Integrating Watershed and Coastal Areas Management in Caribbean Small Island Developing States

# Caribbean WaterWays

## Newsletter of the GEF IWCAM Project

Volume 2, Issue 4 December 2008

*In this issue:*



## *End-of-year message from Vincent Sweeney, Regional Project Coordinator*

*Dear Colleagues and Partners,*

*As we reflect on the past year, we are encouraged by much that has been achieved. 2008 saw the eventual start-up of all nine Demonstration Projects, including those which had been delayed due to a number of administrative hurdles. For those which started late, we were pleased to note the enthusiasm and interest in ensuring that they "catch up" with their partner demonstration projects. Fortunately the majority of demonstration projects are proceeding well and are not expected to be delayed in 2009 either. We are very proud and encouraged by the many on-the-ground activities taking place in participating countries which are having a direct impact upon the lives of people. The improved water supply in the Fond D'Or watershed in St. Lucia, and improved access to sanitation facilities in Jamaica are two examples.*

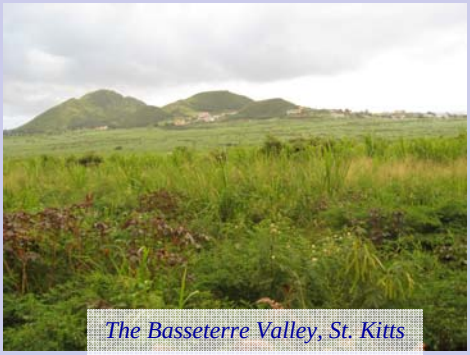
*Participating countries have also received training and capacity building support in communications, Geographic Information Systems, environmental indicators, Community-based Resource Assessment, Integrated Water Resources Management (IWRM), and laboratory analyses, to*

*(Continued on page 2)*

***Feature Article:***

## Protecting the Basseterre Valley Aquifer: An IWCAM Approach for St. Kitts & Nevis

In November the CNIS with the GEF-IWCAM Project was given a tour of the St. Kitts & Nevis Demonstration Project site, the Basseterre Valley Aquifer, by the Project Manager, Ian Liburd. As she took in the rolling landscape, she was struck by the beauty of the area. Hills surround this valley on three sides – the Olivees Mountain to the southwest, the Canada Hills to the northeast, and the Conaree Hills to the east. They effectively create the basin which is the aquifer. The valley is approximately 8 square miles in area and widens to the southeast as it empties into the Caribbean Sea at Basseterre, capital of St. Kitts.



*The Basseterre Valley, St. Kitts*

*The Valley, view south to Basseterre*

The aquifer which underlies the Basseterre Valley is a very significant economic and social asset to the people of St Kitts & Nevis. About 2.5 million gallons of the daily national water consumption of 4 million gallons per day is provided by this aquifer - 60% of the water consumed in Basseterre!

### The Basseterre Valley Aquifer – Main Concerns

For many years land use in the Valley remained unchanged. Until about two years ago, sugar cane cultivation dominated. This is a densely populated area and development pressures have resulted in encroachment, threatening the integrity of the aquifer. Much of the southern third of the Valley is already developed for commercial, residential and industrial facilities.

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*name a few areas. Countries also benefited from opportunities to promote their project work and learn from the experiences of others through active participation in regional and international fora and through cooperation amongst themselves. The Project Coordinating Unit also actively promoted the IWCAM approach, including at the very highest levels regionally, involving Prime Ministers, other government Ministers and partner agencies and international organizations. In addition, four issues of the Caribbean Waterways Newsletter were produced, keeping stakeholders informed of progress being made. Outreach material produced included a DVD on IWRM, and the project website was completely redesigned and re-launched in December.*

*We look forward to accelerated implementation in 2009 and anticipate greater communication amongst participating countries and higher levels of cooperation. Major upcoming activities include conduct of the project's Mid-Term Evaluation, which will allow for "stock-taking" of where we are and what we have accomplished. We hope for the fullest cooperation of all parties in that process.*

