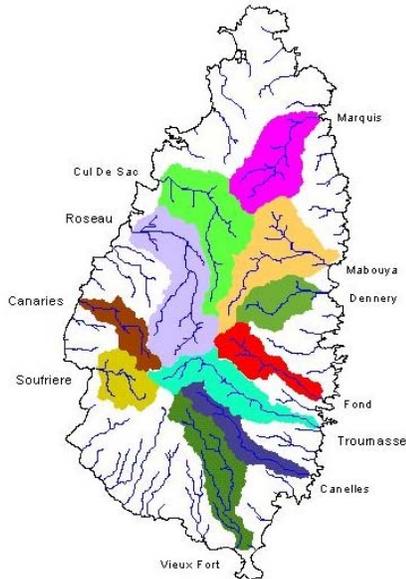


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Watersheds of St. Lucia



Fond D'or Watershed - orange



The Fond D'or Watershed



Feature Article:

Protecting Watershed Services and Developing Management Incentives in the Fond D'or Watershed Area of St. Lucia

Introduction

The Fond D'or watershed, Saint Lucia's GEF-IWCAM Demonstration Project site, is considered an ideal location to develop and test compensation for environmental services (CES), a creative and novel approach to integrated watershed and coastal areas management. The project is being executed by the Ministry of Agriculture, Fisheries and Forestry (MAFF), through both a Project Steering Committee (PSC) for oversight and a Project Management Unit (PMU) which oversees day-to-day implementation within the Project's geographical area. The PMU is also guided by the Fond D'or Watershed Management Committee (WMC) established by the GEF-IWCAM Demonstration Project (see below).

St. Lucia is currently reforming its approach to water resource management in response to deficiencies which have plagued the sector for years and limited the potential for development in other key sectors, including agriculture and tourism. The island has taken steps to address the varied challenges necessary to develop effective management approaches to watersheds using innovative techniques. A national water policy, an agricultural policy and strategic plan, and a coastal zone management policy have all been developed recently and a national land use policy is in the final stages of preparation. The concept of CES is the most recent consideration.

Although not traditionally considered within St. Lucia's watershed management approach, incentives are now being evaluated for water conservation and the development of a mechanism to sustain environmental services. The island also recognizes the potential for market-based approaches which could provide effective and efficient management of watersheds, water resources, and conservation of associ-

(Continued on page 2)

Fond D'or Demonstration Project General Objectives:

- To develop a model approach to participatory watershed management which will capture the input and support of all stakeholders, particularly local communities, within a specific watershed complex;
- To capture requirements for integration with other national policies, legislation and resource management strategies;
- To demonstrate the use of incentives and transferred benefits within a watershed management structure;
- To achieve reduction in wastage and water loss;
- To encourage better conservation and more long-term sustainable use of natural resources.



Water intake

BACKGROUND ON THE IWCAM PROJECT:

The Integrating Watershed and Coastal Areas Management in Caribbean Small Island Development States (IWCAM) Project, with a value of USD 112 million, was approved by the Global Environment Facility (GEF) in May 2004. Implementing agencies are the United Nations Environment Programme (UNEP) and the United Nations Development Programme (UNDP). Executing agencies are the Secretariat of the Cartagena Convention (UNEP-CAR/RCU) and the Caribbean Environmental Health Institute (CEHI) and the UN Office of Project Services (UNOPS). The thirteen participating SIDS are: Antigua and Barbuda, The Bahamas, Barbados, Cuba, Grenada, Dominica, Dominican Republic, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago. The length of the Project is 5 years and commenced in the second quarter of 2005. The Project Coordinating Unit is located at the CEHI, as agreed by the Implementing and Executing Agencies and the participating countries.

(Continued from page 1)

ated biodiversity and ecosystems throughout the watershed/coastal complex.

The Fond D'or Watershed

The Fond D'or Watershed is the second largest watershed in St. Lucia. It is 10,230 acres in area, most of which is hilly. Government Forest Reserves makes up 23% of the watershed. Although the reserves are located within the upper watershed area, they are linearly configured and are not significant in terms of their impact on water supply; in fact only one of the four water intakes used to supply pipe borne water to residents of local communities has its drainage basin completely protected within the forest reserve. The other intakes are fed mainly from privately owned lands which are either subjected to, or threatened by, intensive agricultural and urban activities. The middle and lower watershed areas are commonly used for intensive cultivation and livestock production.

