protected Areas has been developing ecotourism potential in Turquino and Bayamensa national parks. Grupo Jaragua in the Dominican Republic has been empowering Local Conservation Groups around the Jaragua-Bahoruco-Enriquillo Biosphere Reserve, creating direct incentives to the communities. In Haiti, Société Audubon Haïti renovated a school and established tree nurseries for watershed restoration within communities in Massif de la Hotte. Windsor Research Centre has been establishing agro-forestry alternatives for communities in Jamaica's Cockpit Country. Full participation of communities and government in the conservation of IBAs will help secure their future for generations to come.
9:00 – 10:30 am Conference room 3		Breakout Group 2 <i>Government initiatives to promote community forestry</i>	
Noel Bennet	Forestry Department, Jamaica	Facilitating community forestry in Jamaica: The Local Forest Management Authority experience	Not submitted.
Anthony Ramnarine	Forestry Division Ministry of Agriculture, Land and	Climate Change and Sustainable Turtle Conservation	The Forestry Division has been the Government of Trinidad and Tobago's lead agency engaged in marine turtle conservation for several decades. Efforts at protecting the species have been successful due to a number of integrated strategies, including the creation and application of policy, legislation, training and co-management with corporate, international and local community-based stakeholders. The rapid increase in the turtle population now

	Marine Resources, Trinidad		requires a wider management focus aimed at the sustainable conservation of these still endangered species on land and at sea. The current process of developing new Policies on Climate Change, Forestry and Protected Areas promises to enhance the holistic approach toward more effective sustainable livelihoods and conservation of the resource.
Fitzgerald Providence	Forestry Department; Ministry of Agriculture, Forestry and Fisheries, St. Vincent & The Grenadines	Creating a world where forests belong	<p>The Forestry Department in the Ministry of Agriculture and Fisheries recognized the need to examine and redirect its approach to management of the forest resources of St. Vincent and the Grenadines. This new approach would assist the department in more effectively achieving its mission ‘to conserve, protect and develop the forest resources for the optimum benefit of the entire community of St. Vincent and the Grenadines’.</p> <p>St. Vincent and the Grenadines has between 25 to 30 percent forest cover remaining. This includes coastal forest and interior tropical rainforest. Our forests are important to us for the maintenance of biological diversity, protection of our watersheds and the aesthetic quality of our islands, among many other direct and indirect benefits. However, the islands are losing these forests at an estimated rate of 3% per annum. This is due to the increasing rate of loss of interior forested areas to the cultivation of seasonal crops both legal and illegal. Also coastal forests (dry woodlands and mangroves) are under threat from changes in land use, particularly the increasing demands for housing and coastal development. The loss of forest is also catalyzed by the ineffectiveness of the conventional approaches to enforcement against illegal crop cultivation, squatting and deforestation and the absence of effective land use policies in relation to land use, resulting in uncontrolled development.</p> <p>The Government through the Forestry Department initiated a more participatory and integrated approach to forest management through and initiative called the Integrated Forest Management and Development Programme. A major component of this programme was the development of alternative livelihood with and for those individuals in activities that threaten the sustainability of the forest resources.</p>
9:00 – 10:30 am Conference room 4			<p align="center">Breakout Group 3</p> <p align="center"><i>CANARI's research on participatory forest management and livelihoods</i></p>

Andrew Simmons	Kings Hill Development Solution		<p>The paper will present an overview of the socio economic challenges facing the Chateaubelair/Fitzhughes community in particular and St Vincent and the Grenadines in general and states how poverty is impacting on the livelihoods and resource base of the community. Although there are numerous natural resources located in the area which possess potential for eco tourism, agriculture and related economic activity, the community is plagued with a) serious gun and drug culture, b) political divide, c) low literacy levels, d) low economic activities and e) high incidence of deforestation and soil depletion. The presentation will explore the use of the Chambers and Conway definition of sustainable livelihoods as a way of setting the framework for resolving the livelihood challenges in the community. It would show how the mentor used the Ethno methodology and Participatory Research path methodologies as the basis for assessing the socio economic, political cultural and governance dynamics within the groups and the community and to develop and implement strategies in collaboration with the group and the community to address these challenges. The presentation will explore how the methodologies were used by the mentor, the strengths and weaknesses of these methodologies and what are the critical factors for their success. It will highlight the contributions of the project to the community such as a) capacity of group and wider community being built i.e. for negotiation with political directorate, b) social benefits and empowerment benefits were significant, c) use of the model to advance the gains in community sustainable development and c) influencing the work of the international and development agencies operating in St Vincent and the Grenadines such as GEF SGP, FAO and IWCAMP/GEF/CEHI. The presentation ends with an assessment of the lessons learnt from implementing the model such as a) the ALG and how it has significantly motivate members of the group and the community as a whole, b) how it valued the interaction with regional ALG members and c) most significantly, the importance of selecting the right mentor.</p>
Nicole Leotaud	CANARI	Moving from rhetoric to reality: how can participatory forest management contribute to improving the livelihoods of the rural poor in	<p>This presentation examines whether participatory forest management (PFM) in Caribbean islands is improving the livelihoods of the rural poor. It presents findings from research conducted under two regional research projects being implemented by the Caribbean Natural Resources Institution (CANARI) in eight countries – Barbados, Commonwealth of Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago. These are funded under the FAO National Forest Programme Facility and the EU</p>

		Caribbean small island states?	Tropical Forestry Programme. The research looks at the impact of PFM initiatives on livelihoods of rural communities by examining changes in the financial assets, social assets, human assets, natural assets, physical assets, and political assets. Lessons are also drawn on whether formal or informal arrangements work best, how to provide support to ensure sustainability, and what capacities are needed of community groups and their partners.
Sarah McIntosh	CANARI	Warmmae Letang and Grande Riviere case studies	Not submitted.
10:30- 11:00 am		BREAK	
11:00 – 12:30 am Conference room 4		Breakout Group 4 <i>Exploring potential for forest based livelihoods in rural communities</i>	
Albert Gallion	Forestry, Wildlife and Parks, Dominica	The Contribution of non-timber forest products to forest-based livelihoods	<p>Non-Timber Forest Products (NTFPs) are goods of biological origin derived from forests and allied land uses. These include natural products such as mushrooms, leaves, seeds and fruits, reeds, gums and resins, vines, the bark of plants, roots, and medicinal herbs among other products. The sustainable use of national forestry resources is becoming more critical if the issues of poverty alleviation, income generation, gender equity and rural development are to be realized. Over the ages, rural communities have been utilizing raw materials originating from various forest types. Some rural communities are more heavily dependent upon steady supplies of NTFPs for their livelihoods than others. However, with growing concerns of overharvesting of these natural resources, the trend to establish Protected Forest solely for protective purposes poses a threat to those livelihoods that depend on the forest.</p> <p>Therefore, there is the need to highlight the contributions of Non-Timber Forest Products towards national development. These Non-Timber Products do contribute much needed income generating opportunities for the rural communities which are intertwined with the tourism industry. The emerging challenge would be the development of adaptive approaches to enhance on harvesting and new and innovative utilisation techniques that would minimize on the extent of raw material needed, and the regeneration of the prime vegetation from which these non-timber forest products are derived. While the total contribution of the NTFP</p>

			sub-sector has not been quantified in empirical terms, the Researching and Documentation of the impact of NTFPs on the socio-economic well being of both the rural and urban communities need to be continuously analysed.
Dennis Sammy	Nature Seekers, Trinidad	Livelihood opportunities and the sustainable use of the forest	Not submitted.
Santiago Rivas Laureano	Center for Agricultural and Forestry Development, Inc. (CEDAF)	Developing associations for promoting forest-based livelihoods: Case study of Dominican Beekeeping Network	Beekeeping is an important alternative for the development of family and associative enterprises in Caribbean forest environments because it is a productive activity with low investment with low capital requirements, does not require much land, depends on accessible technologies of local implementation, generate products with assured local and international market, is feasible to develop in the environments of many of the countries in the region, contributes to a non extractive use of the forest that favors its sustainability, benefits agriculture, biodiversity and the conservation of natural resources through pollination. The modernization of beekeeping in the Dominican Republic started at the beginning of the Twentieth Century. There are approximately 3,500 beekeepers with 100,000 beehives, 30-40% rustics (Log Hives). With the objective to promote beekeeping like a competitive farming business activity by encouraging its conservationist and environmentally friendly production, in 1997 the Dominican Beekeeping Network (REDAPI) was created. REDAPI is a joint effort financed and coordinated by the Center for Agriculture and Forestry Development, Inc. (CEDAF) with the participation of public and private organizations related to beekeeping. REDAPI's activities are concentrated in aspects like the strengthening of beekeepers organizations, generation and transfer of technology, training, commercialization and publications. The Network operates in coordination with the 37 beekeepers associations that exist in the country. Today REDAPI works in the conformation of an operative structure that contributes to improve efficiency in the identification of beekeeper's necessities as well as the participation and coordination of the organizations able to collaborate with them.
11:00 – 12:30 am Conference room 5		Breakout Group 5 <i>Forest poverty Interactions</i>	

Steve Koester	UC Denver	Reflections on alternative livelihoods for forest farmers in St. Vincent: Challenges and lessons for integrated forest management	In 2001 when I first began working with Forest farmers, I was a consultant with CANARI and working with St. Vincent's Department of Forestry. My task, as an anthropologist, was to talk with farmers about farming in the forest and about the Forestry Department's concerns that their farming practices might contribute to deforestation and have negative impacts on the island's watershed. I talked with farmers about Forestry's interest in working with them to develop alternative forest-based strategies that would be more sustainable environmentally and in terms of livelihoods than growing ganja. Since then I have returned to St. Vincent intermittently to look at the country's informal economy in more detail. My comments highlight some of the challenges for integrated forest management when faced with an illicit but potentially lucrative forest-based enterprise.
David Rudder	The Cropper Foundation, Trinidad	Forest-influenced livelihoods: Case of the Northern Range in Trinidad and Tobago	The Northern Range of Trinidad and Tobago covers approximately 25 percent of the land area of Trinidad. It provides a range of ecosystem services critical to the sustenance of the economic, environmental and socio-cultural life of the country. The presentation discusses the Report of An Assessment of the Northern Range, highlights the methodological framework and processes, examines the sphere of influence of the ecosystem services on sustainable livelihood options and analyses the responses and challenges of the follow up, inclusive of activities being undertaken by The Cropper Foundation and its partners. Special emphasis in the presentation is placed on understanding and promoting forest-influenced livelihoods.
Melanie McDermott	Rutgers University (US)/ CANARI s University	Equity in community forestry: How do the poor benefit?	Who benefits from community forestry – and who gets left out? Soon after it emerged as a significant trend in the global South in the 1980s, practitioners, advocates and scholars began to ask such questions of community forestry. The distributional impacts of its more recent development in industrialised countries have been less examined. More unusual still has been the explicit attempt to exchange experience between North and South. This presentation takes on that challenge, drawing on cases in the US, UK, Nepal, Kenya, and Tanzania, and puts forward four key findings. First, community forestry reduces social inequity only when it explicitly targets the poor and marginalised; similarly, community forestry significantly reduces poverty only when it adopts poverty alleviation as an explicit goal. Second, community forestry expands the decision-making spaces available to community members, thereby enabling them to sow change and reap multiple benefits. Third, the poor and marginalised can expand their share of benefits by

			gaining entry and actively participating in those decision-spaces. Fourth, poor and marginalised households and household members are more likely to share in the benefits that community forestry delivers to the community as a whole than they are to gain from it individually. Some benefits may rise to the <i>supracommunity</i> level, such as national policy reform. Finally, while community forestry cannot itself fix all the structural inequities that perpetuate poverty and marginalisation, it can begin to equip communities with the resources and capacity to come together to challenge them.
11:00-12:30 pm Conference room 2		Breakout Group 6 PANOS Caribbean Communication Workshop	
Indi McLymont- Lafayette	PANOS Caribbean	Building great media relationships	<p>Target group: Representatives of community-based organisations (CBOs), non-governmental organisations (NGOs), private sector organisations, private landowners, and individuals from civil society working on forest conservation and forest-based livelihoods; Policy-makers and technical staff from government agencies and academic institutions</p> <p>Content: The 90 minute session would be a very interactive one where participants would share in a discussion on how to relate to the media. Special attention would also be paid to preparing for an interview and how to avoid being ‘ambushed’ by the media. Participants may also be asked to participate in mock interviews.</p> <p>Learner objective: By the end of the workshop participants will be better equipped to plan their personal strategy for working more effectively with the media as well as identifying key media messages while giving better interviews.</p>
12:30-1:00 pm		Plenary Reporting	
1:00-2:00 pm		LUNCH	

Tuesday 4th May 2010	Theme
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2:00-4:30pm			Potential uses of abandoned agricultural estates to develop forest-based livelihoods
2:00-2:30 pm Conference room 1			Plenary presentation
Ivan Laughlin	Independent Consultant	Forestry-sustainability and viability: a human settlement approach- Integrating the land	<p>Today humankind is adversely affected by:</p> <ul style="list-style-type: none"> • rapid urban expansion • population growth • growing poverty and unemployment <p>the result – irrational and often unplanned or poorly planned land development, deforestation and environmental degradation. The Caribbean Archipelago of mainly small islands is very vulnerable. My underlying perception is – <i>how you shape the land so will you shape the civilization</i>. I have over the years developed a Human Settlement Approach in relation to integrating land development. I therefore look at the total picture of land usages, of which forestry is vital, all of which are linked and have to be captured in formulating regional, national and local development endeavours if sustainability and viability are to be achieved.</p> <p>I will use three projects I have and am working on to illustrate the approach in which I emphasise – Nature Reserves, Agroforestry and Homesteading :</p> <ul style="list-style-type: none"> • Mt. Reuil – Grenada • University of the Southern Caribbean – Maracas Valley, Trinidad • Rincon Development – Las Cuevas, Trinidad.
2:30-4:00 pm Conference room 3			<p align="center">Breakout Group 1 <i>Approaches to utilising abandoned agricultural lands</i></p>
Claus Eckelmann & Neila Bobb-Prescott	FAO Barbados-CANARI	Vegetation cover changes: a chance for forestry	<p>The Caribbean Islands are one of the few regions in the world where forest cover is increasing. This is partly due to a sustained reforestation programme in Cuba and a few other countries but most the increase of forest cover can be attributed to natural regeneration of forest on abandoned agricultural land. Recent WTO ruling discontinued the export of sugar and bananas to the European market under preferred access regulations. Having lost the main markets for these traditional agricultural commodities it is likely that more agricultural land will fall fallow.</p> <p>Converting former agricultural land into forest plantation can be an attractive economic alternative to agriculture. Depending on the economic model used to calculate the returns of</p>

