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COASTAL WATER QUALITY IMPROVEMENT PROJECT II

FINAL REPORT

CWIP2

JUNE 2005

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The Coastal Water Quality Improvement Projects benefited from an impressive investment of time, energy and creativity. Members of the projects implementation teams, the USAID Jamaica management team, the Government of Jamaica, NEPA, and stakeholders in the national and local arenas remained extremely dedicated to the projects throughout their implementation and beyond. Their hard work enabled the lessons of CWIP I and II to emerge, demonstrating that team work and purpose can serve as powerful motivators for change.

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COASTAL WATER QUALITY IMPROVEMENTS PROJECT II

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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PREFACE

The Coastal Water Quality Improvement Project – Phase II (CWIP II) implemented by Associates in Rural Development, Inc. (ARD, Inc.), Inc., is a bilateral initiative between the Government of Jamaica (GOJ) through its National Environment and Planning Agency (NEPA), and the United States Government through its Agency for International Development (USAID). The project began as an eighteen and a half (18 ½) month program under a Water Indefinite Quantities Contract Task Order. Under this contract, CWIP II was committed to developing pilot integrated management approaches to improve coastal water quality, and supporting innovative approaches to strengthening capacities to address water quality issues in Jamaica, contributing to the achievement of the United States Agency for International Development (USAID) Strategic Objective 2 (SO2) – *Improved quality of key natural resources in selected areas that are both environmentally and economically significant*.

After the passage of Hurricane Ivan through Jamaica in September, 2004 funds were reprogrammed under a contract amendment signed between USAID and ARD, Inc. on November 30, 2004 and December 2, 2004 respectively for the project to address post hurricane assistance and rehabilitation programs. This contract amendment saw an increase in the budget ceiling.

The initial CWIP II Work Plan provided a thorough overview of the implementation strategy, activities, and tasks that CWIP II followed to addressing the Scope of Work outlined in USAID Contract No. LAG-I-00-99-00018-00. The Work Plan covered the period between the project mobilization date, August 11, 2003 and February 28, 2005, the initial Project Activity Completion Date (PACD). The Work Plan, a contract requirement, is a living document designed to provide focus to achieving the project's intended results, but it was also prepared with sufficient flexibility to respond to emerging opportunities and constraints. The CWIP II Work Plan was linked with other planning documents including the Performance Monitoring Plan, which formed an integral part of this document, and the Procurement and Property Management Plan.

The contract amendment addressed specific deliverables broadly covering, a) Water, Sanitation, and Infrastructure; b) Land and Coastal Zone Rehabilitation; and, c) Disaster Mitigation. These activities were implemented in targeted communities working with specific sets of partners and stakeholders.

Training in Advanced Participatory Methods is given separate treatment in this report because of its contribution to the achievements of CWIP II.

A "Lessons Learned" section is also included in the appendix. This section covers lessons learned form both CWIP I and CWIP II.

ACRONYMS AND ABBREVIATIONS

AMC	Advisory and Monitoring Committee
APM	Advanced Participation Method
ARD	Associates in Rural Development
BFC	Blue Flag Campaign
BFCC	Blue Flag Caribbean consortium
BST	Bio-digester Septic Tank
CBC	Clean Beaches Council
CBE	Community Based Enterprise
CBEMI	Community-based Environmental Management Initiatives
CBO	Community Based Organization
CDC	Community Development Committee
CDOs	Community Development Officers
CEO	Chief Executive Officer
CIDA	Canadian International Development Agency
CMS	Centre for Marine Sciences
COP	Chief of Party
CR	Contract Result
CRDC	Construction Resource and Development Centre
CSH	Child Survival and Health
CTO	Cognizant Technical Officer
CWIP I	Coastal Water Quality Improvement Project – Phase 1
CWIP II	Coastal Water Quality Improvement Project – Phase 2
DBML	Discovery Bay Marine Laboratory
DCP/ES	Deputy Chief of Part/Environmental Specialist
DMG	Destination Management Group

EAP	Environmental Action Plan
EAST	Environmental Audits for Sustainable Development
EFJ	Environmental Foundation of Jamaica
EHU	Environmental Health Unit
EIB	European Investment Bank
EMS	Environmental Management Systems
ENACT	Environmental Action Program
EU	European Union
FEE	Foundation for Environmental Education
GGDA	Green Globe Destination Area
GGDM	Green Globe Destination Management
GIS	Geographic Information System
GOJ	Government of Jamaica
GPS	Global Positioning System
IAF	International Association of Facilitators
IMS	Information Management System
IR	Intermediate Results
JCDC	Jamaica Conservation and Development Trust
JHTA	Jamaica Hotel and Tourism Association
JSIF	Jamaica Social Investment Fund
JWOA	Jamaica Wastewater Operators Association
KMS	Knowledge Management Specialist
KSAPDC	Kingston and St. Andrew Parish Development Committee
LSDPF	Local Sustainable Development Planning Framework
MAJ	Maritime Authority of Jamaica
MIND	Management Institute for National Development
MIT	Ministry of Industry and Tourism
MLGCDS	Ministry of Local Government, Community Development and Sport
MLE	Ministry of Land and Environment
MOH	Ministry of Health
MOU	Memorandum of Understanding
MOWH	Ministry of Water and Housing

MPA	Marine Protected Area
NCC	Negril Chamber of Commerce
NCRPS	Negril Coral Reef Preservation Society
NEPA	National Environment and Planning Agency
NEPT	Negril Area Environmental Protection Trust
NEPM	ort Eastern Parks and Markets
NGIALPA	Negril Green Island Area Local Planning Authority
NGO	Non Government Organization
NRCA	Natural Resources Conservation Authority
NSWMA	National Solid Waste Management Authority
NWA	National Works Agency
NWC	National Water Commission
ODPEM	Office of Disaster Preparedness and Emergency Management
OPM	Office of the Prime Minister
ORS	Organizational Ranking System
PAAMC	Port Antonio Advisory and Monitoring Committee
PACD	Project Activity Completion Date
PCC	Portland Chamber of Commerce
PDAC	Papine Development Area Committee
PDC	Parish Development Committee
PDMG	Portland Destination Management Group
PEPA	Portland Environmental Protection Association
PIOJ	Planning Institute of Jamaica
PLAM	Participatory Learning and Action Methodology
PMP	Performance Monitoring Plan
PPC	Portland Parish Council
R2RW	Ridge to Reef Watershed Project
RADA	Rural Agricultural Development Authority
RWSP	Rural Water Supply Program
SAR	Semi Annual Report
SDC	Social Development Commission
SDMS	Sustainable Destination Management System

SERHA	South Eastern Regional Health Authority
SO2	Strategic Objective 2
SOW	Scope of Work
SRC	Scientific Research Council
SWOT	Strengths, Weaknesses, Opportunities, Threats
TOT	Training of Trainers
TPDCo	Tourism Product Development Committee
UDC	Urban Development Corporation
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
USAID	United States Agency for International Development
UWI	University of the West Indies
VIDPs	Ventilated Improved Double Vaulted Pit Latrines
VIP	Ventilated Improved Pit Latrine
WASH	Water and Sanitation Hygiene
WRA	Water Resources Authority

1.0 EXECUTIVE SUMMARY

1.1 BACKGROUND

Coastal zone ecosystems in critical economic areas of Jamaica have been experiencing serious environmental stress and degradation. The environmental and natural resources base, which has been generating the tourism-related trade and economic growth, is now being threatened. The proper management of the coastal zone ecosystem is intrinsically linked to the sustainability of the tourism sector. It was determined that a serious commitment to reversing trends in coastal zone environmental degradation, especially coastal water quality, was required to ensure economic vitality as well as a healthy environment for local communities.

The Coastal Water Quality Improvement Project – Phase I (CWIP I) was a five-year, US $9 million, bilateral initiative between the Government of Jamaica's National Environment and Planning Agency (NEPA) and the Government of the United States through its Agency for International Development (USAID). The CWIP I team implemented five distinct, but interrelated activities, associated with coastal water quality improvements toward achieving substantial accomplishments that positively impacted coastal zone, wastewater, and solid waste management, and contributing to the achievement of the USAID/Jamaica Strategic Objective 2 – *Improved quality of key natural resources in selected areas that are both environmentally and economically significant.*

Lessons learned by CWIP I from implementation experiences under this project in Negril and Ocho Rios stressed the need for a planning approach at the local government level for the coordination of environmental management services and disaster mitigation activities. CWIP I found that the lack of such a mechanism hampered the sustainability of community-based initiatives. Most importantly, procedures and mechanisms for collaboration between local stakeholders and Government of Jamaica (GOJ) partners needed to be established so that the availability of technical inputs from key agencies, such as the National Environment and Planning Agency (NEPA), the Water Resources Authority (WRA), the National Solid Waste Management Authority (NSWMA), the National Water Commission (NWC), the Office of Disaster Preparedness and Emergency Management (ODPEM), as well as other public and private sector organizations, were fully available and utilized by local government and impacted communities. The rationale for this approach is bases on the premise that local authorities must build partnerships with critical central government agencies and other stakeholders to improve the provision of key environmental services, such as solid waste collection, drains maintenance, urban planning, and sanitation.

The original completion date of CWIP II was February 28, 2005. With the passage of Hurricane Ivan over Jamaica in September, 2004 the project's contract was amended for the project to address post hurricane assistance programs. Accordingly, the project end date was extended to June 30,2005.

1.2 PRE- HURRICANE WORK PLAN (ORIGINAL CONTRACT)

Under the original contract, the objective of CWIP II was to ***Develop pilot integrated management approaches to improve water quality***. USAID identified two Intermediate Results in the CWIP II Scope of Work, these being:

- To develop an integrated parish-level environmental planning and management process in Portland, resulting in (a) Increased capacity by the parish, or community-based organizations to lead and influence

sustainability planning and environmental management, with an emphasis on strengthening the Portland Parish Council (PPC), the Parish Development Committee (PDC) or other parish-based civil society groups, (b) Implementation of a process for Portland to achieve Green Globe Destination Management (GGDM) certification, (c) Development of an advocacy process for wastewater and drainage services through the Port Antonio Wastewater Advisory and Monitoring Committee (AMC); and

- To develop a Blue Flag beach and marina certification program for selected pilot sites, supported by a national water quality monitoring program, resulting in the successful establishment of a Blue Flag National Coordinating NGO (National Operator) and a certification processes initiated in designated sites.

Three implementation areas were included in IR 1, or first component of the project, which aimed to:

- Strengthen the capacity of the Portland Parish Council to lead integrated planning and environmental management;
- Assist the Environmental Audits for Sustainable Tourism (EAST) project and the Portland Destination Management Group develop and implement a Green Globe Environmental Action Plan (EAP); and
- Support the Wastewater Advisory and Monitoring Committee (AMC) to represent stakeholder opinions on issues pertaining to water quality management, including the development of new sewerage and storm-water drainage systems.

The two sub-components of IR 2 included:

- Establishing and supporting the development of a National Operator for the Jamaican Blue Flag Campaign; and
- Improving institutional capacity within the Government of Jamaica to manage a national water quality monitoring program.

The overall strategy was to engage relevant national agencies, local government officials, and community-based and private-sector organizations in innovative environmental planning and management programs, utilizing a customer outreach and service-oriented approach, and the promotion of participation incentives. CWIP II also provided strategic resources through existing institutions, using relevant policy frameworks and organizations, so that key stakeholders lead the development and implementation of these innovative approaches. Provisions of the Work Plan were integrated with the GOJ's *Local Sustainable Development Planning Framework (LSDPF)*, and EAST's Green *Globe Destination Management Program.*

1.2 1 Contract Results

To guide the overall direction of the first CWIP II contract, an overall Contract Result, which is, ***Pilot integrated local government approaches for environmental management developed and tested,*** was proposed. Two Contract Results (CRs) were formulated to structure the conceptualization, implementation, and performance monitoring of the two components, or IRs, of CWIP II. In the CWIP II Work Plan, each CR is presented as separate components stating the background, strategy and assumptions, SO2 linkages, work plan, and benchmarks to be used to guide the project through the project end date. While presented as distinct components, the CRs complement and interact with each other to produce a comprehensive, integrated range of interventions to improve coastal water quality.