A water scarce area

Managing delivery of water services to the populace of the Fond D'or watershed has been a major challenge for many years. Current supply, as reported by the local water supply operator, indicates a chronic 59% daily water supply deficit currently experienced by all or most of the watershed's 15 settlements.

The main factors contributing to this situation are:

1. many years of inappropriate land management practices including extensive deforestation;
2. significant losses/wastage of available water at the intake and delivery network due to ageing infrastructure, inadequate management capacity, and low capital investments; and
3. climatic predisposition of the area as a subtropical life zone.

All three factors have cumulatively interacted to create what is now a water scarce watershed.



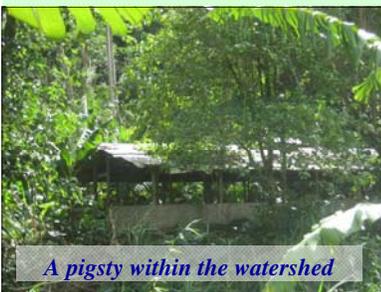
Quarry within the watershed area

(Continued from page 2)

Inappropriate land management practices

These take place on the mainly privately owned lands in this hilly area which is characterized by unstable soil and inadequate or unsustainable social and economic support systems. These combined factors have resulted in many environmentally degrading practices which contribute significantly to turbidity, agrochemical, and livestock effluent contamination of stream water. These include unregulated changes in land use, inappropriate land cover, poor land and soil management practices, poor waste management, and the use of waterways as disposal points for agricultural and other waste.

A recent stream water survey by the Caribbean Environmental Health Institute (CEHI) in its "Certificate of Analysis", clearly stated the magnitude of the problem by observing that, *"The microbiological results show that*



A pigsty within the watershed

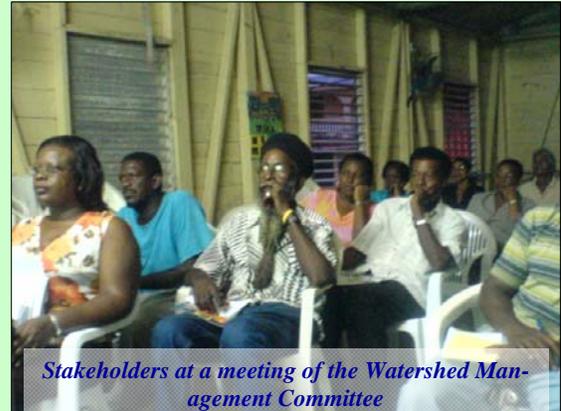
these areas suffer from borderline to extremely high levels of faecal contamination, ...In any case, even areas with relatively low counts were unacceptable for direct contact recreational activities".

A participatory approach

A participatory approach to integrated watershed management is a critical aspect of the demonstration project, as shown by activities currently underway and planned for the future. **The Fond D'or Watershed Management Committee** is effectively the core of the participatory watershed management mechanism. It is made up of community members, government representatives, the water utility, and other key stakeholders.

The group focuses on activities related to changes in land management and water quality. They represent those who stand to lose or gain from the project and whose actions can adversely affect the ability of the project to meet its objectives. The WMC forum considers and approves all plans and proposals developed by the project. All consultants hired by the project must make presentations to the WMC for their input with respect to environ-

mental and natural resource issues, and, for their recom-



Stakeholders at a meeting of the Watershed Management Committee

mendations with regard to improved management of water resources. It is expected that this forum will be sustainable and continue to function well beyond the life of the project.

So far members of this committee have partnered with the PMU in a number of activities, including the mapping of point sources of pollution, water quality monitoring, to plan educational field trips for students, and delivering lectures to a Parent Teacher's Association and primary schools.



Primary school students visit



Participating in training

Secondary school students learn about water quality testing



(Continued on page 4)

Similar to other GEF-IWCAM Demonstration Projects, the Fond D'or Project seeks to develop an integrated watershed management plan, complete with:

- long-term watershed monitoring;
- awareness and education;
- capacity building;
- land use plans;
- a drainage improvement plan;
- flood mitigation; and
- soil and water conservation.