			<p>an investment in forest plantation an annual rate of return of 15% or more can be achieved. However forest plantations take long to mature. So while timber plantations are economically attractive it is only viable for those who are rich enough to wait. Timber will always have a market in the Caribbean; in addition to the economic returns well managed forest plantations also provide environmental benefits; so the challenge is to design effective incentive systems to encourage smaller and not so wealthy land owners to plant forest</p>
Carol James	ASA Wright Nature Centre	Asa Wright Nature Centre: from abandoned estate to successful forest based ecotourism enterprise	<p>The Asa Wright Nature Centre (AWNC), perhaps the Caribbean's oldest and most successful nature conservation organization, has gained considerable insight into conservation of forest biodiversity, especially birds, during its forty-three year existence. Management strategies and actions refined through trial and error can serve as guidelines for similar initiatives within the Caribbean and elsewhere. Its conversion in 1967 from an abandoned cocoa and coffee estate comprising 165 acres nestled within Trinidad's Northern Range mountains, where its plantation great house served as host to friends and guests visiting the distinguished scientist William Beebe at the nearby Tropical Research Field Station of the New York Zoological Society at Simla, to a world class bird conservation centre, is of unique historical significance internationally. Successful use of its establishment as a not-for-profit Trust, and the adoption of its central conservation strategy of using the proceeds of bird based ecotourism to purchase additional forested lands within the Northern Range, resulted in the landmark sustainable development milestone that four decades later, the AWNC owns more than fifteen hundred acres of land dedicated to conservation, almost tenfold its original holding. Other lessons on sustainable management practice on how the AWNC overcame its many economic and human resource challenges, some emanating from externally driven global political or economic shocks, and its focus on building human capacity within surrounding communities have been shared in this presentation.</p>
Justin Gurley	Environmental Management and Planning Associates Ltd.	Private Forestry on abandoned or underutilised agricultural lands	Not submitted.
2:30-4:00 pm Conference room 3		Breakout Group 2 <i>Using abandoned agricultural land for livelihoods</i>	

Felix Finisterre	Independent consultant, St-Lucia	Opportunities for forest-based livelihoods from abandoned agricultural estates, e.g., from Grenada, Saint Lucia and Martinique	<p>The power-point presentation will seek to examine the transformation of plantation agriculture resulting from the failure of mono-crop production of primary products such as sugarcane, cocoa and coconut into agri-tourism. This results in a number of former estates being used for conducting tours and other tourism related activities.</p> <p>The presentation seeks to use these examples to illustrate the new linkages between agriculture and tourism for job creation and new economic activity. In the process the various sources markets, as well as the range of activities and product offerings are examined. The challenges facing this emerging sector and the steps required to offset them are also discussed.</p>
2:30-4:00 pm Conference room 4		Breakout Group 3 <i>Economic valuation and payments for ecosystems services</i>	
Stephen Mendes	Department of Environment, Ministry of Agriculture, Montserrat	Economic Valuation of forests in Montserrat	<p>This review gives an overview of Montserrat in terms of its geographical attributes and species abundance, and briefly touches on the impact of volcanic activity that amplifies the need to have management systems in place for the remaining resources. It will review the findings of and OTEP funded project “Economic Valuation of the Montserrat Centre Hills”. The presentation will very briefly explain the need for the project, how it was conducted using various survey and valuation models and results. The presentation will examine the usefulness of the project exercise, and explore the strengths and weaknesses. It will briefly address the communication strategies involved and possible future actions.</p>
Nicole Leotaud	CANARI	Why are biodiversity and ecosystems important for sustained growth and equity in the Caribbean: a UNDP/UNEP regional study.	<p>The UNDP Regional Programme for Latin America and the Caribbean is currently implementing a regional project entitled “<i>Biodiversity and Ecosystems: Why these are Important for Sustained Growth and Equity in Latin America and the Caribbean</i>”. The main goal of this Initiative is to produce a report with sufficiently valuable and robust data to inform policy and decision makers in Latin America and the Caribbean of the need to invest in and maintain biodiversity and ecosystem services. The report will focus on presenting concrete financial and economic benefits and costs to countries from sustainable ecosystem management. It will look at the contribution of biodiversity and ecosystems to sectoral production and outputs to determine their economic value and role in promoting growth and equity. The report will be accompanied by a communication strategy to guide how findings of the study are translated into key messages for policy makers. UNDP recently held a regional</p>

			meeting to get stakeholder input on the report and is currently seeking additional specific case studies from around the region.
Claus Eckelmann	FAO Barbados	Practical experiences of compensation mechanisms for water services provided by forests in Central America and the Caribbean	This presentation summarizes a qualitative analysis of 27 experiences of compensation mechanisms for the hydrological services provided by forests throughout Central America and the Caribbean. Most of the compensation mechanisms studied are taking place at a local scale in response to problematic water supply situations. External actors such as NGOs and government agencies have played the important role of facilitators of these processes. In general, the cases analyzed reflect social and political negotiation processes that need to be strengthened; the need to find suitable permanent financial schemes seems to be the critical issue for the long-term sustainability of the initiatives. Although national governments do not participate directly in many of the initiatives, they are playing an important role for the advancement of the issue since they carry out public policies that both regulate and provide incentives for natural resource use. Finally, conclusions are drawn from the global analysis of the cases and some areas for action are suggested in order to strengthen the issue in the region.
Sarah McIntosh	CANARI Associate	Benefits to the poor from payments for ecosystem services: The Who Pays for Water project	Not submitted.
Wednesday 5th May 2010 8:00 am - 6:00 pm		Field Trips	
Private Forestry initiatives, south-central Trinidad		<p>This field trip will visit two private forestry initiatives in central Trinidad to explore practices being applied and lessons learnt. This initiative is coordinated by the Forestry Division of the government of Trinidad and Tobago.</p> <p>1- The first site to be visited is an estate in Manzanilla owned by Mr. Motilal Guyasingh. The impressive 8 hectare estate won him the Special Award of Conservation of the Environment at the annual National Agricultural Entrepreneurial Competition 2009. Below is a description of the estate written by the judges justifying the nomination.</p> <p>"A number of considerations were brought to bear when the elderly Mr. Guyasingh was considered for this special</p>	

	<p>award. The general ambience of bird sounds, excellent forest tree cover, signs of wildlife feeding, and clean water were immediate indicators of good conservation practice. His deliberate measures to encourage the presence of bats at the 'bat house' and the astute articulation of their connection with seed dispersal, biological control, and increased floral diversity on his estate also spoke to his consideration for this special award. His non-use of chemicals, work with a diverse gene stock of mangoes, facilitation of access to seed trees by the Forestry Division and provision of wild forest seedlings also weighed in as major factors. His move to non-extractive use of the estate as a tool for education of university and other tertiary-level students and outdoor passive recreation for visitors were contributing factors. It remains a rarity to find those who are not dedicated to the "Almighty Dollar". Embodying all the considerations was Mr. Guyasingh's deep passion for his robust and majestic trees. He sees in them much more than financial value."</p> <p>2- The second estate spans 102 acres and is located on the 16 ½ Mile Mark Four Roads Tamana. The estate was originally an abandoned cocoa estate and over the years, the farmer planted some first class timber species and also agricultural crops like citrus and banana that would yield immediate cash return. Mr. Salandy's estate also won him Best Agroforestry Estate 2008 in the first year of the annual National Agricultural Entrepreneurial Competition.</p>
<p>Nature Seekers</p>	<p>Nature Seekers (NS) is a local community-based organisation located on the Toco main road, in Matura, on the east coast of Trinidad. NS was formed in 1990 with the objectives of reducing negative impacts on the endangered leatherback sea-turtles through community beach patrols and ecotours. Nature Seekers manages one of the 55 reforestation projects in Trinidad & Tobago under a co-management arrangement with the National Reforestation and Watershed Rehabilitation Programme in the Ministry of Public Utilities and the Environment. Nature Seekers has the responsibility to reforest five hundred acres of land that was either burnt or deforested over a period of time. The plan is to accomplish this over a ten (10) year period at the rate of fifty (50) acres per year. The project started in November, 2004. Community involvement and participation at all stages are encouraged. Additionally, under the CANARI Action Learning Projects (ALPs) in Participatory Forest Management, Nature Seekers has been identified as one of the Community-based Organisations (CBOs) to contribute to the strengthening of civil society organisations. The overall objective of the ALPs is to support the improvement of the socioeconomic and environmental benefits that can be derived from forest management by analysing, promoting and building capacity for participatory planning and management of forest resources at the regional, national and local levels. Nature Seekers is also part of the Matura to Matelot Network (M2M), established in 2000 with the aim of fostering communication and participation, and facilitate collaboration among CBOs. The M2M had identified some of its priority actions area as the development of a community-based tourism plan for the Matura to Matelot area, and the protection of its cultural heritage.</p>
<p>Permaculture</p>	<p>This field trip will visit a permaculture site to view practices being applied and lessons learnt. Permaculture (<i>permanent agriculture</i>) is a term created by Australian Bill Mollison to describe a land use system that is modelled after natural eco-</p>

	<p><i>systems. It refers to the conscious design and maintenance of agriculturally productive ecosystems that have the diversity, stability and resilience of natural ecosystems.</i> The Permaculture philosophy is one of working with rather than against nature and is applicable in urban, suburban, and rural environments and offers a proactive approach to addressing the escalating environmental crisis. Wa Samaki Ecosystems, a privately owned company promoting the practice of permaculture is located in Freeport within the Central Range of Trinidad.</p> <p>Agriculture practiced within this area went through successive stages of tobacco, sugarcane and citrus with much of the land currently being used for short crops or slowly being turned into housing. Back in 1997, the initial Wa Samaki project was the starting of the fish farm to produce fish for the ornamental trade and now features a plant nursery, a large collection of heliconias, decorative bananas, among others, as well as a variety of tropical fishes. Wa Samaki has also been providing landscaping services since 2007.</p>
<p>Fondes Amandes</p>	<p>This field trip will include a tour of a hillside area being managed by a community organisation as well as a discussion with members and their key partners (from government, donor agencies, and national and regional NGOs) about the development of this initiative, its impacts on the watershed and community livelihoods, and lessons learnt.</p> <p>Fondes Amandes is a hillside community developed around a former cocoa estate now partially owned by WASA, and is located in St. Ann’s, a mainly middle class residential suburb of Port of Spain, adjacent to an important reservoir serving metropolitan Port of Spain.</p> <p>Fondes Amandes has gained notoriety over the years thanks to its reforestation project, the Fondes Amandes Community Reforestation Project (FACRP) that has been quite successful in responding to the challenges posed by the degradation of the watershed. The expansion of housing development into forest areas, dry season fires, poor sanitation facilities and improper sewage disposal practices in upland, as well as poor soil and water conservation measures on hillside agricultural lands are some of the challenges that the reforestation and watershed protection initiative has addressed, through agro-forestry initiatives and activities.</p> <p>Over the years, the FACRP has been involved in planting of trees for restoration of the watershed, while protecting it from bush fires, developing proper drainage and terracing. Additionally, there has been an improvement in the quality of life of the community of Fondes Amandes, through the creation of employment and the provision of basic services and facilities.</p> <p>Before, there was no pipe borne water in the community, which is why households used to rely heavily on river water or rainwater harvesting for their water supply. The rehabilitation of the hillside, coupled with organic farming methods, has provided food but also help to reduce the impact of soil erosion on the river.</p> <p>In 2001, the establishment of the Clean Trees Organic Nursery (CTON) provided a reliable source of organic inputs to the FACRP’s reforestation activities as well as to small-scale farmers and other individuals interested in organic methods of farming. It also provided landscaping and lawn maintenance services. That same year, a community shelter was constructed, and has since then served as a venue for training programmes.</p>

		Community development, the promotion and the development of sustainable, responsible ecotourism in the St Ann's watershed, the protection of the biodiversity of flora and fauna are all key objectives of the FACRP, and this is now viewed as a model of successful community-based watershed management.	
Nariva Swamp		<p>This field trip will look at government-led efforts for restoration of degraded areas of a wetland through planting of trees by communities. This intends to benefit both community livelihoods and serve as a potential model for development of a carbon sink through community reforestation.</p> <p>Nariva Swamp is the largest fresh-water wetland in Trinidad and Tobago and one of the largest in the Caribbean. It is located on the eastern coast of Trinidad, and covers an area of approximately 7,000 ha. The swamp is fed by a few rivers, and also receives water from the ocean through seepage. The vegetation is diverse, including four major wetland types (mangrove swamp forest, palm forest, swamp wood and freshwater marsh).</p> <p>A high number of rare species of reptiles, mammals and birds can then be found in Nariva, and several communities, comprising thousands of residents, depend on the natural resources of the area for commercial and subsistence purposes. Fishing, hunting, and cultivation of watermelons, rice, cucumbers and tomatoes are among the main activities of the Nariva Swamp communities, as well as residents of nearby villages. In the early 1980s, illegal large scale rice farmers started using heavy machineries, digging canals to drain the wetlands, setting up fires to the forests, in order to clear the accumulated organic matter for rice cultivation. These practices highlighted the necessity to better manage and protect the Nariva Swamp. The government of Trinidad and Tobago, together with national NGOs, the National Wetland Committee, the University of the West Indies, embarked on an effort to remove squatters and illegal farmers, fill the canals and create a fire control tower at the southern end of the Nariva protected area. An Environmental Impact Assessment (EIA) was also developed. Since then, the main challenges have been to prevent and resolve the conflicts that have arisen over the use of Nariva Swamp's resources by small-scale farmers, fishermen, residents.</p>	
Thursday 6th May 2010 8:00-11:30 am		Theme Climate change and forests in small islands	
8:00-9:00 am Conference room 1		Plenary presentations	
Pr. John Agard	University of the West Indies, Trinidad	Nariva Swamp Restoration, Carbon Sequestration and Livelihoods Project	<p>The project will seek to optimize the provision of often conflicting baskets of ecosystem services such as wildlife conservation, carbon sequestration, crop production, fishing, and hunting. The main objectives are:</p> <ul style="list-style-type: none"> • To restore and conserve the Nariva wetlands, through the recognition of the services it