In addition to the objectives set out above, CWIP II also implemented three grant related projects, including the preparation of a river basin management plan for the White River watershed. The river basin management plan was done by ARD, Inc. through CWIP II with a separate USAID grant. Two

special studies were also supported. Both the grants programs and special studies supported USAID's objectives under SO2.

1.2.2 Highlights of Achievements

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USAID CTO making presentation to Chairperson of Portland PDC.

Key achievements in satisfying the work plan objectives included:

- Programmatic approaches developed and implemented from the capacity assessment exercise of the Portland Parish Council, Parish Development Committee and Social Development Commission for these organizations to be strengthened;
- Environmental management activities were addressed through the collaboration of local government, central government agencies, and community groups; environmental management initiatives supported the Government of Jamaica's Local Sustainable Development Planning framework and the Green Globe Certification objectives of the Portland Destination Management Group;
- Fifty-one drains cleaned in the Boundbrook and Prospect areas of Port Antonio through local government/community collaboration to address flood mitigation;
- Two Bobcat skid steer loaders with shovel attachment procured - one each for the Portland Parish Council and the other for the MLGCDS, for drain cleaning purposes;
- Portland Parish Council provided with GIS equipment and training to better able address work related to drain cleaning/flood mitigation activities, sanitation, and general planning;
- Capacity of Portland Parish Council and the Portland Parish Development Committee strengthened to more effectively lead and coordinate environmental management programs within the parish;
- Two bio-digester septic tanks (BSTs) constructed with community input, one each in Boundbrook and Prospect to demonstrate effective sanitation solutions, and solutions that can withstand hurricane and flood conditions;
- Solid Waste Management Plan for Greater Port Antonio completed. Plan gained acceptance at a stakeholder workshop held in February 2005;
- Port Antonio Wastewater Advisory and Monitoring Committee supported to address provision of central sewage facility and plans for upgrading drinking water and drainage services for Greater Port Antonio;

- Six hundred and thirty-three (633) Government of Jamaica, Local Government personnel, and community members trained in Advanced Participatory Methods to more effectively address participatory planning and implementation of environmental management programs;
- Nine community based organizations and civil society groups strengthened to undertake environmental management initiatives;
- Prospect and Boundbrook Community groups trained in effective publicity and awareness techniques to sensitize community members on the "dos" and "don'ts" of garbage disposal, sanitation, and drain maintenance;
- Memorandum of Understanding (MOU) signed among 12 stakeholder groups representing Portland local government institutions, national agencies, local civic, environmental, and community groups to continue collaboration to provide and maintain environmental, solid waste, sanitation, and disaster management programs;
- Forty-two persons trained in disaster management. Training included shelter management, damage assessment, basic first-aid, search and rescue, flood mitigation, and early warning systems. The agencies in charge of the training modules were: ODPEM, Jamaica Red Cross and the Jamaica Fire Service;
- Blue Flag campaign strengthened to support environmental management initiatives throughout Jamaica; four beach and one marina granted the prestigious Blue Flag Campaign for the 2004/2005 Blue Flag season;
- Input made into Beach Policy review exercise in an effort to modify Policy to beach access issues;
- Auto analyzer procured and installed for NEPA with attendant training to improve NEPA's capacity to address its water quality monitoring mandate. Equipment addresses the analysis of nitrogen and phosphorus, and expands NEPA's monitoring capabilities;
- National Water Monitoring Program and Strategy adopted by NEPA for use nationally; program provisions to guide water quality monitoring activities of key regulatory agencies;
- Study to propagate corals and increase the biodiversity of coral reefs supported;
- River capacity assessment, and coastal water safety studies supported to guide licensing provisions and policy;
- White River Watershed Management Plan prepared; and,
- Thirty sanitary solutions constructed in the Whitehorses/Pamphret/Botany Bay communities in St. Thomas with training to stakeholders to sustain program.
- Four persons supported to attend White Water to Blue Water conference in Miami Florida over the period March 22-26, 2004. Conference designed to foster healthy, well managed and productive marine and coastal ecosystems that support stable and secure economies in coastal countries of the wider Caribbean Region, and supported in partnership with USAID's Ridge to Reef project;
- Seminar entitled, The Undersea Rainforest, supported on April 28, 2004 in partnership with the University of the West Indies' Centre for Marine Sciences (UWI/CMS), and USAID's Office of the Environment and Natural Resources as a part of the CMS' Lecture Series to share information on coral propagation.

1.3 POST HURRICANE WORK PLAN (MODIFIED CONTRACT)

With the destruction to sections of Jamaica caused by the passage of Hurricane Ivan in September, 2004 the contract of CWIP II was officially modified to provide for rehabilitation assistance within Jamaica. Funds were reprogrammed from the existing contract and an additional US $475,000.00 was received from USAID to assist in this effort. The additional sum represented US $175,000.00 to be used for Development Assistance, and US $300,000.00 to be used for child Survival and Health programs.

Some of the activities programmed in the original work plan were dropped and some de-emphasized to address and focus attention on post hurricane activities as outlined in the modified contract. Those activities in the original contract that linked to post hurricane support were absorbed into the modified contract. Deliverables covered, a) Water, sanitation, and infrastructure; b) Land and coastal zone rehabilitation; and, c) Disaster mitigation. These activities were implemented in targeted communities working with specific sets of partners and stakeholders.

A provision of the modified contract was that post hurricane programs would have to be completed by March 31, 2005. This date was later extended to April 30, 2005.

1.3.1 Highlights of Achievements

- Fifty-one drains cleaned in Port Antonio to mitigate flooding;
- Demonstration sanitary units constructed in Boundbrook and Prospect communities in Port Antonio;
- Assistance provided to the Whitehorses/Pamphret/Botany Bay communities in St. Thomas:
  - Thirty (30) sanitary solutions benefiting 200 persons constructed to mitigate potential public health problems;
  - Facilitated provision of plastic roof covering material from Jamaica Red Cross that benefited approximately 1000 persons;
  - Four (4) drinking water storage tanks provided for the storage and distribution of potable water.
- Reserve potable water storage tanks provided to four hospitals, and sixteen health centers, and clinics to facilitate health care delivery during periods of water disruptions. Installation benefited over 1,000,000 persons. Norman Manley Sea Park in Negril cleaned up of debris and felled trees. Selected infrastructure also rehabilitated. Activity provided short term employment to displaced persons and restored normal activities to complex including craft vending and municipal services;
- ODPEM supported to stage Hazard Mitigation conference and public aware campaigns on disaster management.
- Disaster management brochures printed for ODPEM to support national public education program on disaster preparedness and mitigation.

1.4 TRAINING IN ADVANCED PARTICIPATORY PLANNING

Skills imparted by training in Advanced Participatory Methods (APM) played an important role in CWIP II especially as this related to the inclusion of participatory methods in project planning and implementation. This training approach allowed participants to feel a sense of ownership of what they were doing, making work more meaningful and increasing the probability of sustainability. Accordingly a special section is devoted to APM in the report.

Outputs from this program included:

- 287 Facilitators trained in APM 1;
- 85 Facilitators trained in APM 2;
- 214 Facilitators trained in APM 3;
- 47 Facilitators trained as Training of Trainers for APM 1;
- 227 persons now qualify as Coaches in the system;
- Training Manuals for APM 1, 2, 3, and the Training of Trainers for APM 1 have been printed and distributed. Training materials for Project Writing, Fundraising, and the Registration of CBOs have also been printed and distributed;
- Discussions on development of Curricula for APM training was initiated with MIND;
- Many public sector, and civil society agencies now have the capacity to conduct their work within community settings using APM methods; some have already started making community-based plans, implementing projects, and staging fundraising events, using APM methods.

1.5 IMPLEMENTATION ISSUES

- **CR 1.** CWIP II experienced a minor setback early in the implementation of CR 1 as the executive head of the Council who, along with his team, had played an integral role in the development of the Work Plan, was replaced at about the time that the development process was completed. This problem was surmounted, however, by the CWIP II working with the executive staff of the Council to implement provisions of the Work Plan. CWIP II also worked with the new Secretary Manager upon his taking office to familiarize him with the project and to integrate with and his replacement on his taking office to familiarize and integrate his ideas into the program. The project also worked through a period that saw the manifestation of political differences among members of the elected arm of the Council – the Councilors. The problems, which started in mid 2004, continued to the end of the project, and caused distractions among the Council staff.
- **CR 2.** The seating of a new Chief Executive Officer (CEO) in NEPA in early 2004 brought a number of changes to that institution. One change centered around how NEPA related to special projects. A result of this change was diminished interaction between these projects and NEPA. The event also saw the institution of an organization wide restructuring program for much of 2004 that resulted in NEPA focusing on the resolution of institutional problems for much of the year. This restructuring program involved much of the time of key NEPA personnel. This situation impacted initiatives where NEPA played more of a direct role in Work Plan implementation, and where the achievement of certain objectives was dependent on action taken by NEPA. The problem was compounded in early 2005 when the CEO was replaced a second time. CWIP II's solution to the problem was to work with the project's NEPA liaison to fulfill Work Plan objectives. While working to accomplish programmatic objectives, CWIP II also linked with stakeholder and partner organizations to ensure effective project collaboration.
- **Post Hurricane Activities.** Some of CWIP II's partners found it difficult working with the short implementation timeframe for the post hurricane rehabilitation effort. Training should be given to the staff of public institutions for them to increase their responsiveness to facilitating disaster management and relief activities. This training should be supported by institutional provisions that are clearly articulated.

1.6 ELEMENTS OF SUSTAINABILITY

The approach adopted by CWIP II to implement the provisions of the work plan saw the integration of achievements within a framework that stressed collaboration and teamwork. The project was also able to demonstrate clear linkages between action and consequences, through training and public awareness activities.

Key sustainable elements include the following:

- Collaboration between government and community groups to address environmental management issues;
- Linkage between water quality and the economic incentives of the Blue Flag Campaign to drive private sector support for water quality monitoring; and,
- Linkage between potential economic benefits of the Blue Flag Campaign to stimulate public support for environmental management programs and compliance to environmental regulations.

1.7 KEY LESSONS LEARNED

CWIP II was able to benefit from the lessons learned in CWIP I and through interaction with government groups and civil society to address provisions of the CWIP II work plan. The lessons learned are important not only to the achievement of sustainable results, but also to the design of programs that effectively optimize resources allocated to addressing environmental management concerns.

A section on "Lessons Learned" is presented in the appendix.

2.0 CR1: INTEGRATED PARISH-LEVEL ENVIRONMENTAL PLANNING AND MANAGEMENT PROCESS IN PORTLAND DEVELOPED

2.1 BACKGROUND

The Government of Jamaica has been exploring approaches through the Local Government Reform program in an effort to strengthen local government. The Ministry of Local Government, Community Development and Sport (MLGCDS) stressed the importance of providing Local Authorities "…with adequate and independent sources of revenue and to grant them greater autonomy in the management of local affairs"[1] after it became clear that parishes had difficulties in meeting their responsibilities. One of the key objectives of the Ministry Paper published in 1993 was to "…examine the present distribution of service responsibilities between Central and Local Government, community organizations, NGOs and the private sector, and to identify better or more cost-effective arrangements for the

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Members of PDC/CWIP II Task Force doing community "walk through" and drains inspection in Port Antonio.

[1] Ministry Paper No. 8/93, Reform of Local Government, Ministry of Local Government, Youth, and Community Development, February 17, 1993.

delivery of these services." [2] This included the provision of environmental management services. It was envisioned that the capacity of Parish Councils could be strengthened to allow better financial management and closer and improved working relationships between the Councils and the Ministry and/or government agencies. The MLGCDS also envisioned that Councils would become the primary coordinator and facilitator of local initiatives to develop the parish and meet local needs.