What distinguishes the Fond D'or Demonstration Project from the other GEF-IWCAM Demonstration Projects is the fact that it also seeks to compensate individuals and groups for providing environmental services through a sustainable funding mechanism.

It is the development and evaluation of this mechanism that gets to the heart of the project itself and will include the development of tools and mechanisms to compensate for the conservation of the ecosystem and provision of environmental services, identification of financial requirements to sustain watershed management works, identification of all possible sources of funding, and an appropriate financial management regime.

More information on the Saint Lucia Demonstration Project can be found at the GEF-IWCAM website (www.iwcam.org) and by contacting the project manager, Mr. Cornelius Isaac (cornel_isaac@yahoo.com).



Cornelius Isaac, Project Manager



View across the Mabouya Valley

Fond D'or Watershed Activities

Since its inception in mid-2007 the St. Lucia Demo Project has established the PMU, held meetings, developed its work plan and a suite of indicators. In addition it has begun co-operation with the Forestry Department and the Banana Fair Trade Organisation, and held community meetings. In 2008 a wide range of activities are planned, including:

1) A communications, public education and awareness strategy and campaign in the areas of sustainable natural resource and environmental management. This aims to guide the building of public awareness related to the project; help secure the commitment of stakeholders to the project aims; influence specific policies or policymakers with regard to key aspects of the project; and encourage input and participation by stakeholders, through the use of planned, positive and targeted communication.

2) Development of a map of current land use and land use proposals for the Fond D'or watershed to provide a blueprint which can assist in guiding community participation in natural resource management and also help guide the identification of new opportunities for sustainable economic development.

3) A Training Needs Assessment and Capacity Building Plan for Members of the Fond D'or Watershed Management Committee to develop an appropriate human resource training plan geared towards achieving project objectives. The project will assess skills and competences of the committee members as well as technical support staff.

4) A Rainwater Harvesting (RWH) Demonstration System which will promote a simple and low-cost water supply technology which can provide water of an acceptable quality. This would complement the current water scheme and ensure the reliability of water supply within the Fond D'or watershed, particularly during the dry season and periods of induced and natural drought. This activity would include needs assessments; training of contractors; construction of 20 RWH units at homes, schools, community centres, health centres, sporting facilities, etc; community awareness exercises; and an evaluation of the economic and other major impacts on demonstration households

5) A study on compensation for environment services to improve sustainable land management, exploring national options and opportunities for the establishment of a sustainable system to compensate natural resource users for the environmental services their management practices provide to society/community, using the Fond D'or Watershed as a demonstration and case study site. The study would conclude in an analysis and recommended options for implementing a sustainable funding mechanism in support of CES and recommendations on the most appropriate Plan of Action, including institutional arrangements and modalities to establish a functional CES program.

Legislation, Policy and Institutional Structures in Support of IWCAM

- GEF-IWCAM Workshop participants weigh in on “toolkit” being developed

Adequate and appropriate legislation, policy and institutional structures are essential to mainstreaming the integrated watershed and coastal areas management (IWCAM) approach. As such, the GEF-IWCAM project is committed to providing technical support to its participating countries in this area.

Sasha Gottlieb, Technical Coordinator, GEF-IWCAM



This year, the project has focused on a review of relevant and existing legislation, policy and institutional structures and the development of a “toolkit”/ guidance document. A group of technical and legal experts from all GEF-IWCAM participating countries met 27 – 28 November 2007 in Nassau, Bahamas for a two-day workshop.

The workshop helped to familiarize legal officers with the IWCAM approach and technical officers with legal, policy, and institutional tools available to better mainstream IWCAM. Participants also took the time to review a toolkit / guidance document prepared by consultants (Environmental Advisors, Inc.) and provide concrete suggestions for improvements and the most appropriate way to implement the guidelines / toolkit.

The structure and composition of the workshop itself was based on suggestions from the GEF-IWCAM Regional Technical Advisory Group (RTAG), when it last met in July of 2007. At that time, the RTAG highlighted the need for action in these areas, but also acknowledged that such interventions would be more effective if Attorney Generals Offices / National Legal Counsels were involved from the beginning. The input and participation of the legal officers at the workshop was a welcome addition and their contributions should serve to improve the toolkit, guide the GEF-

IWCAM project in terms of its interventions in this area, and promote the objective of IWCAM mainstreaming.