*On behalf of the GEF-IWCAM Project Coordinating Unit, I wish to reaffirm our commitment to providing all necessary support to participating countries in 2009 and wish everyone a fruitful and productive year.*

*- Vincent Sweeney -*

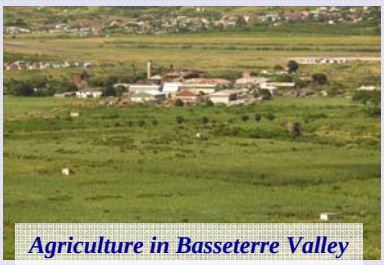
## *BACKGROUND ON THE GEF-IWCAM PROJECT:*

*The Global Environment Facility-funded Integrating Watershed and Coastal Areas Management in Caribbean Small Island Development States (GEF-IWCAM) Project 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 for 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)*

This fragile aquifer is threatened by:

- Agricultural pollution, domestic (both sewage and other wastewater) pollution,
- Improper land-use and inappropriate development planning
- Inadequate management and control of water extraction to ensure sustainability
- Inadequate protection of the Valley area and its ecosystem functions particularly as they pertain to the water resource
- Insufficient control over leakage and wastage, and



***Agriculture in Basseterre Valley***

- Inappropriate use of water resources.

***Pollution from mechanic's shop located in the Valley***

As a result an increased level of nitrates and other pollutants have been found in water samples taken from the area. Prevention of further contamination is important because once contaminated beyond acceptable levels it will be economically and scientifically impossible to restore the integrity of this critical underground water resource.


***One of many pump wells located on the aquifer***

### Establishing a National Park:

The Basseterre Valley Advisory Committee (BVAC) was appointed, through the Office of the Prime Minister, in 2002, to examine the feasibility of establishing a National Park. This Committee

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worked hard to procure technical assistance and funding. The Government of St. Kitts & Nevis (GOSKN) eventually secured funding from the Global Environment Facility (GEF) under the Integrating Watershed and Coastal Areas Management Project (IWCAM).

A Memorandum of Agreement between the GOSKN and UNOPS to engage services in the context of GEF-IWCAM was signed in 2006. The GEF-IWCAM Project will finance up to US$530,740 and GOSKN will co-finance in the sum of US$217,380. The budget also reflects an 'in-kind' contribution of US$22,145,000 from GOSKN. A small Project Management Unit was established at the beginning of October 2008 in Basseterre.

A Project Steering Committee (PSC) will soon be established to include representatives from the relevant government departments, representation from the community, from at least one relevant NGO, and from the private sector. It is likely to evolve out of the existing BVAC, ensuring non-government, stakeholder participation.

In November 2008 the GOSKN entered into a contract with Ocean Earth Technologies Consortium (OET) which will perform the consultancy services related to the Demonstration Project. In the interim, Cabinet has already approved the recommendation to formally declare the lower/coastal area of the Basseterre Valley a Protected Area towards the establishment of a National Park.

**Objectives of the GEF-IWCAM Demonstration Project:**

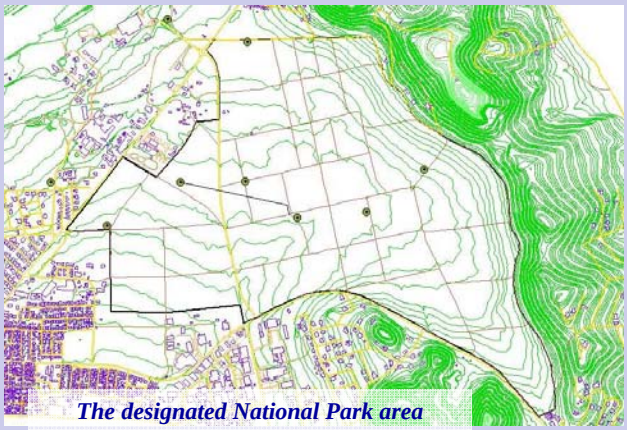
Against this background the St. Kitts & Nevis Demonstration Project aims to demonstrate proper management and protection of the Basseterre Valley aquifer and well-field through a parallel process of:

- Mitigation of threats from contaminants.
- Protection of the aquifer, well-field and supportive ecosystem.
- Improved user-resource management.