			<p>provides as a a biodiverse ecosystem and carbon sink and. This will be accomplished through reforestation of 1339 ha of forest previously destroyed by illegal farming. The restoration of the wetlands will result in additional environmental benefits, including reduction of GHG emissions, provision of expanded habitat for endemic and endangered species in the area, and recovery of the protection and storm buffering character of the wetland</p> <ul style="list-style-type: none"> • To develop sustainable livelihood opportunities for surrounding communities who depend on the swamp’s resources: <ul style="list-style-type: none"> ○ The provision of job opportunities through the Reforestation activities in nursery operations, planting, tending and fire prevention within reforested areas. ○ To develop the capacity of CBOs for organization and entrepreneurial skills to facilitate livelihood sustainability through capacity building and training opportunities, including strategic and business planning. • To develop a workable management regime for the Nariva Swamp with the full participation of community and relevant national stakeholders. <p>To develop models for the determination and verification of levels of carbon sequestered in a small scaled reforested tropical wetland environment. This is to be accomplished through applied research supported by climatic data, and the development of modelling for tropical species in this ecosystem.</p>
Dr. Ulric Trotz	Caribbean Community Climate change Centre, Belize	Climate change in the Caribbean	Not submitted.
9:00-10:30 am Conference room 3		Breakout Group 1 <i>Climate change impacts on forests, possible management responses, and public awareness</i>	
Owen Day	CARIBSAVE	The impacts of climate change on biodiversity in	Not submitted.

		Caribbean islands: what we know, what we need to know, and building capacity for effective adaptation	
Howard Nelson		Managing forests for climate change and livelihoods	Not submitted.
Indi Mclymont-Lafayette	PANOS Caribbean	Communicating climate change and forest issues	This presentation will focus on the need for a stronger collaborative communication framework on climate change and forest issues in the Caribbean. It will touch on the challenges faced by the media on reporting on these issues while identifying possible solutions that need to be taken on by government agencies, civil society and the media at the regional level. It will also touch on communicating these two issues to the international community.
9:00-10:30 am Conference room 3		Breakout Group 2 <i>Climate change impacts on communities and their responses</i>	
Neila Bobb-Prescott	CANARI	Impact of climate change on forest-based livelihoods: Results of the CARUTA research project	The impacts from climate-related phenomena and weather patterns are already affecting forest resources and being observed by forest users in the Caribbean. Even though very little quantitative data exist on the value of forest-based livelihoods to communities, Caribbean people have made wide use of forest resources for subsistence and commercial purposes. Further, to date there has been no specific studies on the effects of climate change on forest-based livelihoods in the ten English-speaking Caribbean countries studied. Also, it can be expected that the impacts being currently observed will be exacerbated as climate change continues. However, there are recommendations based on lessons learnt and experiences that can be made to policymakers, donors and others who can support communities to protect their livelihoods from the adverse impacts of climate change.

Judi Clarke	CANARI Associate	Assessing community vulnerability	<p>Vulnerability is the degree to which a system is susceptible to, or unable to cope with, adverse effects of <i>climate change</i>, including <i>climate variability</i> and extremes. Broadly stated, it depends on a system's <i>exposure</i> to impacts; the <i>adaptive capacity</i> of the system being impacted and the <i>enabling environment</i> affecting that system to respond to such impacts. A community's coping and adaptive capacities in the face of current climatic variability and extremes is used as proxy for its level of coping and adaptive capacity for future climate change. To assess the vulnerability of a community to climate change one must therefore have an indication of current and project climate-related impacts on the community. This information is gathered through community experiences and perceptions, and extrapolation of projected impacts from regional climate models. Additionally, it is important to identify the institutions with the requisite capacity for responding to climate change - at the both the community and national levels.</p> <p>Assessing access to the 5 main categories of livelihood assets at the household level gives an indication of the extent and diversity of such assets that contributes to a household's - and hence a community's adaptive capacity. All of this information may then be use to make a determination of the community's vulnerability to climate change, thus forming the basis for community adaptation.</p>
Neila Bobb-Prescott & Judi Clarke	CANARI	Facilitating community-owned adaptation responses: CANARI's approach	Not submitted.

9:00-10:30 am Conference room 4	<p align="center">Breakout Group 3 <i>Climate change mitigation options and issues: what could work for the Caribbean?</i> (Panel discussion)</p>
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Melanie McDermott	Rutgers International	Climate change and equity for communities
Claus Eckelmann	FAO	Capacity needed for forest management
Robyn Cross	Environmental Management Authority (EMA), Trinidad	The Nariva project
Ulric Trotz	Caribbean Community Climate Change Centre -CCCCC	
10:30-11:00 am		BREAK
11:00-11:30 am		Plenary reporting

11:30-12:30 pm	Theme
	Adaptive, collaborative, ecosystem-based approaches to forest management
11:30-12:30 pm Conference room 1	Plenary presentations

Marilyn Headley	Forestry Department, Jamaica	Forestry support for national development - Evolving forest governance	Not submitted.
Cletus Springer	Department of Sustainable Development, Organisation of American States	Towards a Policy Framework for Adaptive, Collaborative, Ecosystem-based approaches to Forest Management	Working from the premise that policy is the best framework for effective action, my presentation will seek to make a case for Caribbean countries to establish and or strengthen integrated forest management policies in the light of emerging knowledge and understanding of the multiple roles and functions of forests and their contribution to social, economic and environmental stability. The presentation will distill the national policy implications of emerging international instruments such as the UN Framework Convention on Climate Change (UNFCCC); and Reducing Emissions from Deforestation and Forest Degradation (REDD).
12:30-1:30 pm		LUNCH	
2:00- 3:30 pm Conference room 3		Breakout Group 1 <i>Partnerships for effective forest management</i>	
Aleyda Capella	Consortio Ambiental Dominicano, Dominican Republic	Building partnerships for Community-Based Tourism in protected areas: 27 waterfalls Natural Monument, Dominican Republic	Natural Monument Damajagua River Falls is a protected area created in 2004. Before being declared a protected area a group of young people from nearby communities to the area, used the waterfalls for tourism. With support from the Peace Corps that youth group was organized in an Association of Guides to provide the service. Natural Monument is bordered by about 10 small communities. This protected area lacked management mechanisms, and a total lack of personnel to its management. Numerous conflicts with neighbors who threatened the integrity of its resources. In 2005 a co-management agreement between the Ministry of Environment and Guides Association. This agreement sets out the responsibilities and the benefits of the parties, besides the rate of visitation. The co-management agreement establishing the co-management council where representatives of the Minister of Environment, the Association of Guides, the Ministry of Tourism, the local

			<p>council, a representative of landowners and a representative of the Association of hotels. All investments are made on the protected area or in any of the surrounding communities are subject to the approval of the board and respond to an annual operating plan. The benefits generated by ecotourism activities are divided into four parts: to manage the area, to the land-owners fund, for the community fund and Guides Association. Besides the economic benefits generated by ecotourism, some achievements have been reached: Management plan, generating jobs among community nearby; protected area's neighbors with a new vision of conservation and preservation; Management and shared responsibilities; Decreased conflicts.</p>
Robyn Cross	Environmental Management Authority (EMA), Trinidad	The ESA Stakeholder Management Committees: Experiences, challenges and future directions	<p>In designating new protected areas in Trinidad and Tobago under the EMA's legislation for Environmentally Sensitive Areas, the EMA also set up Stakeholder Management Committees for each area in an effort to bring NGOs, CBOs and other stakeholders to the table. The SMCs include those for the Matura National Park (montane forest ecosystem), the Aripo Savannas (natural lowland savanna) and for the Buccoo Reef, with the last one being planned for the Nariva Swamp (freshwater swamp ecosystem). Each of these committees faces its own challenges and directs its work programme, and is at a different stage in its life cycle. The presentation will review the challenges of the SMCs, look at what has worked and make recommendations on how they could proceed. Challenges include representation, capacity, responsibility of stakeholders, recognition, culture of organisations and their level of interest.</p>
Sesar Rodriguez	Consortio Ambiental Dominicano, Dominican Republic	Construyendo Alianzas para el Manejo de los Recursos Naturales, Experiencia del Consortio Ambiental Dominicano.	<p>El Consorcio Ambiental Dominicano (CAD) es una organización sin fines de lucro, integrada por instituciones gubernamentales, no gubernamentales e internacionales, vinculadas al sector ambiental y recursos naturales.</p> <p>El CAD nace con la finalidad de llegar a ser un Centro de Excelencia e influencia en la toma de decisiones en el sector ambiental y de recursos naturales del País, orientado a apoyar las organizaciones e instituciones socias.</p> <p>Su misión es promover y aplicar soluciones ambientales, apoyado en las experiencias y capacidades de socios y aliados con miras a lograr mejor calidad ambiental y de vida de las comunidades.</p> <p>Nivel Operativo:</p>

			<ul style="list-style-type: none"> • Programas Ambientales: <ul style="list-style-type: none"> ○ Desarrollo Tecnológico: Educación Ambiental, Agricultura Sostenible, Eco-turismo, Autogestión de Recursos Naturales ○ Gestión Ambiental: Gestión Ambiental y Recursos Naturales, Manejo Sostenible de Recursos naturales, Biodiversidad y Áreas Protegidas ○ Investigación ○ Desarrollo Comunitario ○ Difusión de Políticas Ambientales <p>Estos programas son desarrollados a través de los socios y aliados del CAD.</p> <p>La estrategia de trabajo está centrada en:</p> <ul style="list-style-type: none"> • Fortalecer el nivel de integración entre los organismos internacionales de cooperación, las instituciones gubernamentales y no gubernamentales relacionadas con el medio ambiente. • Desarrollar alianzas estratégicas. • Servir de enlace entre actores claves y las instituciones del gobierno, ayuntamientos, las ONG, instituciones privadas y la comunidad (Co-manejo) <p>Trabajar con un enfoque regional, aprovechando las oportunidades de desarrollar actividades sobre el manejo y conservación del medio ambiente en coordinación con Haití y otros países vecinos.</p>
2:00- 3:30 pm Conference room 3		Breakout Group 2 <i>Managing forests and ecosystems</i>	
Chris Cox	CEHI	Watershed Management	Not submitted.
Howard Nelson	University of the West Indies	Managing forests at landscape scale – Ecosystem management	Not submitted.
Claus Eckelmann	FAO	Silvicultural systems and their social linkages	The success of restrictive silvicultural systems such as diameter limits and other harvesting regulations depend mainly on the vigour of the forest administrations to ensure that these rules and regulations are adhered to. The successful implementation of the more

			<p>constructive silvicultural systems is characterised through their social ties. The establishment of forest plantations in state forests either require large amount of public funding or some kind of partnership where both parties obtain direct benefits from practising silviculture. The Trinidad Shelterwood system was only feasible because the charcoal burners did the felling of undesirable trees and the clearing of the underbrush. After charcoal burners created the shelterwood conditions the forest regenerated naturally. The cultivation of forest trees together with agricultural crop in the Taungya system is another partnership system. It relied on the need of landless farmers to use forest land for their agricultural production. With the decline in the charcoal market and the general decreasing pressure for agricultural land these silvicultural systems were no longer viable. The affiliation of the periodic block system with privately organised forest workers is the result of a political decision to utilize state-owned timber resources to provide income opportunities for rural poor. In Trinidad these forest workers are called 'woodworkers'. Rural people without employment were/are granted the exclusive right to buy from the Forestry Department up to ten timber trees not exceeding 500 cubic feet (14,15 m³). The trees are sold standing to registered woodworkers and they are allowed to harvest the trees and to sell them to a saw-miller. As the block system reduced the general availability of timber to the woodworkers they established a self-help association to lobby for higher timber allocations from the state forestry reserves. They devised a system to share the available timber allocations among the group and in some cases they were able to strengthen their position against the powerful group of saw-millers. Two Woodworkers Associations were established in Trinidad but only one, the Nariva Mayaro Woodworkers Co-operative Society, established in 1964, still exists.</p>
2:00- 3:30 pm Conference room 4		Breakout Group 3 <i>New direction in forest policy and planning</i>	
Nicole Leotaud	CANARI	Forest policy to guide coordinate management of a country's forests	Not submitted.
Lyndon John	Forestry Department, St-	Conservation of the Latanyé Palm	Since the decade of the nineties, the Forestry Department of the Ministry of Agriculture, Lands, Forestry & Fisheries has been concerned with the plight of the Latanyé species in