Since 1993, tremendous strides have been made in realizing results from this effort, but a great deal remained to be completed under the Local Government Reform program. Mechanisms for generating and retaining revenue at the local government level were installed, and a few of the parishes with diverse and large tax bases were able to raise and retain more local funds. However, Portland still faced challenges in raising revenues to meet its obligations. Additionally, efforts were made to increase the participation of civil society into the planning cycle of the Parish Councils. Citizen advisory committees, in the form of the Parish Development Committees (PDC), were instituted in all of the parishes, with Portland having one of the longest operating PDC. PDCs have been given the responsibility to assist with the preparation of long-term strategic plans for sustainable development, and to advocate the enhancement of business competitiveness, economic development, and job creation within their parish. PDCs are supposed to link with communities in each parish and, with the assistance of the Social Development Commission (SDC), integrate the comments, needs, and concerns of community people through their facilitated Community Development Committees (CDCs).

Under a fully operational local governance system, it is intended that each parish will have a strong, vibrant Parish Council that will be able to adequately provide or coordinate environmental services, with the assistance of a fully engaged PDC that integrates citizen opinion into decision-making.

Local government reform in Jamaica continues to evaluate the role of Parish Councils and Central Government in the provision of services. Relevant to this CWIP II initiative, Parish Councils are responsible for the following four tasks, among others:

- Physical planning, in the form of subdivision review and approvals, the granting of Certificates of Compliance, and the granting of titles;
- Provision of drinking water supplies and sanitation services;
- Maintenance of drains and gullies; and,
- Disaster mitigation, relief planning, and coordination.[3]

In addition to the above list, Parish Councils are expected to have some role in the provision of solid waste collection and disposal services, either in the preparation and monitoring of contracts for garbage collection services or in the coordination of services with identified state agencies.

Provision of these environmental services become even more important when consideration is made of the fact that Port Antonio and Portland, have been the target of extensive public and private-sector investments, all of which were designed to stimulate the local economy. It is conceived that some of these investments will place tremendous stress on the development and environmental infrastructure of Port Antonio. These investments include:

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[2] Ministry Paper No. 8/93, *Reform of Local Government*, Ministry of Local Government, Youth, and Community Development, February 17, 1993.

[3] The Parish of Portland, *A Sustainable Development Profile*, Portland Parish Council and Parish Development Committee, Ministry of Local Government, Youth, and Community Development, Social Development Commission, National Environment and Planning Agency, and the GOJ/CIDA ENACT Programme.

- Construction of a US $15 million mega-yacht marina on West Harbor by the Port Authority of Jamaica which was completed in 2004;
- A US $20 million loan from the European Investment Bank to build a sewage treatment plant, and upgrading the potable water services and drainage system in greater Port Antonio;
- European Union financial support (E$80 million) for Phase III construction of the North Coast highway. This project will upgrade the main coastal highway from Ocho Rios to Fairy Hill;
- Construction of a new crafts market along Port Antonio's East Harbor waterfront, financed by the Jamaican Tourism Product Development Company (TPDCo); and
- Sandals purchase of the Dragon Bay Hotel, which is a few miles outside of Port Antonio, and which represents the first significant large-scale private sector tourism investment in the area in recent years.

With respect to wastewater, potable water, and drainage services, key members of the Port Antonio community teamed with the NWC at a workshop facilitated by CWIP I during April 2001 to come to some consensus on a mutually agreed strategy that would achieve effective wastewater management for the town. The strategy agreed on was the establishment of a Wastewater Advisory and Monitoring Committee (AMC) similar to the ones established in Negril, Ocho Rios, and Montego Bay. Members of the Port Antonio community had experienced these AMCs in action and were very impressed with what they saw. The AMC concept is an alternate management option that brings together community, private sector, and NWC representatives in an effort to find solutions to remedy ineffective wastewater practices. Operationally, this management concept has been a success and the various committees have been demonstrating constructive achievements.

The introduction of an AMC to Port Antonio was considered timely given the fact that a new central facility was being introduced by the GOJ, in addition to upgrades to the potable water supply and drainage service. Establishment of an AMC would provide stakeholders the opportunity to contribute to the planning process, thus establishing a facility that would serve the needs of the Port Antonio community, and for construction to progress with minimal disruption to the town's economic life. Costly mistakes, as made before with other facilities within NWC's North Coast Wastewater District, would also be avoided or minimized.

During the project period, Portland was the focus for the development of a Local Sustainable Development Planning Framework by the GOJ with the support of the Environmental Action Project (ENACT) of the Canadian International Development Agency (CIDA). It was also the focus a Green Globe Destination Management (GGDM) certification program piloted by the Environmental Audits for Sustainable Tourism Project (EAST), another USAID bilateral program. CWIP II collaborated with both programs to ensure project integration. CWIP II also collaborated with the R2RW project where practical in the implementation of Portland activities.

2.2 STRATEGY AND ASSUMPTIONS

Under CR 1, new approaches to coordinating environmental planning and management among the three levels of governance – communities, local government, and central government agencies – were piloted and integrated into a local governance framework.

The approach demonstrated by CWIP II in the Annotto River/Boundbrook and Prospect communities were adapted and used by the Portland Parish Council (PPC) to improve on solid waste management, sanitation, and drain maintenance programs within Port Antonio and Portland proper. The approach organized and supported work among the Parish Council, the SDC, the PDC, community organizations, and other stakeholders through the PDC/CWIP II Task Force, which functioned in guiding the implementation of the project, and in monitoring project activities. The basic premise behind this

approach was that local government could be a facilitator and coordinator of environmental programs by utilizing the expertise and funding of national agencies and the private sector to solve community problems with community participation.

The implementation of the CWIP II Work Plan was coordinated with the LSDPF. Much of the work was conducted within the Green Destination Area where initiatives to resolving critical problems such as solid waste management and sanitation were considered important to supporting the certification of Portland as a Green Destination. Linkages through partnerships were also made with relevant national agencies and the private sector to achieve the objectives set.

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PDC/CWIP II Task Force Meeting

Intervention strategies were first focused on examining existing mandates and initiatives under the Parish Council's legal framework, then the facilitation of a deeper collaborative thrust within the community system, with the anticipation that community organizations would become more visible and more confident in contributing, practicing and participating in sustainable activities. This objective was realized by specific project support at the community level funded by CWIP II, but coordinated by the Parish Council through the PDC/CWIP II Task Force. The approach built on the existing model where the PDC structure incorporated the formal/structured community groups within the SDC's Community Development Committee (CDC) structure. It was conceived that implementation of these projects would enhance the Parish Council/Parish Development Committee's mandate to spearhead and manage environmental initiatives. CWIP II also provided training support to the Parish Council to further develop its available skills base and capacity.

Issues related to sewage for greater Port Antonio was coordinated through the Wastewater Advisory and Monitoring Committee, a committee of local stakeholders chaired by the National Water Commission (NWC), which was formed and launched under CWIP I with the signing of a Memorandum of Understanding (MOU) among key stakeholders on January 31, 2003 to involve stakeholders in the overall management of wastewater facilities in their locale. Linkages were also strengthened with the National Solid Waste Management Authority (NSWMA) on issues related to solid waste management for Greater Port Antonio. Matters relating to flood mitigation and disaster management involved the Office of Disaster Preparedness and Emergency Management (ODPEM), the Water Resources Authority (WRA), the Jamaica Red Cross, and the Jamaica Fire Service. Collaboration between local government, civic and community groups within Port Antonio, and CWIP II was built on the relationship established under CWIP I

It was expected that CWIP II's work in the parish would lead to:

- A better trained and equipped Portland Parish Council;
- The strengthening of community based organizations and civic groups that would enable these groups to relate to and become active participants in activities and programs spearheaded by the Portland Parish Council;
- Heightened awareness among residents concerning better and acceptable environmental practices together with greater buy-in of appropriate management techniques; and,

- Successful pilots established for replication within the parish to support Blue Flag, Green Globe and the general objectives of the Portland Destination Management Group, the Committee administering the provisions for the Green Globe Destination Management area under the EAST initiative.

2.3 SO2 LINKAGES

CR 1 contributes to USAID's SO2 – Improved quality of key natural resources in selected areas that are both environmentally and economically significant. CR 1 contributed to SO2 through the following Intermediate Results:

IR 1 Increased adoption of environmentally sound practices

IR 1.1 Increased effectiveness of environmental entrepreneurs/institutions

IR 1.2 Increased economic incentives for environmentally sound practices

IR 2 Adoption of policies for improved environmental management

2.4 HIGHLIGHTS OF ACHIEVEMENTS

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Cleaned drain by High School in Boundbrook.

- Supported three day planning retreat of the Portland Parish Council in June 2004, in partnership with ENACT, to facilitate the refinement o the Council's Business Plan and to provide information for the creation of a Portland Parish Development Order and a Development Plan for Port Antonio. Action Plans also developed to improve PPC's service delivery to parish.
- Implemented programmatic approaches developed from the capacity assessment exercise of the Portland Parish Council, the Parish Development Committee, and the Social Development Commission, in order to strengthen these organizations;
- Convened monthly meetings of the PDC/CWIP Task Force to provide a monitoring and reporting forum, also widened organizational representation to include other stakeholders, such as the Port Authority of Jamaica, Fisheries Division of the Ministry of Agriculture, and schools directly located in the project site;
- Procured GIS equipment for the Portland Parish Council with attendant training to more effectively provide Parish council related services;
- Staged 5-day Advanced Participation Methods (APM) training workshop for key stakeholders to impart skills in, a) Group facilitation methods; b) Focus group Discussion; and, c) Action Planning. Government

Agency partners in attendance included, a) The Ministry of Health; b) Social Development Commission; c) Parish Council; d) NEPA; d) NSWMA; e) Planning Institute of Jamaica; and, f) ODPEM.

- Staged 10 one-day Action Planning Workshops for each of nine communities within the Portland parish for SDC staff and community members. Training focused on the development of action plans for stakeholders and covered, a) Solid waste management; b) Flood mitigation; c) Basic school construction; d) Water and sanitation projects; and, e) Road construction. Participating communities included: a) Moore Town; b) Charles Town; c) Snow Hill; d) Fellowship; e) Fairy Hill; f) Prospect; f) Boundbrook; g) Skibo; and, h) Bybrook. Representatives of the Jamaica Social Investment Fund also attended the training sessions to apply the skills learned to their development programs. Funds were secured from donor agencies for selected action plan implementation.

- Worked with the Boundbrook and Prospect Environmental Sub-Committees of the respective community CDCs to implement identified environmental programs supported by public awareness activities;

- Organized and implemented a one day action planning workshop for the Boundbrook and Prospect CDC on project planning and implementation;

- Launched environmental public awareness campaign to support the Boundbrook environmental programs with the staging of a concert at the Boundbrook High School in March, 2004. Over 600 persons representing a cross section of the Boundbrook community were in attendance;

- Organized a return community exchange visit between the Boundbrook CDC and Cambridge Benevolent Society in the Parish of St. James, to share common experiences and learn land management techniques and sanitation solutions. Visits took place in August and October 2004.

- Mounted public awareness blitz in Prospect in January and February 2005 culminating in a massive community meeting attended by over 400 persons at Land Settlement Road. This activity marked the launch of the Prospect Drain cleaning project.

- Supported planning and formulation of action plans for flood mitigation in Boundbrook and prospect;

- Organized and participated in site visits with key partners through the Boundbrook and Prospect communities to identify possible construction locations for bio-digesters;

- Held discussions with community members on the impact of improper solid waste management on drainage systems and sanitation;

- Cleaned 21 drains in Boundbrook and 30 in Prospect as a part of Port Antonio's flood mitigation program. The program provided employment 218 persons. The community also benefited economically from equipment rental and the purchase of materials to support the drain-cleaning program. Three thousand eight hundred and ninety six (3896) meters of drains were cleaned in Boundbrook prior to the passage of Hurricane Ivan in September 2004 and this spared Port Antonio from flooding during flood rain conditions preceding and during the passage of the hurricane.

- Procured two Bobcat skid steer loaders (one each) with backhoe attachment for the Portland Parish Council and the Ministry of Local Government for drain cleaning purposes.