*See Box A, pg. 6, for more information on activities.*

**Expected Outcomes of the Demonstration Project:**

- Development of a Water Resource Management Plan for Basseterre Valley Aquifer.
- Development of the Liamuiga National Park Management Plan for the Protected Area.
- Designation of a National Park Management System, to include stakeholder consultations on the preliminary design and management plan, Cabinet adoption of legislation to designate the National Park, and identification of a formal Management Authority.
- Replication of Lessons and Practices through the submission of a proposed model for future replication and transfer of best practices developed locally and throughout the other Caribbean SIDS.



*The designated National Park area*

This unconfined coastal aquifer needs to be protected through control of activities taking place in the watershed if it is to be a safe and reliable source of fresh water in the future. The GEF-IWCAM Demonstration Project is a serious collaborative effort to do this. It looks at Tourism Development and Planning, among a host of other activities, as part of Integrated Watershed and Coastal Areas Management. It makes provision for a fully participatory consultative process to include all relevant stakeholders throughout its lifetime and beyond.

*View east across Basseterre valley*

This approach is essential if the Basseterre Valley is to be managed sustainably and the underlying aquifer is to be protected for the sake of future generations.

## Background: The Dominican Republic Demonstration Project: Mitigation of Impacts of Industrial Wastes on the Lower Haina River Basin and its Coast

***"The Haina River is totally contaminated, is considered one of the most polluted places in the world, and its population seriously suffers from health issues as a result."***

*- David Uzuriaga, UNDP Representative, at the Launch of the GEF-IWCAM Demonstration Project, DR.*

*The Lower Haina River*

The Lower Haina River Basin, site of the Dominican Republic's Demonstration Project, is one of the main industrial conglomerations of the country with over one hundred medium to large size industries. These include the main electricity generating plant, the petroleum refinery, and the only vehicle battery factory in the country. The region is highly contaminated by these industrial activities, as well as the solid and liquid wastes generated by the communities. At the same time, the water of the basin is one of the main potable water sources of the city of Santo Domingo.

*The Electricity Company, Haina*

*The port located on the Lower Haina River, across from a large unplanned settlement*

The GEF-IWCAM Demonstration Project's main interventions are in the industrial sector with the implementation of :

- programmes aimed to reduce contamination by developing recycling and reutilization mechanisms;
- a heavy metal contamination survey to provide information to guide policy and strategic planning ; and
- overall integrated management programmes.


*Headquarters of the Industry and Business Association of Haina*

Industry within the Haina River basin affects the environment, biological diversity and the welfare of people in the basin through:

- The production of liquid effluent (through the discharge of water used in the industrial process as well as liquid chemical contaminants from the industry);
- The production of industrial solid wastes (which are inadequately handled through a landfill treatment system which is leaching effluent into the water table);
- Industrial atmospheric emissions (with the high potential for harmful fall-out of chemicals, particularly heavy metals).

# Launch of the Dominican Republic Demo Project: Well attended by the industrial sector and other key players

***"We have heard things like Haina is a time bomb, there is acid rain in Haina, and other chilling stories related to pollution for a long time now. This causes us to reflect and come together with the community, in a more direct manner, and set down the right path—getting to the root of the problem and considering all environmentally beneficial options."***

*- Maria Alejandra Grullon, President of the Industry and Business Association of Haina at the Launch of the Demonstration Project.*

On 12th November 2008, the Dominican Republic's Demonstration Project was formally launched before an audience which included representatives of the Office of the Secretary of Environment and Natural Resources which is responsible for managing the Project, the Haina Municipal Syndicate, the National Business Network and the Industry and Business Association of Haina.