	Lucia	(<i>Coccothrinax barbadensis</i>) in St-Lucia	wild. The manufacture of local brooms from the Latanyé palms is a traditional activity, but indiscriminate harvesting of the leaves for broom production had threatened the survival of the species. Very few Non Timber Forest Product (NTFPs) have benefited from a concerted effort by way of research and cultivation as a means of reducing dependency on harvesting from the wild. An example of such efforts would include the harvesting of bay leaf for the bay oil industry and vanilla production in Dominica. The Forestry Department in Saint Lucia sought to promote the latanyé palm and mauby cultivation as part of a programme thrust towards promoting agroforestry and addressing rural poverty. In 2009, the Forestry Department under the EC-SFA 2005 implemented a project entitled <i>Institutional Support for Latanye/Mauby Producers in St. Lucia</i> , through the Inter-American Institute for Cooperation on Agriculture (IICA). The main objectives of this nine month project was; (i) the conduct of a Latanye production and marketing needs assessment;(ii) Establishment of a nursery for the production of Latanye/Mauby seedlings; (iii) Training in all aspects of nursery and farm management, business skills, small enterprise management, organizational leadership and group dynamics, standards and quality control, and environmental management issues. The total project budget was EC\$140,778 (US\$52,140).
Kathleen Belcon	Forestry Division, Trinidad	Scope for change- Forestry Sector, Trinidad	Learning strategies and enhanced flexible thinking have each been argued as strategies to increase the adaptive capacity or the ability of individuals to cope with surprises within ecological systems. Therefore the concepts of learning, flexible thinking and adaptive capacity should be studied to gain insight into the ability of natural resource managers to deal with surprises within the system. I evaluated whether a relationship exists between, learning, flexible thinking and the influence of these variables on adaptive capacity. From questionnaires and informal interviews conducted with personnel of the forestry sector of Trinidad information was gathered about their concept of forestry, learning strategies utilized, and the adaptive capacity of the institutions that they are a part of. An analysis of the data showed that increased opportunities for training can result in innovative and creative thinking that may lead to adaptive individuals who are better able to cope with changes and surprises that are inherent when managing ecosystems.
Keith Gibson	Environmental Design, Canada	Taking Advantage of Uncertainty and Change – Resilience and Innovation in	There is growing international recognition that our world is changing more quickly than we can control it. When we try to manage an ecosystem, our actions have intended AND unintended consequences. What then can we do? Change, whether it is institutional, policy, or environmental, opens up opportunities for innovation, new ways of doing things. I will

		Ecosystem Management	discuss how ideas about innovation and change can tangibly help stakeholders who depend on and manage forest ecosystems.
3:30- 4:00 pm Conference room 1	Plenary Reporting		
4:00-6:00 pm	Wrap-up and Closing session	<ul style="list-style-type: none"> - Reports from CBO workshop and field trips - Rapporteurs present key messages from the conference - Thanks and close 	

Appendix 3: Full programme

Appendix 4: Rapporteur's reports on sessions

Theme: Forest for Sustainable Livelihoods and Poverty Reduction

Plenary

Rapporteur: Fitzgerald Providence

Plenary Presentation 1: Akilah Jaramogi, Fondes Amandes Reforestation Project, Trinidad and Tobago

Role of community-based organisations in developing sustainable forest-based livelihoods

The Fondes Amandes Reforestation Project in the northern range of Trinidad project started in 1982 as the community saw that the Forestry Division's efforts to control annual forest fires was not enough and there was need for community involvement as they lived in the area. The fire control effort has been successful, so that the area has been fire free since 1997. They now have to work on preventing fire coming from outside areas. There is also concern that now the Forestry Division is backing off from the area and the community has been very effectively managing fires.

The livelihood efforts in the area include:

- community members training in fire control and craft-making;
- organic farming and permaculture;
- the community has its own nursery;
- an eco-tourism programme with support from the Green Fund.

The education component of this effort involves:

- the involvement of young people in the initiative, including the environmental monitoring efforts;
- encouraging the continuation of the cultural knowledge on the uses and names of fruits and plants.

Lessons learned:

- There is a need for participation of communities in conservation efforts, as they are the people immediately affected.
- Multiple livelihood projects are required to ensure diversity of income opportunities.
- Livelihood projects require more than short-lived support, rather they depend on continuous effort and do require patience.

Breakout group 2: Government initiatives to promote community forestry

Rapporteur: Judi Clarke

Fitzgerald Providence, Forestry Department, St. Vincent and the Grenadines Creating a world where forests belong

St. Vincent has a unique advantage in that all water is from surface sources, all gravity fed (no pumping), but this is still not linked to forest and soil protection (>60% of land is steeply sloped).

The Integrated Forest Management and Development Programme (IFMDP) was created by the government to address the problem of watershed degradation being caused by widespread marijuana farming on the hills of St. Vincent.

Lessons learnt from the programme:

- The costs and benefits of marijuana cultivation need to be assessed. Are the risks worth it?
- Limitations and opportunities need to be identified and examined
- Supporting programmes need to be identified and links made to take advantage of synergies
- We must have a better understanding and recognition of values and roles of forest resources
- We must have policies that deal with land use issues and sustainable development:
 - Land use issues present a challenge given the 5-year cycle of political leadership.
 - Land use planners: Governments need to see forests (not development) as the means for life.

In the discussion, it was noted that marijuana cultivation is destroying more than forests. Reference was made to the anthropogenic study on marijuana cultivation and the fact that in order to fight it one must understand it. Marijuana cultivation and the culture associated with it:

- is illegal;
- destroys the environment through land clearing for planting (particularly on the fringes of watersheds); destroying habitat of endemic species;
- destroys society through its attractiveness to young persons and the criminal element associated with marijuana.

The experience of St. Vincent and the Grenadines has been such that there has been little success in encouraging marijuana growers to find alternative income generating activities, and this is limited to older men. The reasons for this include that:

- older persons find it difficult to move up and down the mountains where the crop is grown;
- they have more to lose if caught (large families, homes, etc.);
- their children are now grown and can provide for them.

Young people are still very involved in marijuana cultivation and seek the immediate financial gains to buy “bling” – there is no long-term planning. It is believed that they also seek to make a name for themselves and gain respect in society. They generally have no respect for life and the ‘industry’ has far more criminal elements than previously. Some growers cultivate legal food crops on the periphery of the marijuana fields, but others steal from nearby farms. This has created fear and a loss of interest in legal farming in the mountains.

The challenge remains to encourage young persons to find an alternative livelihood. Growers want ‘substitution’ (direct replacement of benefits: equal gains in the same timeframe) and are therefore not interested in learning new skills for long-term gains – even though risks would be far less. The IFMDP is working with the relevant ministries to address / investigate the social / sociological reasons for the marijuana culture. It was proposed that currently, there is no crop that can provide equivalent gains in the same timeframe as marijuana. However...

- the experiences of the Fondes Amandes programme were highlighted. Where seeds for use in jewellery making and grasses for craft are short crops. With value added (painting, manufacture of the craft), a comparable area can yield a lot of income.
- Vegetable production, especially for tourism market, is a potential livelihood and has far less risk than marijuana cultivation.

One other small success was that growers participated in a programme to develop a site as an attraction, for less than US\$25 per day – considerably less than what they would normally earn.

In Jamaica, large areas of forests are cleared to grow coffee and no other tree crops can be grown with coffee since it requires direct sunlight. Jamaican coffee is a lucrative industry – yielding \$288,000/year for one acre. The question or challenge is how to find comparative alternatives for coffee growers, for example shade-grown coffee with the introduction of other species of trees to enhance the environment.

Noel Bennett, Forestry Department, Jamaica Local Forest Management Committees (LFMCs) 2000-2010

Local Forest Management Committees (LFMCs) in Jamaica function in:

- Forest conservation
- Watershed protection
- Benefits to the community
- Increased benefits from forest resources
- Social development

Steps to sustainability:

- Regular attendance at meetings
- Election of officers (to establish processes within the organisation)
- Ratification of constitution
- Build capacity – not necessarily introducing new skills but enhance what already exists
- Project planning / writing

Relationships are key. It's one thing to get people to a first or a few meetings but establishing relationships with and amongst community members and CBO's is critical for success and sustainability. People must WANT to come together as a community.

Anthony Ramnarine, Forestry Division, Trinidad and Tobago Climate change and sustainable turtle conservation

Mr Ramnarine discussed the linkages between the climate, forests and wildlife.

He also highlighted benefits of co-management as:

- Direct employment
- Income generation (government and from visitors)
- Benefit sharing (facilities being developed in area)
- Increase in ecotourism activities
- Respect and recognition

Breakout group 1: Community livelihoods from protected areas

Rapporteur: Kathleen Belcon

Veronica Anadon, Birdlife, Puerto Rico
Important Bird Areas for forest conservation and community livelihoods

In the Caribbean, Birdlife operates in Puerto Rico and the Greater Antilles and hopes to strengthen and move to other countries. Birdlife is a global partnership of conservation of groups in over 100 countries that works with national NGOs and facilitates and provides support within the network. Research was conducted on the 'Important Bird areas in the Caribbean' where the analysis of data showed that high biodiversity and bird area sites are almost the same, and are primarily located in forests. Of these areas, just over 50% were partially or wholly in protected areas systems. It was also found that in those areas management and funding capacity was lacking. Birdlife was involved in projects in four countries; Cuba, Dominican Republic, Haiti and Jamaica.

- Cuba: Theme of project – 'Site based, science-derived and people focused'. This study looked at the main watersheds in the country, site potential for eco-tourism, restoration of a small lodge and community centre, training community members in agro-forestry, restoration of watersheds and fire prevention.
- Dominican Republic: Theme of project – 'Identity creates security and pride'. This project targeted communities along the Biosphere Reserve and provided ecofunds, restored watersheds and helped empower communities by helping them extract products from forests such as honey.
- Haiti: Theme of project – 'Forests continue to provide vital services'. Through the project watersheds were restored, which reduced the time needed to collect water by local communities. Additional elements: refurbishing a site to be an eco lodge, restoration of school, providing incentives for teachers, nursery and agro-forestry plots to reforest degraded lands.
- Jamaica: Theme for project – 'Increase forest cover by engaging local communities'. Worked with local forest management communities to reforest area to provide canopy for birds and bats. Used fruit trees.

In all the projects the communities were shown an alternative way to make a living and they are now aware that they benefit if they conserve the resources.

In the discussion, the problem of parrots in Tobago was raised. Veronica was asked if she had any advice in dealing with parrots as pests. A colleague from Dominica shared that parrots are a pest in Dominica, where one method they have used to deal with the problem is the harvesting of products before parrots damage the produce. Through partnerships they constructed juicing operations right on site. A question was asked about how to break the poverty cycle while keeping the environment and one answer was eco tourism. Discussions were held about the fact that other sources of income are more lucrative, so how to help forest people make a better livelihood? Suggestion – open a Critical Ecosystems Partnership Fund.

Rildez Sanchez, Reserve Ebano Verde, Dominican Republic
Livelihood benefits from managing a forested protected area: Community benefiting from forests

Progreso, an NGO, was established in 1983 for the promotion of natural resources conservation with a mission to work with communities. The Ebano Verde Scientific Reserve was established in 1989 for water conservation. The reserve has a visitor centre for research.

The reserve is located in the centre of the island. It contains one of the highly demanded commercial timber species, black ebony, which is used for furniture and exported. Currently no harvesting is allowed in the reserve since it is an area of high biodiversity with 688 species of plants. The area is conserved and promoted as a cloud forest with high diversity.

The community around the reserve is involved in assisting with soil conservation. A lot of outreach and education awareness has been done in schools and universities about the diversity in the cloud forest reserve. There have been workshops and conferences with communities where it was highlighted that the community 'can't protect what you do not know'.

The reserve is managed through a close collaboration between government and private business segment of the Dominican Republic. Government made a formal agreement which gives Progreso the responsibility to manage the reserve. Progreso comprises private businessmen, and they donate money from their business industries towards managing the reserve. The land is owned by Government. Funding for management also comes from the hydroelectrical company, which pays for the watershed services it gets.

Water supply from this reserve is significant with a base flux of 45%. The reserve supplies two big rivers. One river irrigates 1758 ha of farm land, rice and vegetables. The Jimenoa River is a hydro electrical source and this river has tributaries that come from the reserve. It is very important to conserve the river. Research that was conducted by Columbia University, New York reported that a water crisis is looming with predictions that by the end of the century there would be a 85% reduction of water in the Dominican Republic. From this research it was recommended that an action plan must be developed and implemented to mitigate the reduction in water. Research also recommended that a law be passed for sustainable management of water.

It was noted that there is no degradation as yet in the reserve. Progreso conducts its own enforcement in the reserve.

**Marlon Beale, Jamaica Conservation and Development Trust, Jamaica
Protecting the Forests of Jamaica: The Jamaica Conservation and Development Trust (JCDDT) – Management of the Blue and John Crow Mountains National Park**

The Blue and John Crow Mountains National Park was established in 1993. The forest reserve is 4.5% of the island's surface area, comprising mainly hills and valleys and containing the largest contiguous area of closed broadleaf forest in Jamaica.

The national park protects 10% of the upper watershed management units in the island and provides 40% of the population of Jamaica with water. Soil conservation, carbon sequestration and biodiversity are also important, since the park is the habitat for all the endemic bird species of Jamaica. It is internationally recognised. The park is important for its cultural heritage since it supports the Maroon communities and culture. The Blue and John Crow National Park is important for its economical potential such as recreational, tourism and pharmaceutical products.

The Park has been submitted as a World Heritage Site to be nominated. Hopefully, this will occur at the middle of the year through a visit to the National Park by the World Heritage Site Committee.

JCDT developed a 5 year Management Plan from 2005-2010 which involved all stakeholders. The plan is currently being revised with an aim to develop a new plan by the end of the year. The Management Plan evaluates the threats to the Park: deforestation, forest degradation, wildlife destruction, alien invasive species. The protected area faces issues such as encroachment of lease land and boundary conflicts with cocoa farmers. Root causes include the lack of knowledge and lack of enforcement. After these steps a zonation map was developed where four major zones were demarcated including a Buffer Zone and a Recovery Zone. The Management Plan identified six major programmes namely:

- Conservation Programme: Objectives include to protect threatened biodiversity. Achievements to date include rehabilitation of 45.04 ha, eradication of invasive species, forest nursery developed at Holywell with an emphasis on native species such as blue mahoe and cedar.
- Monitoring and Evaluation Programme: Threats monitoring is accomplished through two main activities – photo monitoring and observations on patrols. So far they have monitored streams and birds.
- Enforcement and Compliance Programme: Presently there are seven Rangers. Funding is an issue.
- Education and Public Involvement Programme: This involves teaching farmers better farming techniques, also Youth PATH funded by UNESCO.
- Recreation and Tourism Programme
- Governance and Administration Programme

It was noted that co-management of this area is institutionalised through an agreement with the Forestry Department and others. There are three levels of policing: Forestry Department; JCDT Rangers and others.