- Facilitated placement of five (5) additional skips in Port Antonio to enhance collection and containment for communities to reduce the incidence of dumping in drains and gullies.

- Completed Solid Waste Management Plan for Greater Port Antonio with Plan acceptance gained at a stakeholder workshop held in February 2005.

- Held discussions with the Coordinator of the Portland Parish Disaster Committee on the status of community level disaster preparedness zone committees;
- Facilitated Disaster Management Training in March 2005 where forty-two persons benefited. Training included Shelter Management, Damage Assessment, Basic First-Aid, and Search and Rescue. The agencies responsible for developing the training modules, and training program delivery: Office of Disaster Preparedness (ODPEM), Jamaica Red Cross and the Jamaica Fire Service;
- Evaluated existing early warning systems for flooding designed for Boundbrook in relation to that community's location proximal to the Annotto River;
- Supported resuscitation of the Port Antonio Wastewater Advisory and Monitoring Committee;
- Supported construction of two bio-digesters, one each in Boundbrook and Prospect to demonstrate sanitation solutions that can withstand hurricane and flood conditions;
- Supported the PDC participation in an "investors forum" convened by the Minister of Development in December 2004 to showcase Portland resources and attractions. Participated in an exhibition staged in March 2005 as a follow up activity to showcasing Portland. Activities were planned and coordinated from the Office of the Prime Minister as a part of the Local Sustainable Development Planning Program.
- Facilitated the signing of a MOU among 12 stakeholder groups representing Portland local government institutions, national agencies, local civic, environmental, and community groups, to continue collaboration in the provision and maintenance of environmental, solid waste, disaster management, and sanitation programs.

2.5 DESCRIPTION OF PROGRAMMATIC ACHIEVEMENTS

2.5.1 Establishing Administrative Support in Portland

When CWIP I closed its office in Port Antonio in June 2003, equipment and furniture were transferred to NEPA, which also shared an adjacent office. With the commencement of CWIP II the facilities and equipment were already in place for immediate use. NEPA provided CWIP II with office space and office furniture to facilitate project activities.

Staff were hired for the Portland office within one month from project start up thus establishing a three person parish-based team. Communications and logistical systems were instituted thus making the Portland CWIP II office completely operational by late October 2003. One additional person was later added to the Portland team.

2.5.2 CWIP II Orientation

One of the first steps taken by CWIP II in Portland was to consult with a wide range of stakeholders on the objectives and planned activities of the project. During the first project month, the entire CWIP II team met with the officials of the PPC including the Mayor, the Secretary/Manager, Councilors, and the PDC Chairperson to introduce them to the project. Presentations were made at Council meetings, in informal settings, and with sub-committees of both the Council and the PDC. Additionally, the team met with the Boundbrook CDC to explain the range of support available from CWIP II. CWIP II then used this information to discuss options for technical support with local stakeholders and the MLGCDS. These discussions contributed to the confirmation of the Port Antonio CWIP II Work Plan.

2.5.3 Strengthening the Capacity of Parish-Based Organizations

Early in 2004, CWIP II conducted an organizational and institutional assessment of the capacity of the PPC, the PDC, and the Portland SDC. The results of this assessment presented CWIP II and the named organizations with a clear strategic direction for improving their capacities in order to more effectively provide environmental management and planning services for the parish. The recommendations of the report allowed CWIP II to prioritize and structure interventions to fit the project implementation timeline. Numerous recommendations were made to improve the overall capacity of these organizations to provide solid waste management support, maintain drains and gullies, monitor public health related to sanitation, to more effectively conduct development planning, and to warn and protect the public from damaging storms. Results are documented in the paragraphs below.

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Task Force and community members carrying out site survey.

2.5.4 Strengthening the Capacity of the Portland Parish Council to Lead Integrated Planning and Environmental Management Services

A number of recommendations were made in the capacity assessment report mentioned earlier to strengthen the capacity of the Parish Council. Council weaknesses in providing environmental management and planning services were identified. These included:

- Lack of capacity for communication, outreach and community participation. The Council lacked a communication and public awareness unit or staff to provide any support, although staff members recognized the importance of such an outreach program;
- Limited Capacity for Strategic and Business Planning;
- Inadequate coordination with the National Solid Waste Management Agency (NSWMA) on solid waste management issues and programs and a continuing need for public education on improving the management of garbage collection;
- Lack of personnel and equipment to adequately address drains and gully maintenance;
- Lack of personnel, equipment and procedures to adequately plan and implement a flood early warning system and flood mitigation program; and,
- Inadequate forward planning and development control facilities and capabilities. This included the lack of base maps and a map registry, shortage of adequate office and filing space, lack of appropriate computer equipment capacity for GIS, limited technical skills for GIS, tracking and archival software, limited staff for parish-wide enforcement of planning and building regulations, and limited awareness of proper approval process by staff and the general public

It was, however, recognized in the assessment report, and by representatives of the Council that the recommendations would have to be very focused for CWIP II to have any impact during its project life.

An action plan was developed by the PDC/CWIP II Task Force describing a set of activities that were logical and practical for CWIP II to implement. These activities were considered priorities and were recommended for implementation out of discussions between the Parish Council and CWIP II staff. These activated were:

- Improving mapping capabilities of the Planning Department of the Council;
- Improving Flood Early Warning Systems and Flood Mitigation programs;
- Improving Customer Relations and Public Awareness programs;
- Improving Community-based Environmental Management activities; and,
- Assisting EAST with Certification of Portland as a Green Destination

In June, 2004 CWIP II partnered with ENACT to stage an ENACT led three day retreat for the PPC to engage in a strategic planning exercise whose outcome would feed into the refinement of the PPC's Business Plan and the development of a Development Order for Portland and a Development Plan for Port Antonio. This exercise was undertaken as a part of the LSDPF process. The Minister of Local Government, Community Development, and Sport and the Mayor of Kingston and St. Andrew were attended the Retreat. According to the Retreat agenda, the activity was geared to achieving the following outcomes:

- Undertake team building exercises to encourage more action as a team by staff and councilors;
- Review national policy directions and best practices that would impact the PPC;
- Review/Deepen/Define/Articulate the Portland vision for the development and management of the parish of Portland;
- Undertake a critical review of the issues facing the PPC, including:
  - The role of national agencies, civil society, and projects in development planning and environmental management;
  - Review of the Business Plan, in order to produce a draft outline to include in the strategic planning process;
  - Review of the performance of the Council's departments and committees over the last fiscal year;
  - Review of existing operational practices and guidelines, also the legal framework which underpins them, including ad hoc requests that do not necessarily fall within the legal framework;
  - Identify institutional weaknesses and strengths that impact the Council, including minimum operating standards and areas of accountability;
  - Review of the CWIP II institutional assessment of the PPC; and
  - Review of the Sustainable Development Plan for Port Antonio, and Portland;
- Use participatory methods to develop a five-year strategic plan outline, and a one-year action plan for the PPC.

The next steps to achieving the objectives of this process are to be supported.

2.5.5 Improving Council Mapping Capabilities of the Planning Department

The Planning Department of the Parish Council lacked maps and mapping facilities. The MLGCDS had provided the Council with a Geographic Information System (GIS) and some training. However, the system was not set up and the equipment was inadequate to handle the software. Additionally, the Parish Council

lacked basic maps of the parish to be used for development and forward planning. Finally, the Planning Department lacked sufficient space to house the GIS and mapping facilities.

Based on these findings, CWIP II recommended intensive technical assistance to the Council to further develop the mapping and GIS capabilities of the Planning Department, and held consultations with the MLGCDS to identify and procure equipment, maps, and storage facilities to fully install an operational GIS in Port Antonio. Accordingly CWIP II procured two GIS servers and a precision workstation and installed four network drops in February 2005. These pieces of equipment were installed in a room modified by the Parish Council authorities at the Parish Council's offices specifically to be used for GIS related work. Arc View 9 and Microsoft Office software were also procured and installed on the equipment, together with several GIS datasets. Additional equipment were not procured because of CWIP II's post hurricane commitments under the project's contract amendment.

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Handover of GIS equipment to Portland Parish Council. Also pictured are officials from PPC, NEPA, USAID and CWIP II.

Additionally, CWIP II engaged the services of GIS experts to train key members of the Parish Council staff from the Planning and Roads and Works Departments in April 2005, in the use of the equipment and software. Recommendations were made by the trainers on system requirements that had to be provided by the MLGCDS and the Parish Council authorities for these authorities to fully utilize the capabilities of the GIS system to meet the objectives of the Council. Recommendations were also made on how the system should be maintained to achieve optimal performance.

The Parish Council now has the capability of preparing planning maps for the maintenance of drains and gullies and the identification of sanitation infrastructure within the Greater Port Antonio area, in addition to supporting other programs and excises. The MLGCDS had previously produced and delivered to the Council a drains and gullies map of the parish of Portland. These will become a part of the process. The Council is committed to making these maps operational with the training received. The Council will also generate maps related to sanitation within its area of responsibility to support sanitation related activities. The capabilities of the GIS system will be used by the PPC and its partners to improve the planning process for Portland.

2.5.6 Improving Flood Early Warning Systems and Flood Mitigation

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Handover of mechanized drain cleaning equipment to Portland Parish Council by USAID/CWIP II.

The Boundbrook CDC had identified as critical the need for a flood early warning system and the introduction of flood mitigation activities for the Boundbrook area, given the fact that Portland receives more than average rainfall when compared to the rest of Jamaica, and that the community is located proximate to the Annotto River. Whenever there is a heavy rainfall episode much of the town of Port Antonio is flooded. This, in the past has resulted in property damage, and blockage of drains by silt, debris, and solid waste. Additionally, the rivers passing through Port Antonio are exposed to contamination from human waste scoured from pit latrines constructed on the riverbanks and within the flood plain. This is also true of sections of the coastline receiving the river flows.

CWIP II intervention on flood mitigation issues in Boundbrook was guided by incidences of flooding in those areas, together with the outcomes of community inspections and discussions, inter-agency contacts, and information gleaned from technical reports. Mitigation measures were planned in strategic action planning workshops. Intervention plans were focused on the development and installation of an effective early warning system and flood mitigation plan for central Port Antonio, through the Parish Council. With the passage of hurricane Ivan in September 2004, this effort was combined with plans to support and coordinate an integrated disaster preparedness and mitigation training program through the Parish Council's Disaster Preparedness Committee as a part of post hurricane Ivan activities. This program complemented the existing Parish Disaster Preparedness Plan.

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Left photo: Workday cleanup of the Annotto River to clear blockages.

Right photo: The Annotto River after cleanup

During planning exercises, consultations were held with the Water Resources Authority, as the authorities on flood warning systems, for their involvement in the development of the flood early warning system. It was the WRA's position that, unlike the Rio Grande river basin in western Portland where they had assisted in establishing an early warning system, such a system was not needed for central Port Antonio which defined the Boundbrook and Prospect communities, as the flooding problem was in fact related to a drainage problem, which could be mitigated by keeping the drains clear of debris and solid waste. With CWIP II already supporting drain cleaning activities and the preparation of a solid waste management plan for Greater Port Antonio, plans were focused on flood mitigation efforts with the collaboration of the Coordinator of the Portland Parish Disaster Preparedness Committee.

Highlights of CWIP II support of flood mitigation activities included:

- Completion of two successful drain cleaning and drain rehabilitation exercise in Boundbrook and Prospect. These activities are amplified under Section 5.0 of this report addressing post hurricane activities;
- Provision of mechanized equipment to support drain cleaning and gully maintenance;
- Identified need for the forging of a closer relationship between community groups and the zonal committee of the Portland Parish Disaster Preparedness Committee on disaster preparedness and mitigation issues;
- Scheduling of regular community workdays to clear rivers, bridges and drains of debris;
- GIS equipment and the provision of relevant training to support efficient planning, scheduling, and implementation of drain maintenance activities by the PPC, along with other Planning activities;

- Implementation of effective environmental awareness and education programs;

- Trained Prospect and Boundbrook Community groups in effective publicity and awareness techniques to sensitize community members on the "dos" and "don'ts" of garbage disposal, drain maintenance, and general sanitation. Outputs of this training exercise included: development of posters and brochures as a medium for disseminating environmental management messages, and the development of a community service jingle for broadcast on radio and local cable television;

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Disaster Preparedness drill for Port Antonio stakeholder.