The Demonstration Project Manager is Mercedes Socorro Pantaleón Inoa.

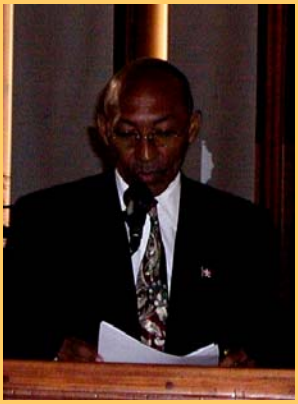
*The Head Table, Launch of the Demonstration Project*

*Participants represented both public and private sectors*

*Children at play in the Demo Project area—they deserve a clean environment*

The main expected results of the Demo Project are:

- a reduction in the contamination emitted by the industrial sector,
- improvements to water quality within the basin, and
- the creation of a sustainable management programme for the hydrographic basin.



***" The start of the Demonstration Project has witnessed the Municipal Government of Haina's commitment to utilizing the Project's outputs as a tool which seeks to counteract pollution within the municipality. We are aware that our environmental reality is critical; however we need to be even more conscientious that the problem will not be solved by shedding crocodile tears or by shirking our responsibilities. In addition we need not issue individual convictions for a situation to which we have all contributed and are all obligated by duty and commitment to find a viable solution to."***

*Luis Alberto Concepcion, Haina Municipal Syndicate*

***Box A:***

## St. Kitts & Nevis Demonstration Project Activities

Mitigation of Threats from Contaminants

- Review of current agricultural practices, residential and commercial water disposal and overall land-use in the Basseterre Valley.

- Review of current policy and legislative framework and recommendations for reform to encourage appropriate land and water resource usage. A mechanism for monitoring and compliance would be developed.

Protection of Aquifer, Well-field and Supportive Ecosystem

- A Survey of the ecosystem functions, natural resources and threats to the water resource of the Basseterre Valley including recommendations on the re-introduction of native species of plants along with the exclusion of undesirable species of plants and wildlife.
- Development of a financial mechanism to encourage appropriate land and water resource usage ultimately resulting in behaviour change.

Improvements to the User-Resource Management Interface

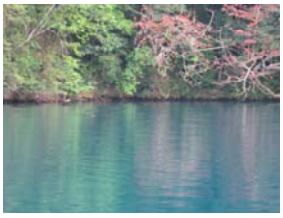
A comprehensive hydro-geological survey of the Basseterre Valley Aquifer which includes:

- Updated calculation of water budget and sustainable yield of the aquifer.
- Identification of important recharge zones and sensitive areas.
- Water quality monitoring including baseline monitoring for trace organic contaminants.
- Survey of losses and wastages of water resources between the well-field and the taps of consumers including a review of options for recovery and recycling of water.

## Communities receive grants in support of IWCAM

Jamaica's GEF-IWCAM Demo Project is geared towards development and implementation of a model Watershed Area Management Mechanism (WAMM) for Eastern Portland that incorporates the lessons and experiences gained in other Watershed Management Units and Small Island Developing States. It has disbursed Grants to 12 projects within the Project area which exemplify good IWCAM practice.