Judy Daniel (right), and Judy Gobin (below), Consultants



The issue of multilateral environmental agreements (MEAs) as a tool for achieving IWCAM generated much discussion over the two days. Participants highlighted the importance of MEAs and, in general, promoted accession to these as a way of catalyzing action in similar areas such as IWCAM. There was also recognition of some of the challenges faced by countries that accede to various MEAs, including limited finances, human resources, etc. needed to achieve the targets and fulfil reporting requirements.

Workshop participants



Workshop participants also raised the vital importance of public awareness and education at all levels, from Prime Ministers to community groups and schools. They felt that policies and legislation related to IWCAM would be adopted more readily and enforced more effectively if all segments of society were fully aware of the benefits of adopting this approach and the dangers of continuing with the status quo, for society, the environment and the economy.

The report of this workshop is being prepared and will be posted on the GEF-IWCAM website shortly. Sasha Gottlieb, Technical Coordinator, may be contacted at sgottlieb@cehi.org.lc for additional information.

World Water Monitoring Day and Public Awareness Project launched by Buccoo Reef Trust and the GEF-IWCAM Tobago Demonstration Project

On 7 November 2007, at Goodwood High School in Tobago, the Buccoo Reef Trust (BRT) and the Global Environment Facility – funded Integrating Watershed and Coastal Areas Management (GEF-IWCAM) Tobago Demonstration Project presented secondary schools in Tobago with water monitoring test kits as part of a World Water Monitoring Day and Public Awareness Project.

World Water Monitoring Day is a worldwide activity celebrated in October and designed to increase awareness of the importance of monitoring water quality in waterways while encouraging the participation of the public. Internationally, it is coordinated by the International Water Association and the Water Environment Federation.

Approximately one hundred and fifty enthusiastic science students and their teachers from all of Tobago's secondary schools participated in the launch. The Water and Sewerage Authority of Trinidad and Tobago (WASA), the Division of Education, Youth Affairs and Sport, and the Department of Natural Resources and the Environment (DNRE) of the Tobago House of Assembly (THA) also supported the venture.

Secretary for Education, Youth Affairs and Sport in the Tobago



Mrs. Groome-Duke presents a student with a water quality testing kit

House of Assembly, the Honorable Mrs. Claudia Groome-Duke, affirmed her support for the programme when she agreed to be the keynote speaker. She stressed the importance of youth in-

volvement in monitoring water quality and the need for them to become more aware of their environment, since they are today



A cross-section of the audience

and tomorrow's users, decision makers and advocates. She also reminded them that poor water quality has a negative impact upon human health and biodiversity.

Remarks were also made by Andrew Daniel, Quality Control Manager, WASA; and Michelle Stanislaus, Environmental Officer II, DNRE, THA. Ms. Sandra Timothy, GEF-IWCAM Project Manager presented an overview of the project. The programme was chaired by Mr. Gerald McFarlane, Director, BRT.

After the official ceremony Mrs. Stanislaus and Mr. Daniel lead the students in a one-on-one break-out session about the environment and the role of watersheds and waterways in their daily lives. This was followed by a demonstration on the use of the test kits. The parameters measured were pH, dissolved oxygen, turbidity and temperature.

The data collected from these assessments will become part of the World Water Monitoring database, as well as a key component of the BRT/ GEF-IWCAM overall land-base database. The information gleaned will provide a snapshot of freshwater quality which can be illustrated on Geographic Information Systems (GIS) maps. The data will also be useful to students for school-based assessment projects. While the WWM exercise has increased awareness and given students some practical experience, the data gathered will provide valuable information that can be used for decision making regarding watershed management.