- Provided Disaster Management Training in March 2005 for forty-two persons in shelter management, damage assessment, basic first-aid, and search and rescue. Presentations were also made on early warning systems, in addition to building codes and standards. Training was provided over a period of two weeks for stakeholders from Port Antonio which included CDC representatives and other residents from the Boundbrook and Prospect communities, in addition to Parish Council officials, and was provided by the Office of Disaster Preparedness and Emergency Management (ODPEM), the Jamaica Red Cross, and The Jamaica Fire Service. Certificates of Participation were awarded to participants by training providers; and

- Trained thirteen farmers in Boundbrook on Feb. 15, 2005, in partnership with the USAID/Ridge to Reef Watershed Project (R2RW), in a field day exercise to plant pineapple suckers and vetifar grass on the banks of the Annotto River to prevent erosion and to demonstrate good soil conservation practices.

The Portland Parish Disaster Plan was reviewed and found to be operationally detailed and inclusive. Recommendations submitted to the Parish Council for updating this Plan were as follows:

- Changes should be made to the Plan to reflect changes in personnel within the Parish Council and supporting institutions, and changes in responsibilities;

- The SDC should be engaged in the program in an attempt to forge linkages and a networking relationship among zonal committees and organized community groups, that is, CDCs and Community Based Organizations (CBOs). This would strengthen the capability and effectiveness of the Parish Disaster Committee;

- CDCs /Zonal Committees and the Portland Parish Council should have scheduled and regular meetings to share information on drain maintenance;

- Scheduled on-going training sessions on disaster management should be held for persons living in flood prone areas;

- The WRA should fix and maintain the gauges along the Annotto River to provide an indication of water levels during periods of heavy rainfall; and

- Linkages should be made between the Rural Agricultural Development Authority (RADA) and ODPEM to advise on and oversee the institution of soil conservation measures.

2.5.7 Improving Customer Relations and Public Awareness

Significant improvements were made in achieving improved customer relations within the PPC and within the NSWMA under CWIP II, as these relate to services provided to community members. During CWIP II, the NSWMA was able to employ a regional customer relation's officer as a part of their commitment to providing improved services to their customers, and in an effort to improve communication and outreach

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BBC interview with Port Antonio schoolgirl. Interview included CWIP II's work in Boundbrook.

around improved collection of solid waste. CWIP II also facilitated several meetings that involved the participation of the NSWMA customer relations personnel, Parish Manager, and senior officers from the central office, also PPC officers, to review solid waste management operations within the project area with a view to identifying and correcting deficiencies where these officers were able to address the meeting and share information related to solid waste issues. CWIP II was able to provide training for these officers to facilitate outreach and improved customer relations. Additionally, CWIP II facilitated the improved solid waste management service effort with the placement of five (5) additional skips at strategic locations around Port Antonio to enhance collection and containment garbage within the communities, and to reduce the incidence of dumping this waste in drains and gullies.

Customer service issues were also addressed at the PPC retreat described in Section 2.5.4. and an Action Plan developed to address these issues.

Additionally, CWIP II also assisted the SDC to develop and test a more rapid process for the preparation of CDC Action Plans. Action Plans developed by the various communities would support proposals to funding agencies for funding support. Project details and funding support are given in Sections 2.4 and 6.2.5.

2.5.8 Community-Based Environmental Management

Because the Boundbrook community was identified as an area fraught with environmental challenges, it was initially decided that CWIP II would work with that community to develop and implement initiatives related to community based environmental management. It was later decided that attention would also be given to the Prospect community as both communities shared common characteristics.

Positive attributes of both communities included a network of roads and drains, though poorly maintained. There were also emerging community organizations willing to be a part of a governance framework, and having a commitment to lead and participate in development activities.

Challenges in both communities included:

- High unemployment;
- Lack of reliable garbage containment, collection schedule, and disposal facilities;
- Inadequate human waste disposal facilities in homes;
- Frequent flooding caused by clogged drains;
- Inadequate flood mitigation provisions; and
- Poor roads.

Site visits or community inspections were conducted within both communities by representatives of national and local agencies, members of the PDC/CWIP II Task Force, CDCs, the AMC, and

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Cleaning drains in Prospect.

other community members, to identify environmental management issues that could be supported by CWIP II. Through follow up meetings facilitated by the Project, both communities identified drainage and flood mitigation, sanitation, and solid waste management as priority issues that should be supported under the Project. They also identified greening activities for both communities as being important. CWIP II committed to supporting issues related to, sanitation, drainage and flood mitigation, and also solid waste management. Activities related to the greening project were abandoned as a priority after the passage of Hurricane Ivan, as funds were reprogrammed to support post hurricane related activities.

Management of the community environmental projects was lead by the Boundbrook and Prospect Community Development Committees and the Portland Parish Council who provided guidance and technical assistance. Committee members, along with other stakeholders, were trained by CWIP II in Advanced Participatory Methods (APM) in a series of workshops to develop skills in group facilitation, consensus building, and focus group discussion methods, also action planning, and project implementation strategies and management. Thirty such persons were trained. Other stakeholders who participated in these workshops included representatives from: a) The SDC; b) The PPC; c) The PDC; d) NEPA; e) NSWMA; f) The Planning Institute of Jamaica (PIOJ); and, g) The ODPEM.

Because of the success of the APM training, nine one day APM training workshops were held with the support of the PDC/CWIP II Task Force, for members from each of nine additional Portland communities to strengthen these communities to more effectively address environmental problems in their respective neighborhoods. Participating communities were: a) Moore Town; b) Charles Town; c) Snow Hill; d) Fellowship; e) Fairy Hill; f) Skibo; and, g) Bybrook, in addition to members from Boundbrook and Prospect. Issues addressed were: a) Solid waste management; b) flood mitigation; c) Basic school construction; d) Drinking water and sanitation; and, e) Road construction. Members of the Jamaica Social Investment Fund (JSIF), a quasi government-funding agency were also trained during this period to allow that organization to better support community projects.

Drain cleaning and flood mitigation were the first set of activities to be addressed in Boundbrook. A steering committee was formed from Boundbrook community members, along with four work groups which were each assigned responsibilities for, a) Material and Equipment procurement; b) Community awareness and involvement; c) Education and Training; and, d) Project design and organization. A similar process was followed for Prospect after the program in Boundbrook was initiated.

As a part of the Boundbrook program, community exchanges were made between the Boundbrook CDC and the Cambridge Benevolent Society in St. James, a community supported under USAID's R2RW project, to share common experiences, learn land management techniques, and observe alternate sanitation solutions. The visit to Cambridge was made in August 2004, and the return visit by Boundbrook in October of that year.

The Boundbrook Community Awareness and Involvement subcommittee supplemented project-planning initiatives with environmental awareness and education activities. One such activity was a community concert held at the Boundbrook primary school in March 2004, which focused attention on environmental issues and the involvement of community members in maintaining a quality community.

A Public Awareness blitz, a product of the planning initiatives of the Prospect CDC, was mounted in Prospect in January and February 2005 culminating in a massive community meeting attended by over 400 persons at Land Settlement Road. This meeting initiated the launch of the Prospect Drain cleaning project.

Activities related to sanitation and drainage were include as part of the post hurricane activities. These activities also addressed employment issues. A more expansive treatment of these activities is given in Sections 5.5.1.1, and 5.5.1.2 under post hurricane activities. It is noteworthy, that the 3896 meters of drains cleaned in Boundbrook before passage of the hurricane, spared central Port Antonio from flooding during the heavy rainfall episodes experience during the follow up to and during the passage of

Hurricane Ivan. Additional work continued after the hurricane to clear blocked drains, and to repair those that were damaged.

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Public awareness posters for Boundbrook and Prospect.

In an effort to sustain drain cleaning and flood mitigation initiatives and to keep attention focused on the benefits of good environmental practices as opposed to the consequences of neglect, a CWIP II facilitated workshop was held for Boundbrook and Prospect residents and other Port Antonio stakeholders on March 16, 2005 to train these stakeholders in effective multi-media awareness and communication strategies as these relate to disaster mitigation with emphasis on hurricanes and flooding, solid waste management and drains maintenance, sanitation, and general environmental best practices. Fifteen community members and five organizers were trained in these skills.

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Public awareness posters made by community residents.

An output of this workshop was the design, printing, distribution and posting of full color "reader friendly" brochures and posters highlighting environmental best practices for the named activities. Emphasis was placed on riverside dwellers. Training was also provided

on the development of an appropriate public service jingle supporting environmental best practices that could be broadcast on radio and the local Port Antonio cable TV network.

CWIP II also prepared for the Parish a *Solid Waste Management Plan*[4] with stakeholder input. The draft Plan was reviewed by stakeholders, including, the NSWMA and accepted at a workshop held in February 2005. This Plan will be used to guide the NSWMA and Port Antonio stakeholders in the management of solid waste issues in that town. In developing the Solid Waste Management Plan, the situation, as it existed with respect to garbage generation, storage, collection, transportation, disposal, and recycling of waste, was examined. The development of the Plan benefited from close collaboration and consultations with the Portland Parish Council, the NSWMA, and North Eastern Parks and Markets Waste Management Ltd. (NEPM), NEPA, and the R2RW project. Recommendations from the Plan included the following:

- The use of public education as a tool to encourage waste minimization;
- The replacement of concrete garbage receptacles throughout the parish with skips;
- Ninety percent of the of the business community in Greater Port Antonio should be compliant with the requirements for containing waste for collection by July 2005 using a multi-faceted approach;
- Collection services should be increased by at least 10% over the current 45% by December 2005, with an additional 10% increase in December 2005. Accordingly, at least one additional compactor truck with skip loading capabilities is required by August 2005 to achieve the 2005 objective, and a transfer station is required to achieve the 2007 objective.
- The collection schedule should be amended to improve collection coverage and efficiency, given the placement of additional skips;
- A scientific approach should be applied to the routing of trucks to collect garbage and the time of collection should be between 4:00 am – 6:00 am so as not to obstruct peak hour traffic;
- Special arrangements should be instituted for at least three rural communities by December 2005 for the collection of recyclable waste, in particular plastic bottles and glass. An additional three rural communities should have special collection arrangements for recyclables by December 2006;
- NEPM Waste Management Ltd, and its partners should provide technical assistance to establish composting programs within rural communities;
- The NSWMA should privatize garbage collection services in Portland with the provision of incentives to make the garbage collection business attractive;
- Additional equipment should be provided to the street sweepers such as wheel barrows and dawn carts;
- NEPM should apprise the National Works Agency (NWA) of the condition of roads as this affects their ability to address garbage collection;
- Public education and awareness programs should be used as a tool to improve the management of hazardous waste;
- Development of the sanitary landfill at Non such, St. Mary by the NSWMA should be considered as an urgent matter;

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[4] See document, *Solid Waste Management Plan for Greater Port Antonio*, March 2005.

- A transfer station in Portland should be developed simultaneously with the new disposal site by May 2005, as it will improve collection efficiency within Port Antonio and its environs;
- Communities and private sector entities should take the initiative to institute feasible recycling programs until policy of legislative drivers from the government are fully implemented, with the involvement of the PPC, NEPM, and the Portland Environmental Protection Association (PEPA), a local environmental NGO;
- Public education messages should be properly communicated and targeted to the relevant audiences. Education of the commercial sector should be a priority as this sector contributes significantly to the defacement of the town with improper containment practices.
- The PPC, NEPM, NEPA, and the Ministry of Health (MOH), must collaborate to effectively enforce legislation that will encourage appropriate solid waste management practices;
- Hotels within the town should provide information to the NSWMA on the types of waste they generate to facilitate collection and disposal;
- The disposal of Medical waste should be done in accordance with MOH guidelines;
- The NSWMA should make every effort to privatize collection services in Portland to commence the process of separating the regulatory functions of the Authority from its operational functions; and,
- Both the PPC and the NSWMA, together with PEPA, and community groups' should collaborates to instituting the provisions of the Nation Solid Waste Management Plan over a five year period to achieve its objectives.