Breakout group 3: CANARI's research on participatory forest management and livelihoods

Rapporteur: Loiza Rauzduel

Andrew Simmons, St Vincent and the Grenadines

The emergence of a community sustainable development model: the experience of Partners of the Environment (POTE), St Vincent and the Grenadines

Analysing how a participatory approach was being used to mobilise communities, the presentation focused on the socio-economic challenges facing the communities of Chateaubelair/Fitzhugues in St. Vincent and the Grenadines. In order to resolve the existing livelihood challenges, ethno methodologies and participatory research methods are being used, providing opportunities for involving the group in real work situations and encouraging development of trust and camaraderie. People then become part of the process. Skills and values are transferred between the mentor and the members of the group. Even though these methodologies have proven to be time consuming, social benefits as well as a sense of pride among people from the communities were derived.

It was also noted that although there was a high number of illegal farmers planting ganja, and in spite of the quite significant contribution to the GDP of St. Vincent of the marijuana trade, the community remains one of the poorest in St. Vincent and the Grenadines.

Nicole Leotaud, CANARI

Moving from rhetoric to reality: How can participatory forest management contribute to improving the livelihoods of the rural poor in Caribbean small island states?

The presentation focused on the CANARI work done under FAO and EU funded projects, and the extent to which participatory forest management in eight 8 countries of the region had impacted on the livelihoods of the rural poor.

Several sectors, e.g., tourism, agriculture and forestry, were involved. It has to be noted that livelihood is not only about making money. Other assets such as the ability to let your voice be heard, which would be the political asset, or the social and natural assets are also to be taken into account. Participation and control by the people from the communities do not necessarily equal better management. Sometimes informal arrangements work better than formal ones.

Sarah McIntosh, CANARI

Grande-Riviere: a case study of livelihood benefits from collaborative forest management in north-east, Trinidad

This presentation focused on one of the case studies on forest management initiatives designed to provide socio-economic benefits to the rural poor undertaken by CANARI, conducted in Grande-Riviere, Trinidad. Several eco-tourism activities are locally owned by members of the community of Grande-Riviere.

If management of the area is shared by the Forestry Division, National Parks, the Wildlife Division and the Environmental Management Authority (EMA), key local stakeholders are also very much involved. In the framework of the Grande-Riviere Tourism Development Project, reforestation has been tailored to the needs of the people. Fruit trees for examples, are being planted, because they could generate revenue from the sale of the fruits.

During the discussions following the presentations, participants enquired about the existing mechanisms and possible assistance for capacity-building. It was also mentioned that externalities, such as the global financial crisis, or the banana regime change, have to be taken into account when one considers the rural livelihoods of the Caribbean small islands states.

Breakout group 4: Exploring potential for forest based livelihoods in rural communities
Rapporteur: Marcella Harris

Albert Gallion, Forestry, Wildlife and Parks Department, Dominica
The contribution of non timber products to forest based livelihoods

This presentation highlighted products that are not typical NTFPs, e.g. feathers of birds, castor oil, tarish mining, potable water, wildmeat, hydro and geothermal energy, freshwater fishing; as well as services e.g. hiking, birding, mountaineering, research.

In the Global Forest assessment, all products are NTFP except the services. This is of concern to a Forestry Department as tourists place heavy footprint on the tourist sites.

Some examples:

- Tree ferns are used for making “steps” in trails/paths and used as planters. How to sustainably manage tree fern production?
- Wildmeat sells at 10 times the price of lamb. The Forestry Department is encouraging farming of wildmeat (e.g. agouti) but this so far has not been successful.
- The Laroma palm is used by the indigenous Caribs (Kalinago) for making crafts. But it is being harvested and not replaced. Harvesting taking place deeper in the forest. The Forestry Department had a project with IICA where the palm was propagated and harvested in two years. There is restricted harvesting in certain areas such as National Parks.

Forestry Departments must provide information to economists for the contribution to GDP to be calculated.

Dennis Sammy, Nature Seekers, Trinidad and Tobago
Livelihood opportunities and the sustainable use of the forest

Nature Seekers started as a community group/organisation protecting leatherback turtles. It is now involved in the National Reforestation Programme and in that programme is fulfilling the Nature Seekers mandate as well as Government’s mandate. Nature Seekers is involved in:

- alternative livelihoods for membership/community;
- capacity building;
- young people’s involvement;
- management of resource;
- transparency and accountability;
- partnership.

Lessons learnt are:

- Community involvement is critical for natural resource management.
- The more standards you set the more there is individual growth.
- Balanced leadership is necessary.

Challenges:

- trust;
- developing the future of the community.

Santiago Rivas Laureano, Center for Agricultural and Forestry Development Inc. (CEDAF), Dominican Republic
Developing Associations for promoting forest-based livelihoods: Case Study of the Dominican Republic (DR) Beekeeping Network

Beekeeping in the Dominican Republic:

- Low capital requirement, no land need, involves all members of families, local implementation of technology, favours biodiversity and conservation, feasible in Caribbean, local and international demand.
- Young people are involved.
- Organised 37 Associations and involved in strengthening these through training.

Main challenges are:

- Expansion – seeking new partners
- Developing operative structure
- Planning – annual and strategic

Breakout group 5: Forest poverty interactions

Rapporteur: Fitzgerald Providence

Steve Koester, University of Colorado Denver
Reflection on alternative livelihoods for forest farmers in St. Vincent: Challenges and lessons for Integrated Forest Management

The speaker noted that first, there is a need to contextualize the ganja cultivation historically and socially. To answer the question “why do they do it?” we need to consider the global influence. There are many households involved. Although this is a national dilemma there is widespread ambivalence. Ganja farming is not condemned by the general population.

Four lessons have been learnt:

- There is a diversity of stakeholders.
- Different groups cultivate in different environments.
- The ganja economy involves more than men; it involves communities, households and women.
- The institutional arrangements are important for long term success of the management of the issue.
- ❖ In the engagement of growers: there may be nothing wrong with the message, rather the problem may be with the messenger.

Winston Rudder, Cropper Foundation
Forests influenced livelihoods: Case of the Northern Range, Trinidad and Tobago

This study was part of Millennium Ecosystem Assessment and sought to identify the value of the goods and services (e.g. ecotourism services) of the Northern Range and to analyse key management issues. It was noted that regulatory and supporting services of the environment are not accounted for in GDP and there must be an integrated approach to forest resources management.

Dr Melanie Mc Dermott, Rutgers University
Equity in community forest: How do the poor benefit?

- Community forestry (CF) will reduce social inequity when it explicitly targets the poor.
- CF creates or expands decision spaces available to communities.
- The poor can enlarge their share of the benefits by gaining entry to those decision spaces.
- Poor households are more likely to benefit as part of the community than gain from it individually.

Theme: Potential uses of abandoned agricultural estates to develop forest-based livelihoods

Plenary

Rapporteur: Dr Howard Nelson

**Keynote Presentation 1: Ivan Laughlin, Trinidad and Tobago
Forestry - sustainability and viability: a human settlement approach - integrating the land**

The focus of the presentation was on integrated development i.e. seeing forestry as an element of a comprehensive component of economically viable green development – with nature reserves, agro-forestry and homesteading rooted in an organic framework.

The presenter drew on his extensive experience with planning of communities in the Caribbean to draw general lessons about what types of development appeared to him to be most viable in the region. In this regard, he indicated that his work focused on finding ways to ensure community participation in the spatial planning process. He indicated that a key driver determining his approach to planning of homestead type communities was the need to develop an alternative view in the face of rising populations and financial crises. He indicated that he defined human settlements as a combination of three ingredients (viz. people, the land and limited financial resources). The presenter advocated the revitalization of the “village” and indicated that development around this model should include 3 pillars: involvement, integration and “incrementation”.

The presenter described 3 projects (one from Grenada, Mt. Reuil, a homesteading project; the University of the Southern Caribbean in Trinidad, and a development in Las Cuevas also from Trinidad). He indicated that in the development of such projects historical stories have relevance for future development and survival. He also indicated that his experience was that such development projects have long gestation periods (over 10 years).

Questions from the floor included one on whether there was any follow through on the Grenada development – the presenter indicated that there was not. Another question from the floor focused on whether he included a landscape approach to the development of these “villages”, and the presenter indicated that the challenge to such an approach in the region was the lack of proper cadasters for the various countries. Other members of the audience asked whether there were any indigenous systems land management that can be used as a model in the region, and the presenter indicated that examples existed in the region including Belize, Montserrat, and Grenada where Mayan land tenure systems, “the family land” approach and other systems existed. He also noted that these were very distinctive on each island. The issue of involvement of youth in the planning for sustainable communities was raised from the floor and the presenter responded that the key issue was that promises tended to be made by the political directorate in

these countries and not kept, and indicated that this issue of engagement of youth can be dealt with in the planning and implementation process.

Break out group 1: Approaches to utilising abandoned agricultural lands

Rapporteur: Kwesi Dennis

Claus Eckleman, FAO

Changes in vegetation cover: A chance for forestry

The speaker used the example of Barbados where between 1951 and 2001 there has been a gain of 37% of forest.

Gulleys retained natural vegetation during the period of coffee production, and retained it after coffee was abandoned... the gully has important ecological value.

Analysis of Barbados land cover:

- 21% built up
- 27% sugar cane
- 20% natural process of re-vegetation
- 17% forest and open woodland
- 30% of land that can be used for agriculture is underutilised

The speaker also used the example of Grenada where there is a lot of underutilised land in the island, even though the common complaint is said to be limited land space. A lot of the underutilised land is reverted back to forest. Can the land be used for something else (e.g. forest plantations)?

There is continued re-emphasis on how much food we import and whether some of the underutilised land could be put to better protective use.

The longer the forestry plantation takes to grow, the lower the rate of return. Forestry can be a lucrative investment but is only viable for those rich enough to wait. One person remarked however that it is a high risk investment due to manmade and natural disasters. The challenge is to develop an incentive scheme to invest in forest plantations.

Discussion raised the point that planting new forest is not as important as stopping forest destruction.

Options for the abandoned lands are ecotourism, watershed protection and agroforestry as demonstrated by the Buff Bay Local Forest Management Committee (LFMC) in Jamaica. This programme of using local communities to develop agroforestry on both public and private land has been so successful, that the model will be extended to other LFMCs.

Problems highlighted:

- land tenure issues
- lack of national coherent development plan
- agencies with responsibilities related to land management do not collaborate

Closing comment: There are not enough ecologically managed plantations that are integrated with different types of trees, particularly native species.

Justin Gurley, Tropical Re-Leaf Foundation, Trinidad and Tobago
Private forestry on abandoned or underutilised agricultural lands

Justin began with highlighting some of the common challenges raised by persons in the field of private forestry. The major challenges are: lack of labour supply and unsuitability of soil for planting.

Positives: commercial forestry is profitable over the long term (25 years)
Successful approaches: The Taungya system - This is a system whereby local farmers grow food and short crops in exchange for forest management. There is a legal contract between land owner and the trusted local farmer.

Closing remarks: Private forestry is a viable option for making abandoned agricultural land productive, but it requires proper planning and research by the landowner.

A question was asked about how we can protect the forest estates while still producing foods in larger quantities. The answer was to adopt an approach of integrated farming- planting pigeon peas, sorrel, dasheen around the fringes of hard timber plantations
We are producing many persons with environmental management and agricultural diplomas but insufficient lands for them to really manage. A suggestion was made to provide these students with parcels of land for cultivation.

Break Out Group 2 - Using abandoned agricultural land for livelihoods

Rapporteur: Dr Howard Nelson

Dr. Carol J. James, Asa Wright Nature Centre, Trinidad and Tobago
Asa Wright Nature Centre: from abandoned estate to successful forest based ecotourism enterprise

The presenter reviewed the economic and social context for the abandonment of estates in Trinidad in the period of the 16th – 19th centuries. She placed these factors in the context of the evolution of the Springhill estate in the Arima Valley, as a site for sustainable land management, through its successive transformations from forest to cocoa estate and then to site of the Asa Wright Nature Centre.

Dr. James reviewed the economic implications of the various land uses from the chattel slavery of the early European colonisation of Trinidad, through its Cedula of Population and the evolution of the plantation economy with its “free” land and “free” labour. She highlighted that the wealth from these systems was exported to Europe, and highlighted that these management systems largely left these estates abandoned by the early part of the 20th century. She reviewed the 43 year history of the Asa Wright Nature Centre and the role of serendipity in its becoming a premier site for bird-based ecotourism in Trinidad. She indicated that if one examined household incomes in this part of Trinidad that they declined exponentially as one moved away from town centres and highlighted the role of the Nature Centre in providing sustainable livelihoods to the rural people around the nature centre. Finally she stressed the viability of the system and the importance of its governance structure, mission and vision as key elements in its success.

Felix Finisterre, Saint Lucia

Opportunities for forest-based livelihoods from abandoned agricultural estates: Experiences in Grenada, Saint Lucia and Martinique

During this presentation the speaker contrasted the Eastern Caribbean's mass tourism with the example of niche tourism presented earlier by Dr. Carol James. He discussed the increasingly competitive cruise ship tourist market, and highlighted the fact that this type of tourism has led to recreational sites being overrun with tourists and degraded. The presenter also noted the economic failure of successive mono-cropping systems in the islands, and the changing land-use in the islands, which tended to smaller and smaller parcel size. He also noted that there tended to be little agro-processing, and a loss of value-added to primary agricultural production.