IWRM Informal Working Group at the 16th CWWA Annual Conference Saint Kitts and Nevis, October 3, 2007

The IWRM Informal Working Group (IWG), established with support from GEF-IWCAM and convened by GEF-IWCAM, met for the second time during the 16th Annual Caribbean Water and Wastewater Association (CWWA) Conference in Saint Kitts and Nevis on Wednesday, October 3rd. Among subjects discussed were:

Some relevant IWRM Activities underway in the region, including:

- A Master's level programme in Integrated Water Resources Management (IWRM) being developed by The University of the West Indies' Centre for Resource Management and Environmental Studies (UWI-CERMES).
- Collaboration amongst GEF-IWCAM, the United Nations Environment Programme's Collaborating Centre on Water and Environment (UNEP-UCC), the Caribbean WaterNet, the Global Water Partnership – Caribbean (GWP-C), the National Oceanic and Atmospheric Administration of the United States Department of Commerce (NOAA), the Caribbean Environmental Health Institute (CEHI), and others, on IWRM workshops in Dominica, Saint Vincent and the Grenadines, and Grenada.
- Caribbean WaterNet and CEHI collaboration on a capacity needs assessment for IWRM in the Caribbean, in which barriers and constraints to training as well as short and medium-term training needs were identified. An inventory of training materials in the area of water and sanitation for the Caribbean is also being planned.



IWRM Panel Session



High Level Water Session



Conference Plenary



The IWRM IWG meets



Ideas for future collaboration included:

- Development of an inventory of training materials for sanitation, water supply and water resource management for the region.
- A database of technical expertise in the region.
- The certification process for water and wastewater technicians.
- Linkages between the National Programmes for Action (NPA) for the Protection of the Marine Environment from Land-Based Activities and IWRMs since the processes to develop these are very similar. The Global Programme of Action (GPA) no longer focusses simply upon delivery of a single plan but rather a process, highlighting sustainability, strategic planning and financing concerns.

It was suggested that the IWG convene in June 2008 at the next Caribbean Environmental Forum and possibly at the next CWWA Annual Conference in Fall 2008. While the option of formalizing the IWG was discussed, the decision was made to remain as an informal grouping, but provide information and guidance as needed to more official bodies, such as the Water High Level Sessions that are traditionally convened at the CWWA. CEHI, in collaboration with partners is looking at the preparation of a white paper or documentation of the issues that the high level session may want to bring forward to COHSOD or others. Possibilities for synergies regarding IWRM inception workshops in Haiti and Dominica exist.

Compensation for Environmental Services

Sustainable natural resource management is increasingly focusing on the services provided by ecosystems, their value, and the growing willingness of stakeholders to compensate natural resources stewards for such services.

Compensation for Environmental Services, also referred to as Compensation for Ecosystems Services (CES) when incorporated into broader development strategies geared towards expanding the whole basket of assets (natural, social-political, human, physical, and financial in the hands of the poor communities) can significantly contribute to improving the livelihoods of the rural poor and advancing environmental goals.

CES should therefore not be pursued in an isolated fashion or be seen as an end in itself, but should be integrated into broader sustainable development frameworks.

In the context of the GEF-IWCAM Project CES mechanisms could be used or adopted for, for instance: watershed protection, land degradation, biodiversity protection and to preserve scenic beauty.

- Ref. The Global Mechanism,
United Nations Convention to
Combat Desertification:

<http://www.global-mechanism.org/about-us/strategicprogrammes/ces>

See also: Environment and Natural Resource Management, Compensation for Ecosystems Services, IDRC:

http://www.idrc.ca/rpe/ev-100852-201-1-DO_TOPIC.html

2nd GEF-IWCAM Project Steering Committee Meeting

The second official meeting of the GEF-IWCAM Project Steering Committee (PSC) was held in Frigate Bay, Saint Kitts and Nevis on October 1, 2007 and was attended by delegates from all thirteen participating countries as well as the implementing and executing agencies. The delegates were briefed on activities that had taken place since the previous PSC (June 2006) and the recommendations of the Regional Technical Advisory Committee. They also reviewed and approved the draft budget and work plan for 2008, making suggestions and revisions as needed. The PSC meeting report can be found at the GEF-IWCAM website at:



<http://www.iwcam.org/information/gef-iwcam-project-steering-committee>



*Seasons Greetings and All the Best in 2008
from the GEF-IWCAM Team!*



Participating Country Focal Points, Demonstration Projects and others are invited to submit articles. Please contact Donna Spencer at dspencer@cehi.org.lc

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