On May 25, 2005 a Memorandum of Understanding was signed among national and local government agencies, and the Boundbrook and Prospect CDC representatives that had been participating in the Port Antonio environmental initiatives, to continue their collaboration in addressing initiatives related to solid waste management, sanitation, and flood mitigation. Signatories to this MOU were the following:

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Signing of MOU by Port Antonio stakeholders and partners.

- Portland Parish Council
- Portland Parish Development Committee
- National Solid Waste Management Authority
- Social Development Commission
- Office of Disaster Preparedness and Emergency Management
- National Water Commission
- National Environment and Planning Agency

- North East Regional Health Authority (Portland Health Department)
- Boundbrook Community Development Committee
- Prospect community Development Committee
- Portland Chamber of Commerce
- Portland Environmental Protection Association

2.5.9 Assisting the Environmental Audits for Sustainable Tourism (EAST) Project and the Portland Destination Management Group Develop and Implement a Green Globe Environmental Action Plan

The Environmental Audits for Sustainable Tourism (EAST) project had the responsibility for assisting the Portland Parish apply for Green Globe certification as a tourism destination as a consequence of the Parish of Portland being selected as a pilot for becoming a Green Globe Destination Area (GGDA). Green Globe Destination certification is a worldwide benchmarking and certification program which facilitates sustainable travel and tourism. The program is based on Agenda 21 and principles for sustainable development by 182 governments at the United Nations Rio de Janeiro Earth Summit in 1992. It is aimed at recognizing destinations that are making the effort to establish a sustainable tourism development trend by creating an Environmental Action Plan and a Sustainable Destination Management System (SDMS) to tackle the issues that affect the location's ecological, economic, and social well-being and enhance the overall quality of the place. [5] One of the key performance areas for a GGDA is the possession of a solid waste management plan. Solid waste production is one of 10 indicators that allow for successful benchmarking. EAST has since announced that Portland has been benchmarked as a Green Globe 21 Green Destination, a step to being certified.

Although it was the responsibility of the Portland Destination Management Group (PDMG), supported by EAST to prepare and implement the Environmental Action Plan (EAP), a requirement of Green Globe, CWIP II assisted the process by providing selected baseline community information, and by supporting implementation of the community environmental activities already described to improve sanitation, solid waste management, and drainage.

CWIP II was also represented on the Portland Development Committee, a Committee established by the Office of the Prime Minister and chaired by the Minister of Development. This Committee was established to coordinate developmental activities in Portland. Two outputs of the Committee were a seminar in December 2004 for persons wishing to invest in Portland, and an exhibition held at the new Port Antonio marina to showcase Portland. CWIP II participated in both activities by supporting the participation of the PDC at the seminar as a presenter, and by participating in an exhibition in March where the project showcased the Blue Flag Campaign featuring certified facilities in Port Antonio, also highlighting community activities in Port Antonio to enhance environmental management and improve environmental conditions

[5] See *Green Globe Standard for Tourism Destinations, Green Globe 21*, n.d.

2.5.10 Supporting the Wastewater Advisory and Monitoring Committee to represent stakeholder opinion on issues pertaining to water quality management, including the development of new sewerage and storm-water drainage systems

Port Antonio, in large measure, has been without a proper sewage facility over the years. The only one in the community has been serving the Anchovy housing subdivision, but has been experiencing extensive maintenance problems and has been operating in an overloaded capacity. Generally, the method of sewage disposal employed within Port Antonio has been pit latrines and flush toilets to soakaway pits.

Given the fact that inadequate provision of wastewater services was a concern, key members of the Port Antonio community and the NWC decided to partner through the Wastewater Advisory and Monitoring Committee to address the town's sewage problems.

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PDC/CWIP II Task Force and AMC members conducting sanitary survey in Boundbrook.

The introduction of an AMC to Port Antonio was considered timely given the fact that a new central facility was being introduced by the government. There were also plans by the Government to upgrade the drinking water supply and drainage services.

One objective of CR 1 was to fully establish the AMC model in Port Antonio as an effective public participation forum and to have this Committee integrated in the planning and development of water, wastewater, and drainage programs within that town, while stressing its advocacy role in the development, operations, and maintenance of the named activities. CWIP also sought to institutionalize this forum within the Port Antonio community to the benefit of community members and the NWC. Accordingly, the project worked with the PDC/CWIP II Task Force to make this a reality, obtaining support from the local stakeholders and the NWC to collaboratively address local water/wastewater related issues.

The AMC would provide stakeholders the opportunity to contribute to the planning process, thus establishing a facility that would serve the needs of the Port Antonio community while avoiding costly mistakes as experienced in Negril and Ocho Rios. The NWC now had the opportunity to work with Port Antonio stakeholders on the planned projects to ensure the achievement of benefits conceived for the town, and for construction to progress with minimal disruption to the town's economic life.

After signing of the MOU in January 2003 by AMC members, and after the initial set of Committee meetings, the AMC went into an inactive mode as plans for the upgrading of the water, sewage, and drainage facilities for the town were delayed until issues related to project funding were resolved. The NWC at that time was also undergoing a restructuring process, which temporarily took much of their attention. The restructuring issue was resolved in 2004 at which time the NWC received authorization to proceed with project plans as originally conceived. CWIP II took advantage of opportunities at various stakeholder meetings in Port Antonio, including meetings of the PDC/CWIP II Task Force, to remind community members of the importance of convening an AMC meeting, role and responsibilities of each member of the Committee, and

the purpose for which the Committee was formed. CWIP II also provided timely reminders to stakeholders of the provisions of the MOU.

In April, 2005 another AMC meeting was convened in Port Antonio with the Portland Chamber of Commerce (PCC) facilitating arrangements for the meeting at the request of the NWC, and in its role as Secretariat for the Committee. The meeting, which was well attended, saw the NWC providing the members and other attendees updated information on the status of the Company's plans for the town, and sought the community's input and collaboration in making the implementation of these plans a success. Answers were provided to questions, which were asked by local government representatives and community members. The PCC was confirmed as the Secretariat. Whereas CWIP II had initially undertaken the responsibility for providing institutional support to the PCC for that body to fulfill its role as Secretariat, this support was withdrawn as a result of the project's contract amendment which focused attention on post hurricane activities. Notwithstanding, the PCC and the NWC are committed to working through capacity building issues.

2.5.11 Development of Small-scale Sanitation Program

The current NWC Master Plan for the provision of sewerage facilities, drains, and water is divided into several phases. Phase I and II are included in the portion being financed by the European Investment Bank (EIB) and the Government of Jamaica, and will involve the construction of the sewage treatment plant, sewer mains and major trunks, also rehabilitation of major drains in Central Port Antonio. CWIP II envisioned that many communities situated adjacent to the mains and major trunks would not be connected under Phases I and II. Alternatives provisions for waste treatment and disposal to these communities had to be found. CWIP II worked with the Scientific Research Council (SRC) to install two demonstration bio-digesters, one each in Boundbrook and Prospect. Ten (10) households were connected to the Boundbrook system complete with sanitary fixtures, and four to the one in Prospect.

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Top photo: Construction of bio-digester in Boundbrook community.

Bottom photo: Completed bio-digester and evapo-transpiration bed.

Construction of the BST's demonstrate a technology whose operations can be sustained with minimal

Maintenance. The technology can also withstand flooding episodes as it was buried underground and is watertight. Affordability, however, is still a concern, and for this technology to gain rapid acceptance as the replacement for pit latrines and soakaway pits, costs will have to be revised.

It is conceived that costs could benefit from market forces as the demand for these units increase to encourage competition. In an effort to influence the cost of the technology, which has proven an effective alternative to a central sewage system, and to stimulate the entry of entrepreneurs into the industry, CWIP II encouraged the SRC to encourage its private sector contractors to work with USAID's Development Credit Authority (CWIP) as a mechanism for obtaining construction capital.

2.5.12 Implementation Issues

Issues encountered during implementation of CR1 contributed to delays in meeting some of the objectives set. These delays were critical given the relatively short life of CR II. Issues included:

- Change of key personnel within the hierarchy of the Portland Parish Council during the time when CWIP II planning initiatives were nearly complete, and when formulated plans were about to be implemented. CWIP II was without authoritative partnership from the Parish Council during the several weeks that the vacancy existed. CWIP II had to re-engage replacement staff on project objectives and direction and develop modified plans to reflect thinking of the replacement staff.
- Political interests and divisions in a particular Port Antonio community initially kept that community from participating in the CWIP II program initiatives for several months. This impasse was resolved from within the community in question with the involvement of impartial political representatives that lead the process within that community.

2.5.13 Lessons Learned

A "Lessons Learned" section is presented in the appendix of this report.

3.0 CR 2: BLUE FLAG AND WATER QUALITY MONITORING PROGRAMS DEVELOPED AND SUPPORTED

3.1 BACKGROUND

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Top photo: Raising the Flag at a 2004/2005 Blue Flag-certified beach.

Bottom photo: Blue Flag Campaign exhibition at Green Tourism Conference in Montego Bay.

The Blue Flag Campaign (BFC) is an award program for beaches and marinas that comply with four sets of criteria relating to: a) Water Quality; b) Environmental Management; c) Environmental Education and Information; and, d) Safety and Services. Since its inception in 1985, close to 3000 beaches and marinas in over 33 countries have earned the right to fly the Flag. The program, which is voluntary, promotes integrated environmental management and the institution of a regular and credible coastal water quality monitoring program with the private sector playing a central role. It functions as a tool with which to achieve voluntary compliance to environmental regulations and best practices. The Campaign also encourages the inclusion of environmental considerations in planning deliberations and decision making generally, recognizing the pressures placed on the coastal zone from pollution, coastal erosion, and the extensive exploitation of coastal resources. It is a symbol of coastal environmental quality, and doubles as an economic incentive and marketing tool for participants and participating communities so certified, with its promise to the public of clean and well-managed beaches and marinas, and on the premise that visitors and Jamaicans alike will more likely patronize Blue Flag facilities because of what the Campaign supports. The Campaign is well known throughout Europe and to tour operators. It is considered that benefits accruing to certified facilities will act as an incentive to attract others to the

program. Participants generally acknowledge these benefits and recognize the need to secure and maintain certification.

Because of the nature of the Campaign and its potential positive impacts on environmental management and tourism, the program received strong support from the National Environment and Planning Agency (NEPA), the Ministry of Industry and Tourism (MIT), and other stakeholders, including hoteliers, NGOs, and public sector entities.

The pilot implementation phase of the BFC program in the Caribbean was completed in April 2004, with candidates from four participating countries presented for the Blue Flag award for the 2004/2005 season in May of that year. Jamaica presented five candidates – four beaches and one marina. These included, a) The Norman Manley Sea Park (Negril); b) Merrils Beach Resorts (Negril); c) Doctors Cave Bathing Club (Montego Bay); and, d) The Port Antonio Marina and Beach. These candidates were all approved for the 2004/2005 award in August 2004 by the program's National, Regional, and International Juries which all approved the applications.

The Blue Flag Campaign is owned and operated by the Foundation for Environmental Education (FEE) located in Denmark. FEE sets policy and operational guidelines for the program though its General Assembly, and has since 1981, actively promoted and delivered environmental education through its international programmes, which aim to deliver Agenda 21 commitments and involve people of all ages and nationalities through formal school education, training of staff and general awareness raising. FEE also provides final adjudication of all applications presented for Blue Flag certification.

Regional administration of the program is done by the Caribbean Consortium comprised of three regional entities, a) The Caribbean Alliance for Sustainable Tourism (CAST) based in Puerto Rico, which represents the interests of hoteliers to the traveling public; b) the Caribbean Tourism Organization (CTO), located in Barbados, which facilitates the development of sustainable tourism for the economic and social benefit of the Caribbean people; and, c) The Caribbean Conservation Association (CCA), also located in Barbados, is a regional NGO which acts to enhance the quality of life for present and future generations of the Caribbean by facilitating the development and implementation of policies, programs and practices, which contribute to the sustainable management of the region's natural and cultural resources. CCA also acts as the FEE representative within the Caribbean.