He highlighted the development of estate tours as a potentially sustainable use of these agricultural estates in the Caribbean, and cited three examples, which included the Fond Doux Estate, Manikin Gardens and Belmont Estate. He reviewed the evolution of each of these estates and their current estate tour systems, noting that they all have high levels of self-sufficiency, utilize resources from their local communities, have high visitor levels (e.g. 20,000 annually for Fond Doux Estate) or high occupancy rates (e.g. Belmont Estate has 70% occupancy annually). The presenter also noted that these estates tended to increase their viability by niche marketing and agro-processing on site of produce from the estates. He indicated that such estates should be facilitated through State policies and noted that accreditation through systems such as HERITAS was an important issue for improving the marketability of such estate tourism systems.

Theme: Valuation of ecosystem services and its role in forest management

Plenary

Rapporteur: Dr Howard Nelson

Note: Professor Dennis Pantin was unable to give a plenary presentation as scheduled.

Keynote Presentation: Claus Eckelmann, FAO

Practical experiences of compensation mechanisms for water services provided by forests in Central America and the Caribbean

This presentation provided a synopsis of a 27-author study on the various practical experiences with respect to payment for ecosystem services (PES), specifically water. The study revealed that while the value of forests was clear, very few users were actually willing to pay for these services, and that most "sustainable" forests were hardly profitable. In this regional study there were a few compensation mechanisms that were successful and profitable.

The study found high levels of variability and specificity with respect to the approaches that have been used regionally with respect to payment for water. Generally in most countries in the region, the provision of water was seen as a right. In some cases, compensation for water services of forests was done through provision of labour to the project. Most of these regional projects on water services (75%) had external financial support, which largely originated from NGOs.

The study found that pricing for these water services was not technically based, but based on a negotiation process that tended to take into consideration opportunity costs or restoration costs.

The study found that enabling conditions for these projects to be successful tended to be:

- A local shortage of water;
- Lack of forests to provide water services
- Willingness of people to pay
- Ability to negotiate and an administrative mechanism to allow for payment for services.

Other key elements included the presence of:

- Secure land tenure
- A legal governance framework
- Political will to enable the project
- Financial independence
- Facilitation of central government
- Local engagement as reflected in some form of financing or contribution

At the end of this presentation questions from the floor included whether there was any long term monitoring of the projects reviewed in the study (the presenter indicated that none had been done). Examples of cases where there was no compensation of local communities for water ecosystem services (e.g. St. Vincent and the Grenadines) were raised by the group. The presenter indicated that such cases represented an imbalance of power in relationship between the communities and the water agency.

The issue of who in the society is paying and who is sacrificing in these PES arrangements was raised from the floor, and the presenter indicated that there would be differences if one examined the upper and lower watershed areas, and stressed that the payments have to be a meaningful contribution to personal budgets for it to be worth-while. The case of Haiti was also discussed. The example of payments for management of small landholdings and the importance of timing of such payments for them to be relevant was also raised.

Breakout group 1: Economic valuation and payments for ecosystem services
Rapporteur: Marilyn Headley (not submitted)

Theme 5: Climate change and forests in small islands

Plenary

Rapporteur: Zakiya Uzoma-Wadada

Dr Ulric Trotz, Caribbean Community Climate Change Centre (CCCCC)
Climate change in the Caribbean

The climate change impacts on forests include:

- Forest fires – Land degradation
- Loss of biodiversity
- Loss of ecosystem services e.g. carbon sequestration, watershed deterioration
- Loss of livelihoods
- Change of landscape

The impact on mangroves is of particular concern as these are important ecosystems for coastal protection, fisheries, livelihoods, etc.

The Kyoto protocol outlines international agreement regarding the cutting of greenhouse gas house emissions. Compliance with protocol is through several avenues:

- Replacing fossil fuels by use of renewable energy, including biofuels
- Clean technologies
- Energy efficiency measures
- Investment in carbon sequestration projects in developing countries – replanting degraded forests!

To date there has been no opportunity for issuing carbon credits for standing forests under the Kyoto Clean Development Mechanism. Negotiation resulted in the Reduced Emissions from Deforestation/Degradation (REDD) initiative.

There are appropriate methods of agriculture that enhance carbon sequestration in soil, no full farming, cover cropping, crop rotation etc.

Key actors include:

- national or local government
- indigenous people
- NGOs
- forest dependent communities
- private sector

It is important for the Caribbean to seek to participate in existing opportunities for funding under the United Nations Climate Change Convention – through CANARI or directly through CCCCC.

Professor John Agard, University of the West Indies Nariva Swamp Restoration, Carbon Sequestration and Livelihoods Project

This project is taking place in the Nariva Swamp, a Ramsar Site and nationally protected area. It involves restoration and carbon sequestration efforts to earn income to support community livelihoods. The area to be reforested was deforested by rice farmers. Funding is accessed from the World Bank. The agreement was signed in February 2009. Government is providing a matching US\$10.8 million for the project, which will employ 120 people for seven years. The Tropical Re-leaf Foundation developed the reforestation plan and planting schedule for replanting of native species.

The catalyst for this initiative is carbon sequestration, and this can cause a change in the perception of the forest and other values by government, communities etc. The project involves stakeholder consultations, and there is a need to establish trust and engage communities in a real partnership.

The outcome of negotiation toward resolution of conflict over energy and resources is that farmers assist in reforestation and they are provided with land and necessary infrastructure for farming. Block B in the wetland is allocated for the Plum Mitan Food Crop Project to allow agriculture to continue.

The specific objectives of the project are to:

- sequester carbon dioxide;
- enhance biodiversity/restore swamp;
- generate income for local communities;
- reforest 1164 ha of mixed swamp;
- employ local labour.

Project components:

- Component 1 – Carbon sequestration through afforestation and reforestation of selected areas of the Nariva wetland ecosystem
- Component 2 – Methane and nitrous oxide (greenhouse gases) mitigation through reforestation/restoration of surface hydrology at Nariva (i.e. to sell reduction of greenhouse gases)

The scientific methodology has been developed for measuring the rate of greenhouse gas emissions to guide an Emission Reduction Purchase Agreement.

Breakout group 1: Climate change impacts on forests, possible management responses and public responses

Rapporteur: Loiza Rauzduel

Dr Owen Day, CARIBSAVE

The impacts of climate change on biodiversity in Caribbean islands: what we know, what we need to know and building capacity for effective adaptation

The presentation provided a summary of the outcome of a CANARI project on the impacts of climate change on biodiversity in the insular Caribbean.

Some of the reasons why biodiversity is of critical importance for the Caribbean countries and their economies were first mentioned. While the region has been ranked number 8 on the World's 25 Biodiversity hotspots. The focus of the project has been on terrestrial biodiversity. The first step requires looking at the status of available research on biodiversity, which highlighted the many gaps in the available data for the region.

The impacts of climate change can be examined in three categories:

- The effects of increasing intensity of extreme weather events
- The effects of increasing aridity
- The effects of increasing temperature on altitudinal zonation of forests

Forests provide critical ecosystem services and contribute to helping communities mitigate and adapt to the impacts of extreme weather events. However, they might not be able to survive the increase in temperatures due to climate change.

A number of priorities have been identified, including:

- the need to look at the linkages between ecosystem services, human well-being and climate change;
- how to build resilience and restoration of beaches and forests;
- conservation of biodiversity;
- improving effectiveness of protected areas;

- the critical need for better communication and outreach.

There is a critical need to increase communication and dissemination of information between scientists, policy makers and the public. In addition, given that impacts of climate change on biodiversity in the insular Caribbean involve social, ecological and financial issues, a multidisciplinary approach is required.

**Dr Howard Nelson, University of the West Indies
Managing forests for climate change**

When it comes to the effects of climate change, available data suggest that the temperatures have and will continue to increase. This will have implications for forest landscapes in Trinidad, which will be reduced quite significantly. A decrease in forest extent, a change in forest composition, as well as a shift in high elevation forest type are the expected effects. These will in turn have implications on the endangered species, as well as on those who can adapt to the changing patterns, but also, and more importantly, on livelihoods.

Therefore, more efforts will have to be put in forest management. However, huge existing gaps in terms of the available data are a major challenge. The lack of information will need to be addressed through better communication.

**Indi McLymont-Lafayette, Panos Caribbean
Communicating climate change and forest issues**

Studies have shown that households in the region only have limited awareness of issues such as protected areas, watersheds, though they have demonstrated an interest in knowing more.

In Jamaica, more specifically, a study showed that people seem to know about climate change, although it seems to be quite far from their immediate everyday life concerns. They were also of the view that the government should do more to address the impacts of climate change on communities.

A two-year project in Jamaica involving Panos Caribbean, the Jamaica Meteorological Office, the National Environmental Education committee and other key partners was also presented. This currently ongoing project was designed to raise awareness on climate change issues, using artists to be “Climate Champions” to encourage people to take concrete actions. This has resulted in a better understanding of the issues at stake. It was suggested that the focus should be on the partnerships that can be forged between climate change stakeholders and the media.

Breakout group 3: Panel discussion: Climate Change mitigation options and issues – what could work for the Caribbean

Panelists: Dr Melanie McDermott, Claus Ecklemann, Robyn Cross, Professor John Agard, Dr Ulric Trotz
Rapporteur: Marcella Harris

**Dr Melanie McDermott, Rutgers University
Climate Change and Equity for Communities**

Issues:

- There is an inequitable impact of some conservation measures e.g. food crops for biofuels and the negative impact on poor as it uses productive land that could be used for food production.
- As the value of forest resources increase do the poor benefit? Or are they shut out?
- As forests become a more valuable resource they are more likely to be captured by elite.
- Degraded/secondary forests are valuable to poor people.
- Equity is not about the distribution of benefits but is also about creation of opportunities for participation.
- Poor persons should be direct targets for community forestry.
- It is important to see how equity issues are addressed in the Nariva Swamp pilot project.
- Note that in project-level deals NGOs can displace CBOs.
- The issue of the ethics of carbon sequestration needs to be looked at within the context of the responsibility of developed nations to reduce their emissions.
- Building capacity of NGO/CBOs to be agents and negotiators is key.
- CBOs need to network to strengthen their political influence (example of Nepal Forest User Groups).

Discussion noted that:

- A best practice case was the swap fund between Jamaica and the United States, where the agreement clearly states how the fund is to be used to build capacity in the community to act/negotiate on their own behalf.
- The Nariva project has a communication/ education/ public awareness component.

Robyn Cross, Environmental Management Authority, Trinidad and Tobago The Nariva Swamp project

Management arrangement is to be established, hopefully involving the members of the community as key players. The communication/ education/ public awareness aspect of the project is designed for exchange of information and learning and is already receiving feedback on the impact of actions taken in the pilot project. Due to low literacy levels it has been recommended that literacy classes are included in the project. There is an availability of scholarships for tertiary education as part of the project, which is seeking to building competencies and leadership to address existing power relationships.

At the conceptualisation phase there were a number of other elements introduced to build alternative livelihood opportunities, including aquaculture, ecotourism, and aviculture. However, these components were not accepted by the government to be included in the final project. NGO partners have been excluded.

Claus Eckelman, FAO Capacity needs for forest management

There is a relationship between carbon sequestration and the type of forest management:

- Pristine forests and carbon neutral
- Plantation forests managed for timber production accumulate more carbon as wood is extracted for use

Climate change options include hotter temperatures and more drought. Managers are not certain what to prepare the forest ecosystem for so they focus is to make the ecosystem more healthy and therefore more resistant and resilient to change.

The Clean Development Mechanism is a good opportunity in the Caribbean as agriculture is fading out and land is available for reforestation.

Professor John Agard, University of the West Indies

National efforts to raise resources in lieu of foreign resources are important, for example the Green Fund in Trinidad and Tobago is funded by a levy where a percentage of every dollar spent is contributed to the Fund. A similar model can be implemented in other islands in lieu of always seeking raising funds from external sources. SIDS are most vulnerable and tend to have the least capacity to access funds.

Challenges are that when funds are realised it is important to strategise to ensure access by NGOs and in particular CBOs.

Theme: Adaptive, collaborative, ecosystem-based approaches to forest management

Plenary

Rapporteur: Dr Melanie McDermott

Keynote Presentation 1

Marilyn Headley, Forestry Department, Jamaica

Modernising the Forest Department in Jamaica: The Executive Agency solution

The presenter reviewed the major reforms being undertaken to modernise the Forestry Department in Jamaica, as part of a national drive to be client and performance oriented.

The Forestry Department (FD) has been made into to an 'Executive Agency' (EA), which means a performance-based institution under government ownership. The CEO is held accountable for results and reports directly to the Minister (not the Permanent Secretary). It is a results-oriented institution focused on quality service deliverance to its clients [citizens]. The Jamaican FD follows the model in which the EA is partly funded by government and is allowed to keep some of its revenues.

Stakeholder meetings are held as part of a process that leads to an implementation/ modernisation plan, a funding plan, a framework document and a performance agreement.

Common features of the models are that they:

- manage their businesses with a focus on outputs;
- have set key performance indicators;
- have in place processes to develop approved corporate plans, business plans, and budgets;
- seek to introduce fees and charges to recover full costs in accordance with enabling legislation;
- charge all customers including Ministries and government departments for goods and services.

Strategic objectives include to:

- increase participation of the private sector and non government organisations;

- increase community participation and public awareness.

The major challenge is to balance the service need to maintain the sustainability of the natural ecosystem with socioeconomic pressure to ensure natural resources access and benefits.

The FD now has a full Corporate Services Division. Each of the four regions under two forest zones has forest management and client services units. The client services unit focuses on:

- Communities
- Private forestry
- Public awareness & education
- Recreation

Challenges of the transition period include the length of time required and anxiety among the staff since they now must re-apply for their own positions (which are advertised in newspapers). This must be dealt with through constant communication.

Remaining issues with the transition to Executive Agencies include:

- harmonisation of legislation with the EA act;
- regulations just being developed;
- no set rules for fee structures;
- roles and functions of Advisory Boards;
- relationship between the Permanent Secretary and CEO.