| Area of Support | Title/ Organization |
|---|---|
| Protection of Rivers & Waterways Protection of Mangroves & Marine Resources | Restoration of Drivers River Mangrove by Manchioneal Fishing Village |
| Environmental Monitoring & Enforcement | Integrating Community Based Disaster Risk Assessment by : PEPA |
| Any other community Project that supports IWCAM | School sanitation by Build Ja., Rural Hill Pri, Fair Prospect Pri, Reach Pri & Infan |
| Community Solid Waste Management Improvement, Environmentally Sustainable Programmes. | Fruit Tree and Communal Garbage Disposal Project by: Priestman's River Citizens Benevolent Society |
| Community Solid waste, Protection of Rivers Waterways, Mangroves and Marine Resources | Restoration, flood mitigation and garbage disposal by: Long Bay/ Fair Prospect Citizens Ass. |
| Community solid waste, Training & Capacity building | Hectors River Solid waste Recycle Project by:Hectors River Senior Citizens Group |
| Community Solid Waste, Protection of Mangroves and Marine Resources | Manchioneal CDC Mangroves Resuscitation and Communal Garbage Project by: Manchioneal CDC |
| Environmental Monitoring, Training & Capacity Building, Environmental awareness | Drivers River DAC Environmental monitoring & Awareness Project by Drivers River DAC |
| Protection of River and Water ways | The Turtle Crawle Rehabilitation Development by: Nonsuch Environmental Trust |
| Training and Capacity Building | Fairy Hill Makers Handmade Paper and Waste Management Project by Fairy Hill Citizens Ass. & Neighbourhood Watch |
| Environmentally Sustainable Programme | Fruit Tree Crop Production by: Manchioneal JAS |
| Environmentally Sustainable Programme | Fruit Tree Crop Production by: Hectors JAS |


*Seasons Greetings and Best Wishes for 2009 from the PCU!*

## 3rd Project Steering Committee Meeting

The GEF-IWCAM Third Project Steering Committee (PSC) Meeting was held in Montego Bay, Jamaica on 6 October 2008, immediately preceding the annual Caribbean Water and Wastewater Conference.

As with previous PSC Meetings, the GEF-IWCAM Regional Project Coordinator presented the draft work plan and budget for the upcoming calendar year (2009) which reviewed all components, upcoming activities, and project budget, and it was approved by the Project Steering Committee. The Work Plan builds on the previous years' activities and includes training, awareness raising, transfer of lessons learned, support for IWRM planning, and laboratory capacity building.

The issue of sustainability of the IWCAM approach after the end of the project was discussed at length. It was agreed that any approach to sustainability would need to be varied and flexible. It is foreseen that much more attention will be devoted to this matter in the second half of the project.

Due to delays in implementation for some Demonstration Projects, specific milestones were suggested and adopted by the Steering Committee Meeting. The Project Coordinating Unit is available to assist Demonstration Projects in meeting these milestones in order to ensure effective execution of all demonstration projects.

The PSC was informed that the GEF-IWCAM Project will have a Mid-Term Evaluation in the first quarter of 2009, results of which will guide all future activities.

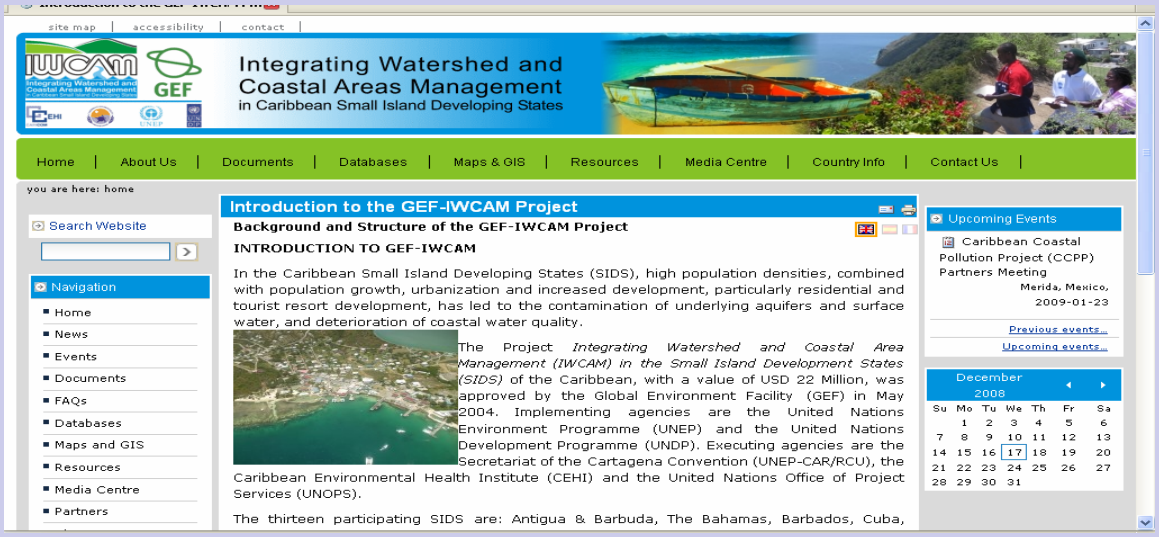
The PSC Report is available on the GEF-IWCAM website.