The program in Jamaica is administered by NEPA, as interim National Operator. NEPA is the national agency responsible for planning and environmental conservation and regulation in Jamaica. An NGO was selected, however in January, 2005 to assume responsibilities of National Operator, a requirement of FEE. Administrative oversight is given by the National Coordination Committee, a body formed of twenty two stakeholders comprising a cross section of government, NGO, and private sector participants.

FEE has a signed MOU with its counterpart organization in the United States, the Clean Beaches Council (CBC) and its Blue Wave Campaign, to work toward unification of the two beach programs by year 2010, in order to support efforts toward sustainable development, and to harmonize global environmental management schemes for beaches.

One requirement of the BFC is the institution of a regular and credible coastal water quality monitoring program by participants. CWIP provided support to the program because of the opportunity presented to strengthen Jamaica's coastal water quality monitoring program under NEPA, and the incentives provided to encourage compliance to environmental regulations.

3.2 STRATEGY AND ASSUMPTIONS

In support of CWIP II's objective to fully establish the Blue Flag Campaign in Jamaica and to prepare an implementation plan for the national water quality monitoring program with demonstrated capability within NEPA to manage the program, CWIP II conceptualized a three pronged approach, namely:

- Selection of a qualified NGO as National Operator for the Jamaican Blue Flag campaign;
- Implementation of an Organizational Capacity Strengthening Strategy for National and Local Campaign Coordinators; and
- Supporting adoption of the *Proposed National Water Quality Monitoring Program and Strategy* and strengthen NEPA's capacity to meet its obligations under the Blue Flag Campaign, including assisting NEPA to store and disseminate water quality information.

3.3 HIGHLIGHTS OF ACHIEVEMENTS

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2004/2005 Blue Flag certified beach.

The following represents major accomplishments of CR 2 over the course of the project:

- Supported continued development of a national and regional framework for the Blue Flag Campaign (BFC) by strengthening the capacity of the National Secretariat and updating local coordinators and operators on Blue Flag requirements and operational guidelines;
- Provided capacity building support to the National Campaign Secretariat by supporting attendance and participation at four Blue Flag international study tours.
- Supported the visit of the International Blue Flag Coordinator to review progress of the Blue Flag Campaign in Jamaica and to address issues peculiar to Jamaica within the context of the Criteria prepared for the wider Caribbean;
- Provided funding support and technical assistance to candidate Blue Flag facilities over a five year period to build capacity and expertise to meet and comply with Blue Flag certification requirements;
- Guided the selection process of the Blue Flag National Jury to adjudicate on the Jamaican candidate applications as the first stage in a three stage process; provided support for the selection process by providing Jury members with their Terms of Reference and Criteria requirements;
- Supported five Blue Flag candidate facilities to gain certification for the 2003/2004 Blue Flag season;
- Facilitated inspection of Blue Flag certified facilities by FEE President and representative of the Caribbean Consortium to confirm conformance to program criteria; supported and participated in flag raising ceremony at certified facilities;

- Arranged and provided support for the staging of awards ceremony for Blue Flag certified facilities with both the Minister of Lands and Environment and the Minister of Industry and Tourism present as honored guests and speakers;

- Prepared Terms of Reference for the selection of a Blue Flag National Operator from the NGO community as required by FEE and had provisions approved by National Coordination Committee; posted media advertisements to support solicitations for this candidate and supported selection process;

- Conducted institutional assessment and prepared capacity building plan for the administration of the Blue Flag Campaign in Jamaica under the title, *The Blue Flag Campaign in Jamaica: Strategic and Capacity Building Plan.*

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2004/2005 Blue Flag certified marina.

- Included information in the Blue Flag Operators Handbook for application to the Jamaican program;

- Prepared marketing strategy to penetrate the Jamaican marketplace with the Blue Flag message and to stimulate widespread acceptance of the Blue Flag Campaign in Jamaica;

- Supported dissemination of promotional Blue Fag Campaign related information on radio, and the printed media;

- Supported preparation of a television documentary on the Blue Flag Campaign by the Jamaica Information Service with the involvement of NEPA, USAID, and CWIP II personnel; documentary broadcasted on two national television stations and enjoyed repeated broadcasts;

- Staged three day Blue Flag promotional exhibition as part of the Green Expo 2004 event put on by the Jamaica Conservation and Development Trust (JCDC), at the National Arena in Kingston in June 2004;

- Facilitated meeting with Director of Tourism and TPDCo. officials for the marketing of the Jamaican Blue Flag Campaign along with Jamaican certified facilities in the overseas tourism market and to confirm involvement of TPDCo. field inspectors in control visits (inspections) of Blue Flag facilities as a way of minimizing Campaign operational costs. Meeting held on July 1, 2004 after being postponed from earlier appointment.

- Contributed to the EAST project hosting the Educational Symposium and Green Tourism Conference over the period July 21-24, 2005;

- Supported Jamaica's membership to the Blue Flag program for the 2004/2005, and 2005/2006 Blue Flag seasons;

- Prepared Terms of Reference and solicited proposals from which to select a consultant to design and implement NEPA's Information Management System for the storage and retrieval of water quality information; contributed to preparation of selection matrix;

- Facilitated adoption of the *Proposed Water Quality Program and Strategy* prepared by CWIP II by NEPA. Succeeded in having provisions of document adopted by the Water Resources Authority (WRA), the Environmental Health Unit of the Ministry of Health (EHU(MOH)) as water quality regulators, also the ODPEM. The organizations named are all signatories to the water quality MOU which describes roles and responsibilities of the signatories, also collaboration;

- Made input into deliberations to finalize Jamaica's Beach Policy. Input stressed initiatives that would facilitate provisions of the Blue Flag campaign in Jamaica, especially beach access;

- Procured auto analyzer equipment for NEPA for the analysis of nitrogen and phosphorus as part of CWIP II's commitment to further improve NEPA's capacity to address that organization's national water quality monitoring mandate. Provided factory supplied training for the use and maintenance of the equipment;

- Facilitated water quality monitoring for key indicators along the Long Bay beach corridor in Negril, Doctor's Cave in Montego Bay, and the Port Antonio Marina and beach. Strengthened NEPA's capacity to expand its monitoring activities to other coastal areas; and

- Supported adoption of key Blue Flag water quality indicators, inclusive of fecal coliforms, and nitrogen and phosphorus as a measure of coastal water quality; supported the retention of nutrients as a water quality parameter in the Jamaican Blue Flag Campaign as a measure to support coral reef health.

3.4 DESCRIPTION OF PROGRAMMATIC ACHIEVEMENTS

3.4.1 Establishing the Framework and Assisting with Operational Activities to Ensure Successful Implementation of the Blue Flag Campaign

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2004/2005 Blue Flag Awards Ceremony.

At the end of CWIP I, Jamaica continued Blue Flag Campaign implementation activities in its commitment to securely establish the program within Jamaica, being cognizant of the Campaign's potential benefits to planning and environmental management, also to tourism and the economy generally.

CWIP II provided guidance and support to NEPA as Interim National Operator, also to the Ministry of Industry and Tourism (MIT), Local Coordinators, pilot Blue Flag candidates, and participating communities in the drive to test and streamline the Blue Flag Criteria. CWIP II also provided support to candidates in their quest to fulfill the provisions of the Criteria by interpreting Criteria provisions and building capacity, while continuing with efforts to streamline and strengthen the institutional framework of the Jamaican program through training, and the timely sharing of information. Additionally, CWIP II worked with the International Blue Flag Coordination and the Regional Consortium, together with NEPA and MIT to shape Campaign polices for the Caribbean.

Achievements included the following:

- Blue Flag Campaign Criteria finalized for the Caribbean with CWIP II and Jamaican stakeholders making contribution to effort;
- Information on administrative and operational relationships among national, regional, and international administrative bodies disseminated to stakeholders to provide better understanding of the Blue flag program among Campaign participants and stakeholders;
- Strengthened working relationships among National Operator, Local Coordinators and candidates;
- Supported National Operator, Local Coordinators and Candidates to achieve compliance with criteria requirements;
- Facilitated Workshop in Negril in 2004 to review Blue Flag criteria provisions and to guide stakeholders on completing applications;
- Staged three day workshop to train Blue Flag stakeholders in Environmental Management Systems (EMS) provisions;

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The Minister of Lands and Environment and the Minister of Industry and Tourism join the FEE President, a Blue Flag facility operator and CWIP II personnel at the Blue Fag Awards Ceremony.

- Mapped 2004/2005 Blue Flag candidate facilities as a campaign requirement using GPS technology;
- Supported disaster preparedness, pollution, and safety risk assessment of Jamaican Blue Flag candidate facilities, together with demonstrations to illustrate plan provisions; conducted follow up assessment of a certified facility's hurricane preparation after the passage of Hurricane Ivan in September, 2004
- Designed, printed, and distributed educational brochures on the Blue flag Campaign and candidate facilities;
- Supported the design and implementation of education activities for Blue Flag candidate facilities to satisfy Blue Flag Criteria requirements;

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National Jury meeting at 2004/2005 Blue Flag Candidate facility.

- Staged Blue Flag Campaign promotional exhibition at JCDT's three day Green Exposition at the National Arena; information on the Campaign disseminated to the public through multimedia presentations and interactive games;
- Partnered with EAST for the staging of the Educational Symposium and Green Tourism Conference at the Half Moon Hotel in Montego Bay over the period July 21-24; supported presentation at the conference on Campaign implementation in Jamaica by the Campaign's interim National Operator;
- Promoted Blue Flag Campaign in printed and electronic media, together with linkages to coastal water quality, environmental management, and the national economy;
- Supported the design of banner posters and the construction and installation of information boards at all Blue Flag sites;
- Facilitated the selection and seating of the Jamaican National Jury to adjudicate on the applications of the 2004/2005 Blue Flag candidates;

- Prepared Terms of Reference and Selection Criteria for the Jamaican National Jury to judge compliance of local candidates within Blue Flag Criteria provisions;
- Guided efforts that gained candidates the approval of the national, regional, and international Juries for the 2004/2005 Blue Flag season;
- Provided technical support to the National Operator and the National Jury for the 2005/2006 Blue Flag season.

3.4.2 Establish National Blue Flag Coordinating Body (National Operator)

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2004/2005 Blue Flag certified beach.

Since inception of the Blue Flag Campaign in Jamaica, NEPA coordinated the national Blue Flag Campaign as interim National Operator. The Foundation for Environmental Education (FEE), owners and operators of the Campaign, however, requires the administrative body for national programs to be a NGO. Permission was given by FEE for Caribbean countries to initially operate the program though government agencies to facilitate establishment of the program, given the fact that the Campaign is new to the region and needed institutional, technical, and financial support in its implementation stage. Acting with the consent of the National Coordination Committee, the body providing oversight and quality control for the Jamaican program, and with an agreed action plan and schedule, CWIP II prepared solicitations for expressions of interest from NGOs wishing to serve as National Operator for the Jamaican program, on behalf of NEPA. Three advertisements were placed in the two major national newspapers in March 2004.

Respondents to the advertisements were invited to an orientation session held at the Courtleigh hotel on February 16, 2004 where they were given an orientation to Blue Flag together with expectations of the National Operator, including roles and responsibilities. Sustainability issues were also discussed. Organizations in attendance were invited to submit proposals addressing strategies for managing the Blue Flag Campaign as a part of their application. The next steps in the selection process were also discussed.

Interviews were conducted by a select Committee of the National Coordination Committee. The Negril Area Environmental Protection Trust (NEPT) was selected by the Committee in January, 2005 as the new National Operator to succeed NEPA. NEPA and NEPT struck an agreement for the phased handing over of responsibilities from NEPA to NEPT over a period of three years for NEPT to benefit from NEPA's technical and institutional support. NEPT would lead the process, however, with NEPA playing a supporting role. NEPT, as National Operator, would also be subject to the oversight of the National Coordination Committee. NEPT was introduced to the Caribbean Regional Blue Flag meeting held in the Bahamas during February 2005.