Improvements since the conversion of the FD to an EA include:

- improved human relations;
- more focused enforcement activities;
- improved internal communications;
- satisfied financial requirements to get full designation of EA status on 1st April 2010.

Keynote Presentation 2

Cletus Springer, Department of Sustainable Development, Organisation of American States (OAS)

Towards an integrated forest management policy

This presentation set out to make a case for Caribbean countries to establish and or strengthen integrated forest management policies. Since policy is the best framework for effective action, such a step is clearly necessary to get results. A policy is a plan of action to guide decision-making towards the attainment of agreed objectives.

Forest management policies must be integrated because forests serve multiple roles and functions:

- they sustain forests as a source of livelihoods;
- they generate and moderate climates (must keep global temperature rise below 2 deg. C);
- they maintain biodiversity.

Forest management policies must be integrated in order to promote sustainable forest management.

Mr. Springer reviewed the key principles, elements and external drivers of Sustainable Forest Management (SFM). Among the points he noted were:

- the lack of a regional research agenda;

- the need to link the transfer of land rights to the transfer of responsibility (REDD vs. indigenous peoples);
- subsidiarity principle: the need to manage forests at the most appropriate level (the most effective action is at the closest point to the forest);
- Payment for Environmental Services (PES) should be encouraged.

The presentation then went on to distil the national policy implications of emerging international environmental agreements (IEAs) such as the UN Framework Convention on Climate Change (UNFCCC) and Reducing Emissions from Deforestation and Forest Degradation (REDD).

The policy implications of IEAs include:

- adoption/ratification constitutes a commitment; *but*
- global process challenges sound policy-making at the national level;
- out of sync with national realities and capabilities;
- insufficient time is allowed for proper management of the policy cycle.

IEAs present Caribbean signatories with a number of issues, including:

- they force transmission from ‘soft law’ to ‘hard law’ without sufficient reflection (law is not policy);
- limited implementation capacity especially in SIDS;
- capacity assessments are done after the fact;
- limited national ownership of the process;
- limited consultation in preparation of the instrument;
- limited public education and awareness;
- high transaction costs of accessing funding;
- promoting dependence on external assistance.

He then went on to list the plethora of policy-related instruments IEAs require.

He noted that the best national forest policies are part of a policy framework that integrates forests with land and water. Such policies must deal with tenure, institutional capacity and other issues.

The way forward is to establish national integrated forest management policy frameworks as the main driver. IEAs should be where appropriate, but states must insist on participatory processes that involve the private sector and communities. A coordinated regional agenda is needed.

Mr. Springer closed by presenting related ongoing OAS activities, such as an inventory on PES and an inter-American Biodiversity Information Network.

Breakout group 1- Partnerships for effective forest management

Rapporteur: Kwesi Dennis

Aleyda Capella: Protected Areas and Biodiversity Secretariat - SEMARENA , Dominican Republic

Building partnerships for Community-Based Tourism in protected areas: 27 waterfalls Natural Monument

The Natural Monument Damajagua River Falls is a successful co-managed protected area in the Dominican Republic (DR). It is a scenic area with many waterfalls that had always been

used as a tourist attraction. The site was designated a protected area since 2002 and a co-management arrangement was signed in 2005. The arrangement was facilitated and negotiated by the Peace Corps. Before the agreement was signed, the culture of management was very top-down and there was little collaboration with the local communities surrounding the attraction. The co-management arrangement is between the Guides Association, Ministry of Environment, Ministry of Tourism, Land Owners Association and the Local Council. The agreement broke new ground in the DR as it was the first time land owners were part of the arrangements. A fund was even set up to indemnify the land owners.

There is a tariff user fee for entrance into the protected area. There is also a user fee for participating in adventure activities. The money earned is redistributed among the guides, land owners. Between November 2006 and July 2007 revenues amounted to \$115,540. In 2009, the revenues accrued were \$152,959. The community uses the money to reinvest into activities set by the community action plan: aqueduct, basketball, civil defence (for natural disasters), bakery.

Strengths:

- Co-management council makes decisions
- Operating annual plan
- Management plan
- Multiple stakeholders in the management of protected area
- Decentralisation of funds that is reinvested in the community
- Reduction of conflicts as a result of people deriving benefits
- Buy-in from the community on the conservation/ protection because it provides jobs – guides, restaurant, accounting

Areas for improving:

- Lack of full integration of some committees
- Lack of a full understanding of the process of co-management
- Landowners squabble over redistribution of funds

Robyn Cross, Environmental Management Authority, Trinidad and Tobago The Environmentally Sensitive Area Stakeholder Management Committees: Experiences, challenges and future directions

Background: The EMA has the legal right to declare an Environmentally Sensitive Area (ESA). The ESAs in Trinidad & Tobago are declared by the EMA but managed by Forestry Division or the Tobago House of Assembly. Under the EMA act there were four ESAs declared - the Aripo Savannas, Matura National Park, Nariva Swamp and Buccoo Reef. A stakeholder management committee (SMC) was set up to advise on management of the ESAs. This committee mostly has an advisory function - guides activities of the ESA and ensure views of the stakeholders are incorporated.

Activities done:

- Education and awareness
- Participatory planning and research
- Strategic planning and visioning to build capacity of committees
- Input into CEC/ EIA for developing approaches affecting the ESA
- Input into WASA's planned activity for water in Matura
- Input into the Ministry of Works and Transport planned activity of a railroad and planned expansion of highway bordering Aripo Savannas

Challenges:

- Loss of continuity and membership
- Uncertainty among committee members of the EMA's role as a support agency
- Little implementation of management plans
- Capacity constraints
- Advisory does not = compliance with advice
- Uneven process as a consequence of chair inefficiencies or differential power relations between local community interest and government
- No culture of power sharing, collective action based on collaboration is woefully inadequate

How to improve:

- The agencies must be prepared to accept change in decision making
- More time for hand holding
- Need for capacity building of SMCs
- Need for more exchanges
- Need for encouraging learning by doing
- Improving governance

Sesar Rodriguez, Consorcio Ambiental Dominicano, Dominican Republic CAD: A grouping of government institutions, civil society organisations and community-based organisations from the coast to the mountain

CAD was created in 1993 out of an environmental conservation programme to protect and rehabilitate degraded areas funded by a Swiss/German international development cooperation agreement. CAD's goal is to promote sustainable development as well as encourage participation from industry and community in environmental conservation. The organisation is always looking at forming alliances with non CAD members to engender institutional cooperation and sharing.

Financial: The organisation funds itself through an Endowment Fund. Project related activities are funded through external grant funding.

Activities worked on:

- Round tables and forums on participatory approaches
- Forest policy and law
- Protected area online forum
- Protection of a migratory bird
- Payment for environmental services
- Community fundraising

CANARI is presently preparing a case study on CAD. One of the things it has showed us is that the process is not easy but the bigger goal supersedes their differences. It would be very interesting to do a comparison of the CAD and the Local Forest management Committee (LFMC) experience in Jamaica.

CAD has a strong and independent voice in all matters related to natural resource management in the DR both at home and abroad. The organisation has achieved this position largely

because it is able to raise its own funding and thus having a high degree of autonomy and it is able to build consensus and assert a common position.

Breakout group 2: Managing forests and ecosystems

Rapporteur: Dr Melanie McDermott

Dr. Christopher Cox, Programme Director, Caribbean Environmental Health Institute (CEHI)

Adaptive, collaborative, ecosystem-based approaches to forest management

Dr. Cox began by introducing his organisation, the Caribbean Environmental Health Institute (CEHI). CEHI was established by the Governments of the Caribbean Community (CARICOM) in the late 1980's to respond to the environmental health and management concerns of its Member States.

The principal challenges facing modern forest management include the fact that it must extend beyond timber plantations to private lands, multi-use and protected areas as well as land tenure/use issues, limited policies, public apathy and political inertia. Most countries lack integrated land and water resources management plans.

How can issues of land tenure and multiple, competing interests be handled in an ecosystem management approach?

In many countries a Land Agency has power over land use rather than forestry departments. Dr. Cox gave a few examples to illustrate the complexities of managing watershed with complex patterns of land ownership and control.

We must understand that development is inevitable and that it inevitably has an ecological footprint. So we have to decide what is tolerable? sustainable? Consider that under climate change what is tolerable now may not be in 10 years.

What is the right scale for forest management planning? How can cross-scale management be achieved? How can management of the range of state and private forests be facilitated and coordinated across ownerships and landscapes?

The right scale for forest management depends on the management objective, as well as the nature of the resource and local agroecological conditions. Commercial and recreational management can be on a localised scale, whereas water conservation requires larger scales. The scale of management for biodiversity depends on the species in question.

There should be a national forest management plan, with different scales for implementing different objectives. It should be multi-objective and provide for multiple uses.

Watersheds should be units of management. Planning must be done to be compatible with existing land tenure situation. Optimise land use based on land capability given constraints and the need for economic viability. The sustainability of livelihoods of communities determines success or failure. Use GIS to overlay constraints.

For financing management of conservation easements and protected areas the government can either acquire land or provide incentives, such as taxes, Payment for environmental services (PES), or Payment for Environmental Conservation (PEC). Whereas PES is set by the market,

under PEC payments are extracted (usually by a state agency) and applied to environmental conservation and management

How is forestry governance evolving in the Caribbean? Are forestry departments restructuring, and if so, how? What new policies and innovative programmes are being developed?

Forestry governance needs to extend beyond timber and emphasise private lands, including urban forestry and extension.

In order to justify the use of state resources, we need to *sell* the concept of maintenance of forest ecosystem benefits. Forestry programmes should be mainstreamed into national development programmes.

Forestry departments have been re-structuring, for example, entering into collaboration arrangements. However, capacity-building is required to make it work.

How can participatory processes enhance forest management? How are partners in civil society and the private sector getting involved?

For participatory processes to succeed in getting civil society and the private sector involved, forestry departments must be able to answer to the question “What’s in it for them?” The benefits must be clear and clearly communicated. One way to do this is to tag benefits to short-term visible gains, such as economic returns and safe clean waters. It is important to involve the business sector, including community groups, who can undertake ecotourism, agroforestry and similar ventures.

Dr Howard Nelson, University of the West Indies Linking Forest Landscapes, Ecosystem Management and Livelihoods

Forest goods and services, which are fundamental to community livelihoods result from specific elements, patterns and processes that vary over space and time. It is important to understand how these interact in order to determine sustainable rates of use, fragmented (e.g., island) ecosystems, and to **manage for uncertainty**.

Ecosystem management:

- integrates elements, patterns and processes in management planning;
- occurs at broad geographic scales;
- engages all stakeholders;
- provides a means to address fragmented habitats and diverse ownership patterns.

Making it happen involves developing the right **tools**, including:

- technical – GIS, remote sensing, monitoring for ecosystem health;
- internal capacity in the agencies (e.g. specialists in landscape ecology, rural sociology, GIS, conflict resolution);
- stakeholder mapping and engagement;
- extension! – a TWO-way exchange;

Challenges include:

- lack of understanding and information, e.g. on critical thresholds for ecosystems;
- lack of prepared personnel at agencies to manage the social, and biological issues

- arising from a landscape/ecosystem approach;
- more costly and time consuming;
- requires a level of stakeholder engagement collaboration often beyond the “comfort zone” of agencies;
- requires forest managers to move away from compartmentalisation of planning and decision making;
- lack of enabling policy environment (e.g., decision-making state agencies tend to be fragmented among various Ministries);
- lack of enabling legislation to give stakeholders a voice in forest management decision-making and implementation.

Opportunities:

- ecosystem management provides forest managers with a way to **link biodiversity** elements at multiple scales to the actions and needs of the **stakeholders**;
- ecosystem management can provide Caribbean natural resource managers with a means to manage highly fragmented ecosystems and ownerships.

Claus Eckelmann, FAO **Silviculture in the Caribbean and their social linkages**

There were at least two successful silvicultural systems operating in the Caribbean around the 1940s that have apparently vanished because they depended on social ties under economic conditions that no longer exist. They depended on partnerships in which both the state and its partners obtained direct benefits from practicing silviculture.

This is in contrast to restrictive silvicultural systems (which use diameter limits and other harvesting regulations) that depend on management and enforcement by forest administrations and thus large amounts of public funding.

1) The **Trinidad Shelterwood system** was only feasible because the charcoal burners did the felling of undesirable trees and the clearing of the underbrush. After charcoal burners created the shelterwood conditions the forest regenerated naturally.

2) When the Forestry Division sought to establish timber plantations, but lacked the affordable labour, it turned to local people who wanted access to land. Under the **Taungya system** farmers were allowed to plant crops among seedlings which they planted and tended for several years -- under the assurance that they would get a new piece of land.

With the decline in the charcoal market and the general decreasing pressure for agricultural land these two silvicultural systems became no longer viable.

A third example still functions in a modified way:

3) Under the **periodic block system** rural people without employment were/are granted the exclusive right to buy from the Forestry Department up to ten timber trees. The trees are sold standing to registered woodworkers and they are allowed to harvest the trees and to sell them to a sawmiller. As the block system reduced the general availability of timber to the woodworkers they established a self-help association to lobby for higher timber allocations from the state forestry reserves. They devised a system to share the available timber allocations among the group and in some cases they were able to strengthen their position against the powerful group of sawmillers. This also served the FD because the members of the Association

were motivated to patrol the area against timber theft, something that the Division lacks the staff to do.

Appendix 5: Rapporteur's reports on field trips

Field trip to the Nariva Swamp

Facilitator: Robyn Cross, Environmental Management Authority
Rapporteur: Judi Clarke

Workshop participants visited 3 sites within the swamp:

Site 1: The Nariva Swamp Field Station, Forestry Division where the group was welcomed by Chief Forestry Officer, Mr. Rupnarine Singh. Mr. Singh gave the background to the conservation policies for the swamp and the need for the Forest Division to work closely with the communities if conservation was to succeed.