*Isabelle Vanderbeck, Task Manager, GEF Projects in Latin America & the Caribbean addresses the 3rd PSC meeting.*

*Participants in the 3rd Project Steering Committee Meeting*

# New GEF- IWCAM website launched!

The GEF-IWCAM Project website has been redesigned to be more user-friendly and better organized. It was introduced at an Integrated Water Resource Management Partnership Forum which took place 8—9 December 2008 in Barbados and which was funded by the GEF-IWCAM Project. It is a work in progress, as additional resources and features are to be added. Feedback is welcome. Please contact Donna Spencer at dspencer@cehi.org.lc for more information. The URL remains: www.iwcam.org



## Caribbean SIDS prepare for World Water Forum

A Caribbean delegation was invited to participate in the Water Forum of the Americas (WFA), as part of the preparations for the World Water Forum, to be held in Istanbul, Turkey in March 2009. The WFA took place in Iguassu Falls, Brazil, from November 24 to 25, 2008 and was hosted by the National Water Authority of Brazil (ANA). The GEF-IWCAM project supported participation of representatives from the Caribbean, who are expected to lead the region's representation at the World Water Forum.

*Caribbean delegates at WFA, Iguassu Falls, November 24, 2008*

These included the Honourable Dr. Horace Chang, Minister for Water in Jamaica, Mr. Bernard Ettinoffe, Chairman of the Caribbean Basin Water Management Programme Inc. and General Manager of the Dominica Water & Sewerage Company (DOWASCO), and representatives from GEF-IWCAM Project Coordinating Unit, UNEP CAR/RCU and CEHI. Also in attendance, as part of the Caribbean delegation were the Permanent Secretary and the Chief Technical Director, both from the Ministry of Water in Jamaica; the Director of the Water Resources Authority in Jamaica; and a representative of the University of the West Indies Centre for Resource Management & Environmental Studies (CERMES). Regional partners included GWP-Caribbean, CEHI, and the OAS.

The two-day meeting heard brief overviews of the 4 sub-regional reports prepared in advance of the meeting. These regional reports, which would form the basis for a consolidated position to be presented by the Americas region to the World Water Forum (WWF), were critiqued and recommendations for additions and improvements were made. After the two days, the meeting, through a series of facilitated discussions and a priority-setting exercise, eventually reached consensus on the main issues which the region would present in Istanbul (known as the Message of Iguassu Falls, MIF).

Of significance to the region was the fact that the challenges faced by small islands in the Caribbean, in relation to water management, exacerbated by climate change, was included among the priorities of the Americas. This was only made possible due to the strong lobbying efforts of Caribbean delegates and their emphasis on this topic, as well as insistence that it be featured prominently. This is even more significant as the meeting included over 250 persons, and the Caribbean delegation numbered less than 15 persons, including agency representatives.

Delegates were also treated to a field trip, which includes two of the World's greatest spectacles – Iguassu Falls and Itaipu Hydroelectric power plant. Iguassu Falls is located between Brazil, Paraguay and Argentina, and is a major tourist attraction. The Itaipu Dam and power plant provides all of the electricity for Paraguay and 20% of the electricity for Brazil. It is considered one of the engineering marvels of the World.

*Itaipu Dam, Brazil*

*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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