Site 2: Agricultural Filed Station in Block A which has been approved for farming. Mr. Kalian Deonanan, community member, farmer, President of VOICE spoke to the group about the community projects - particularly the reforestation project, and challenges in implementation.

Site 3: the pilot site for the reforestation project led by Mr. Kalian Deonanan

Key features of the Nariva Swamp:

- Nariva Swamp is the largest fresh-water wetland in Trinidad and Tobago, covering 6,234 hectares, and is one of the largest in the Caribbean.
- Contains tropical forest, swamp forest, palm swamp forest, mangrove areas, marshland, and open waters.
- The designated Environmentally Sensitive Area (ESA) covers almost the entire swamp and this is a prohibited zone where no hunting, harvesting or fishing is allowed. The Wildlife Sanctuary is found in this area.
- Contains a manatee conservation area for research.
- Three small communities surrounding Nariva Swamp, most of whom depend on the natural resources within the swamp for their livelihoods:
 - fishing / harvesting (cascadura fish, blue crab, black conch);
 - small-scale farming of melons, peppers, cucumbers, rice.

Recent problems:

1. Large-scale rice farmers were given permission to clear large areas of forests to grow rice. They dug canals to drain the wetland and set fires to forest and marsh and consequently changed the hydrology of the area.
2. Illegal squatters who practice shifting cultivation which depleted the land.
3. Over-hunting of birds, particularly blue and gold macaws.
4. Illegal hunting of reptiles.
5. An increase in forest fires as a result of the changed hydrology of the swamp.

The Forestry Division (FD) (with the support of the surrounding communities) has tried to address these problems by:

1. Forest Officers have made themselves more visible apart from enforcement activities. They engaged in dialogue with community members when monitoring as well.

2. The FD has encouraged the communities to respect the prohibited areas and stop uncontrolled activities there. As recompense, the F.D has issued permits for some activities so they can control, monitor and manage such activities.
3. The FD has leased small plots for community members for farming.
4. Reforestation programme for areas destroyed for rice fields. The community has been engaged to participate as well (germinating, planting, caring for, monitoring). New skills (such as construction) were developed as most community members only knew agriculture.
5. The FD has established a Field Station within the Nariva Swamp.

Even though there are some existing challenges, the Forestry Division has been successful in gaining the trust and commitment of community members, by ensuring them that the FD is not only there for the implementation of the Integrated Management Plan (regulation and enforcement), but also to assist the communities in developing sustainable livelihood activities. The limited staff resources at the Field Station has been ameliorated to some degree by the willingness of community members to assist in forest management.

Community development projects:

1. Blue and Gold Macaw Project

This species of bird had become extinct as a result of overhunting (they fetched a large amount of money). The Forestry Division partnered with the Cincinnati Zoo to reintroduce these birds to the Nariva Swamp. Approximately 14 pairs have been reared in fly cages (for safety and to limit human interaction) and eventually released. Populations have increased over time as the birds are no longer hunted due to community awareness and alternatives. In fact, the communities are protective of the birds and seek to ensure that persons from outside do not hunt them. Community members were employed under this project – caring for the birds, releasing them, monitoring their progress and nesting. These birds, originally limited to the swamp, are now spotted elsewhere in Trinidad.

2. Reforestation of the Nariva Swamp

This project, funded by the Environmental Management Authority, started in 2008 and was borne out of the fact that the large areas cleared for rice farming had not regenerated. The goal is to replant 250 ha per year. A pilot phase on a 6 hectare plot in Sector B was started in January 2009. Three community groups were involved in this initiative:

- Plum Mitan / Biche Farmers Group
- Plum Mitan Enhancement Committee
- VOICE – Villagers Organisation In Conservation of the Environment

Five species (already present in the area) were germinated for planting but some species did not fare well.

Other components of the project include:

- Aquaculture: developing livelihood projects involving the breeding of conch and cascadura to restock rivers and canals
- Aviculture: to breed and reintroduce the black belly tree duck
- Ecotourism: to train community members to conduct tours and provide services to such persons
- Recently, a carbon sequestration component to the project through funding from the World Bank and the Green Fund

Challenges that remain:

- Lack of signage for the prohibited area of the swamp. “Outsiders” therefore are not aware.
- Slow disbursement of funds to communities for projects and resulting frustration
- Extended drought periods affecting planting schedules.
- Poor quality seedlings which have a high mortality rate in the swamp.
- No seedlings available for planting in this coming wet season.
- Poor communication between those in the Forestry Division head office and the communities.

Recommendations:

- Spend the rest of the year ironing out logistical and communication challenges through:
 - establishment of the Stakeholder Management Committee as soon as possible;
 - facilitating dialogue between all parties.

Field trip to Nature Seekers

Facilitator: Fitzgerald Providence

Rapporteur: Neila Bobb-Prescott

Welcome was given by Dennis Sammy, Managing Director and Susan Lakhan-Baptiste, Chairman. Dennis Sammy has been recognised for his work in an article on recent issue of LIAT magazine. Susan Lakhan-Baptiste was recognised as a CNN hero.

Nature Seekers:

- Traditionally engaged in spearheading a voluntary programme of tagging and monitoring turtles. The turtle programme utilises foreign student volunteers and volunteers from Earthwatch. The turtle programme brings in the main financial support.
- Nature Seekers offers tours for turtle watching, kayaking and forest tours.
- They also engage in social projects – assist with housing for the aged, clean ups etc.
- The group identified a need for Nature Seekers to review their strategic plan so they could include strategies for financial independence.

Office building:

- Established by funds from First Citizens Bank and the Chinese Embassy. The building is to serve as a facility for meetings, trainings and is to be used by the community.
- The building is built from ply cement which is a bit more expensive than traditional materials but is more environmentally conscious and is fire resistant.
- Nature Seekers is planning to make the building financially sustainable by offering the meeting space in the building as part of a package for retreats.

Forest management:

Nature Seekers was originally formed for turtle conservation but realised that they needed funding to sustain their activities. One such activity is participation in the National Reforestation and Watershed Rehabilitation Programme (NRWRP) of the government. Under this programme they:

- Plant about 50 acres per year using indigenous species, with an emphasis on fruit trees to attract animals to the area. They have planted in excess of 300 acres to date.

- Established fire trails and patrol for forest fires and they extinguished over 13 forest fires in the area this year on state and private lands. They have fire traced over 500 acres of land to date.
- They employ 35 people in all from Salybia, Matura (which means dense forest), and La Guira. Groups have men and women. In all there are 3 supervisors and 3 skilled labourers in total.
- They produce some seedlings and collect seeds for the Forestry Department.
- There is no formal agreement for co-management. Lakhan believes that the government thinks they don't have the capacity to manage. She believes that they have proven their capacity through their activities. She further stated that when communities protect their resources it gives them money, civic pride and ownership. She ended by saying that communities are necessary for sustainable conservation of natural resources. The group believes that a formal agreement will contribute to stability as a change of government may threaten the survival of the programme.
- Although they received no funding this year from the government, they funded they funded the programme themselves but curtailed the area covered.
- The workers have benefitted financially through savings and access to credit.
- The group has used the trails established by NRWRP to offer ecotours. They have also put some effort into identifying train their members in the identification of birds, trees and butterflies.
- They also collect beads from the forest for jewellery making.
- In the NRWRP activities, they have implemented their own policies, proactively to manage human resource issues-drug and alcohol abuse and absenteeism. These policies were developed in a participatory manner.
- There is no forum to share lessons learned in the management of their reforestation group with other groups under the NRWRP.
- They have developed and are using an electronic template for calculating wages for the reforestation group which has proven to reduce time required for processing and improve accuracy. They submitted it to the head of NRWRP and have received no response.

Turtle management:

- One member of Nature Seekers said that there is need for a greater emphasis for government to get on board with participatory management. He further stated that government needed to see the community as a management option and not as always wanting something.
- They had not received any funds for this turtle watching season from the government and there was information that seemed to suggest that this was due to a decision by the current Minister. There was some discussion and the group surmised that power and influence direct where money is spent and civil society groups must develop the capacity to negotiate effectively with key decision makers.

Lessons learned (identified by visiting participants in the conference):

1. Complimentary activities/projects contribute/sustain forest-based livelihoods and keep the members interested in the core interest of the group.
2. Success leads to projects where additional capacities are needed.
3. Success needs to be managed effectively. If not managed effectively it can lead to failure. (There needs to be mechanisms in place to deal with new membership.)
4. Management of CSOs needs to evolve to suit the changing environment. ("retool frequently" – continuous planning, reassessing, is needed to survive)

5. When growing an organisation make sure you don't grow to death. (CSOs should be careful in accepting a large number of projects as they grow that they would be unable to manage.)
6. Sometimes reassessment leads to drastic changes.
7. Community groups have a great capacity to incubate as well as implement projects.
8. Co-management arrangements take time. Time for government officials to understand and accept the concept, time for the residents to build capacity in their role and time for the community to accept the activity.
9. Long surviving informal arrangements are fertile ground for confusion.
10. Formal agreements are needed at the start of a co-management arrangement when relations are good so when there are disagreements/conflicts, they can be used to manage the situation.
11. Public image is key to sustaining the group. Image gives political voice/weight.

Field trip to Wa Samaki permaculture demonstration site

Facilitator and Rapporteur: Nicole Leotaud

Wa Samaki is a 30 acre private farm in the plains of central Trinidad that has been managed under a permaculture system for the last 12 years (see <http://www.wasamakipermaculture.org/>). It was originally a citrus estate.

Permaculture is defined by Bill Mollison, the founder, as “the conscious design and maintenance of agriculturally productive ecosystems that have the diversity, stability and resilience of natural ecosystems. It is the harmonious integration of landscape and people providing their food, shelter, energy and other material and non-material needs in a sustainable way.” This is a design system to facilitate a transition from a traditional to a fully organic system. The farm is used as a site used to teach permaculture through 10-14 day residential short courses and interns are also hosted.

The farm has three components: aquaculture (one-third acre); horticulture (3-4 acres) mainly in heliconias produced for the local market, which provides most of the funding to support the farm; and the rest for the nursery, forestry (timber production) and conservation areas. The farm is divided into 5 zones:

1. Intensive production
2. Less intensive production (e.g. fruit trees)
3. Production
4. Timber
5. Along riverways – conservation and wildlife corridor areas

The managers are exploring ecotourism (hiking, mountain biking, camping) and currently also have chicken and geese. Challenges are that the farm is ecologically isolated from other natural and semi-natural areas and is a green island surrounded by intensively-farmed areas. Fires are a serious threat. Fire traces and an external buffer area are maintained.

Participants in the field trip discussed the potential for permaculture to be used to support forest-based livelihoods for poor rural communities in the Caribbean islands. Several issues were discussed:

- **Access to land**, with possible options for interested community groups are using land owned by rural schools or getting a long-term lease for use of state or private land.

- **Potential markets** for sustainable products at higher prices. Certifying products as “sustainable” or “supports local communities” may be important in marketing.
- **Cost of production** initially being higher with setup but more competitive over time as the ability to produce in the dry season is better. The suggestion was to start small and have external support (e.g. grant funding) for the initial setup costs.
- A significant **culture shift** is needed and will require demonstrated results, “selling” success, and noting that much of the approach is a return to traditional methods and knowledge.
- Capacity to apply the method must be built and most significantly **openness to change** is important. Targeting younger farmers may be a strategy to address this.
- **Linkages** with ecotourism, agrotourism, knowledge tourism and geotourism approaches.

Important selling points for adopting a permaculture approach were noted by participants as value/use:

- in buffer zones of protected areas;
- for the contribution to food security;
- for carbon sequestration and carbon-neutral approaches and contribution to climate change mitigation;
- to contribute to rural livelihoods;
- as a sustainable / self-sufficient / low-impact approach to the use of resources;
- as a system that is more resilient to climate change.

Field trip to Fondes Amandes Community Reforestation Project (FACRP)

Facilitator: Noel Bennett

Rapporteur: Loiza Rauzduel

The site is located in the valley of St. Anns and managed by a community organisation, led by Ms. Akilah Jaramogi. Mrs Jaramogi and several other members welcomed the group and gave a brief history of the Fondes Amandes site. The group was then taken on a quick tour of the site including a visit to the nursery and briefing on the soil erosion techniques employed on the site.

At the Resource Centre, a presentation was made by Nzinga Salandy, on the Fondes Amandes Community Reforestation Programme (FACRP) Disaster Awareness Caravan. The purpose of the Caravan was to improve the readiness of communities for disasters, such as fires, flooding, landslide, while improving mitigation. The programme included 9 modules, among which tree planting, animal husbandry, recycling and composting, music and culture, were developed.

Undoubtedly, Fondes Amandes greatest achievement has been that Fondes Amandes has been fire free since 1997. During this presentation group members related their challenges and successes on ridding the site of the scourge of bush fire. This session ended with a Fondes Amandes video production, produced in collaboration with the Canadian Fund for local initiatives, “Forest fire prevention: Everyone’s responsibility”.

The Fondes Amandes group lead by, Akilah Jaramogi, then conducted an extensive tour of the estate, and described some of FACRP projects and initiatives. These included:

- An eco-tourism initiative. Comprising passion fruit harvesting, mango tree planting, and demonstration of traditional methods of food preparation.

- Eco-tours which are organised on quite a regular basis. The target groups include, schools and the visiting children are encouraged to participate in tree planting in selected areas on the site. These selected area are then eventually named after the school. The Fondes Amandes group believes that this activity are motivates a sense of pride and responsibility in the visiting school groups.

The field trip ended with the conference participants extending gratitude and encouragement to the Fondes Amandes Group. In particular, the participant from Haiti expressed the he could relate to the effort as it had so many similarities to his situation in Haiti and viewed the FACRP effort as an inspiration.

Lessons Learned

- Strong leaders, with a clear vision, can catalyse initiatives in rural communities that can contribute to improvements in livelihoods.
- Focusing on attainable goals, as well as recognising and treating with existing weaknesses, are key to continued success.
- Success is not always mentioned as financial gains.