It is expected that Jamaica will become an official member of FEE and that NEPT, as the National Operator for the Jamaican program, will be presented to the FEE General Assembly at the next General Assembly meeting.

3.4.3 Strengthen Management Capability of National and Local Level Coordinators and Implement Organizational Capacity Building Strategy

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Blue Flag sign at CWIP II-supported facility.

As a part of its Work Plan, CWIP II committed to conducting an institutional analysis of the Blue Flag Campaign operations in Jamaica to determine organizational strengths and weaknesses, as well as to identify levels of need for the Campaign to succeed. It was intended that information from this analysis would feed into the preparation and implementation of a capacity-strengthening and sustainability plan that would include required training as well as fund raising strategies, thus enabling administrative entities to adequately dispense their responsibilities along guidelines established by FEE. These activities were timed to be prepared after the appointment of the National Operator, as this body would play a central role in the assessment. With the passage of Hurricane Ivan and hr modification to the CWIP II contract, capacity building support for the National Operator and Jamaica's Blue Flag program was withdrawn. A document titled, *The Blue Flag Campaign in Jamaica: Strategic and Capacity Building Plan*[6]*, was nonetheless prepared in 2005* . The Plan includes a detailed SWOT analysis, along with a program and budget to achieve institutional strengthening over a five-year period from 2005-2010. The Plan also proposed a budget of S$750,000.00 with which to support institutional strengthening programs and operational activities, along with a schedule to achieve the objectives set. Treatment is also given to promotional, publicity, and fund raising campaigns.

CWIP II also supported training for NEPT as the new National Operator through orientation sessions with NEPA to facilitate information transfer. CWIP II also facilitated and participated in study tours around the island with NEPA and NEPT to certified facilities and potential candidates, to observe practical applications of the Blue Flag criteria and to recruit potential candidates while taking the opportunity to explain criteria requirements. Opportunities were taken by NEPT to link with Local Coordinators. Additionally, international study tours were supported for NEPA, NEPT, and CWIP II to build capacity and strengthen the Blue Flag knowledge base. These tours were as follows:

- FEE General Assembly meeting in Greece – October, 2003 (NEPA)

[6] See document, The Blue Flag Campaign in Jamaica: Strategic and Capacity Building Plan. March 2005.

- BFCC meeting in Barbados – November, 2003 (NEPA)
- BFCC meeting in Puerto Rico – February, 2004 (NEPA, CWIP II)
- BFCC meeting in the Bahamas – February, 2005 (NEPA, NEPT)

NEPT took the lead in the 2005/2006 recruitment drive and application review process with NEPA and CWIP II providing support. In an effort to further strengthen NEPT's capacity, CWIP II made recommendations to USAID and NEPA for NEPT be the beneficiary of selected pieces of equipment belonging to the project at project closeout, given NEPT's responsibilities as National Operator, and the fact that the Blue Flag program in Jamaica was an eco-label that strongly supported environmental management and tourism programs that should be sustained. The project also supported the payment of Jamaica's subscription fee to the Caribbean Consortium and to FEE for the 2004/2005 and the 2005/2006 Blue Flag season.

CWIP II also included provisions in the current *Blue Flag Campaign Operations Handbook* for application to the Jamaican program. A marketing and publicity strategy was also prepared to disseminate the Blue flag message throughout Jamaica.

The work of Local Coordinators with candidate facilities to facilitate implementation of Criteria requirements provided the opportunity for the strengthening of relationships between these entities.

3.4.4 Adoption of "Proposed National Water Quality Monitoring Program and Strategy"

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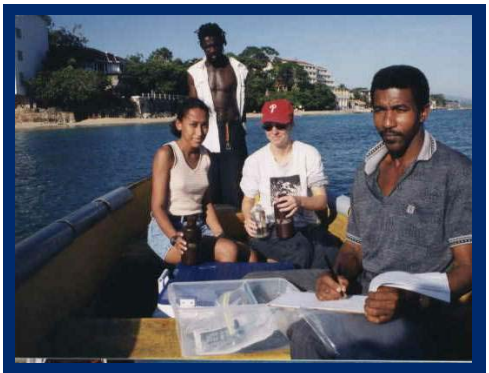

Top photo: NEPA/community water quality monitoring sampling exercise during CWIP I.

Bottom photo: Water quality monitoring exercise on the White River.

A key achievement of CWIP I was the promulgation of the *Proposed National Water Quality Monitoring Program and Strategy*. This program was developed over a period of six years to define and standardize Jamaica's water quality monitoring program. The models developed have been successfully tried and tested, have been presented to two coastal zone conferences over a two-year period, and have been discussed among stakeholders and accepted. CWIP II was tasked to seek the official adoption of the program's provisions by NEPA.

The *Proposed National Water Quality Monitoring Program and Strategy* addressed four components of a successful water quality monitoring program, namely, monitoring, research, communication, and financing. The monitoring component gave an extensive treatment of, a) Selection of sampling sites and sample parameters; b) Determination of sampling frequency; c) Protocols for sampling, storage, and transportation; d) Laboratory involvement with inter-laboratory comparison exercises for quality control purposes, and the designation of analytical procedures for fresh and brackish waters; e) Data base management and data interpretation; and f) record keeping. Treatment was given of the government – community partnership model that provided for the sharing and optimization of resources, with NEPA having the responsibility for program management and for training.

The partnership that was facilitated by CWIP I between selected communities and NEPA to institute a regular and credible water quality monitoring program continued with CWIP II and was

used in the water quality program of the Blue Flag Campaign. The partnership provided the opportunity for the sharing of resources and the fostering of a cooperative relationship between local stakeholders and NEPA. Under the arrangement, community members provided boats, boatmen and samplers. They also addressed local coordination of field activities by local environmental NGOs/Local Blue Flag Coordinators. NEPA provided analytical services and program oversight. The results of the monitoring exercise were used to inform Blue Flag candidates of the water quality status of their facilities, to identify pollutants and pollution sources, and to develop management and mitigation plans as needed in collaboration with local and national authorities. CWIP I provided funding and technical assistance for program design and implementation, as well as training. CWIP II continued to provide funding and technical assistance for program refinement. Blue Flag Campaign participants now pay for their own analytical costs and the data is shared with NEPA.

An important feature of the *Proposed National Water Quality Monitoring Program and Strategy* was the call for the definition of roles and responsibilities among regulatory Agencies as these relate to Jamaica's water quality program, in particular NEPA and WRA. A MOU has since been formulated by the key government water quality monitoring stakeholders, and signed by these stakeholders, namely NEPA, WRA, EHU(MOH), and the ODPEM in 2004.

NEPA formally adopted the Proposed *Water Quality Monitoring Program and Strategy* in June, 2005 at a meeting with representatives of the WRA, EHU(MOH), and NEPA, signatories of the mentioned MOU. Notwithstanding the formal adoption, NEPA have been applying provisions of the document to their water quality monitoring program over the past six years. The named signatories to the MOU also agreed at the same meeting to reference the water quality document as a guide for Jamaica's water quality monitoring program. The representative of the ODPEM who was not able to attend that meeting later gave the ODPEM's concurrence. The document will be reviewed over time and updated as necessary. A CWIP II supported study, *Classification of Jamaican Rivers for Recreational Use*, also proposed at a meeting in June, 2005 to use the NEPA adopted fecal coliform standards in its recommendation relating to riverine water quality. There was also consensus for the study to reference the "*Water Quality Monitoring Program and Strategy"* as a guide for monitoring procedures and protocols.

3.4.5 Further Development of NEPA's Lab to Assume Blue Flag Responsibilities

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NEPA staff being trained to operate and maintain auto-analyzer.

CWIP II's efforts to improve the capacity of the NEPA laboratory are summarized in the *Strategic Plan for Strengthening NRCA's Laboratory*, which was prepared under CWIP I, and which presented the extent of CWIP's support and NEPA's obligations. This plan was prepared in response to the need to strengthen NEPA's capacity to fulfill its mandate for water quality monitoring. CWIP I funded infrastructure modifications to the NEPA laboratory, provided select pieces of equipment and glassware, and fostered a partnership between NEPA and key coastal communities that provided for the sharing of resources to minimize programmatic costs for all participants.

In an effort to further strengthen NEPA's analytical capacity, CWIP II committed to procuring an auto analyser for the analysis of nitrogen and phosphorus, constituents which have been identified as playing key roles in eutrophication, and the degradation of coral reefs in Jamaican waters. This piece of equipment, which was identified by NEPA, and was procured complete with computer hardware and software, will further allow NEPA to more efficiently fulfil its national water quality mandate and its obligations under Blue Flag. The equipment was installed in October 2004. Training to operate and maintain the equipment, as well as to diagnose and resolve simple problems,

was also provided to the NEPA staff by a representative of the supplier. Plans for providing additional glassware were abandoned as a result of the project's post hurricane contract amendment.

3.4.6 Development of a National Water Quality Information System

Water quality data are kept by a number of public and private agencies in Jamaica, foremost among them being the Water Resources Authority (WRA) and NEPA. This information is needed to guide planning activities, to inform on compliance to permitted conditions, to generally advise on water quality conditions at any given moment, to advise on the status of Jamaica's water resources, and to guide the design and implementation of mitigation activities. This information is informally stored within NEPA, and is subject to contamination because of inadequate security provisions. Internal and external dissemination of this information has been problematic as there are inadequate provisions to accommodate the activity.

CWIP II committed to identifying hardware and software requirements, also the identification of user groups and the needs of these groups, in an effort to facilitate the design and installation of a system that would effectively accommodate the storage, maintenance, and retrieval of key water quality data. End users of this system would primarily be NEPA staff and select stakeholders. The information would eventually be shared among partners.

CWIP II worked with NEPA's Information Technology Division on this objective. Plans were to integrate the water quality information with NEPA's AMANDA database. A water quality IMS folder would be attached to the AMANDA database, and equipment would be procured to support the program.

Terms of Reference for the engagement of an expert to do the necessary work were developed by CWIP II, which also placed advertisements in the press to solicit expressions of interest and proposals from suitably qualified consultants. An evaluation matrix with which to make a selection was also prepared by NEPA and CWIP II. The selection of the consultant was scheduled for November 2004 after completion of the selection process. CWIP II, however had to suspend support for the remainder of the activity as funds for the venture had to be transferred to support post hurricane activities. NEPA, notwithstanding has been continuing in its quest to make the water quality information system a reality.

3.4.7 Promulgation of Water Quality Standards

NEPA has been addressing the promulgation of national trade effluent and sewage discharge standards. The Agency has also been working on the formulation of ambient water quality standards through its Water Quality Standards Subcommittee in fulfillment of that Agency's mandate to improve and maintain the quality of Jamaica's waters.

With respect to the sewage effluent discharges, two sets of standards were drafted, one for new sewage plants and the other for plants constructed prior to 1997. Provisions were that older plants would be retrofitted to meet the newer standards within one year of the standards being gazetted. Exception to this provision would be those operations that are able to demonstrate an acceptable compliance schedule. Provisions of the national trade effluent and sewage discharge standards are already being applied, and work to have them officially promulgated by the GOJ is advanced.

For coastal and recreational water quality, NEPA has been applying standards that were adopted under both phases of CWIP. These include fecal coliform standards and standards for nutrients. Fecal coliform standards were shaped by NEPA, the University of the West Indies (UWI), CWIP II, members of the Blue Flag family, and other stakeholders, and later refined with the input of the Pan American Health Organization (PAHO) at a Regional Blue Flag conference in Jamaica, for application to the Caribbean (and Jamaica's) Blue Flag water quality program. These standards are being used to satisfy NEPA's Permit and Licensing Regulations. Permits

granted by that institution are required to meet the standards set for fecal coliforms. This is a legally binding requirement that must be met by permitted facilities. The standard need to be gazetted, however, for it to be binding on recreational facilities not covered under the Permits and Licensing Regulations. NEPA's Water Quality Standards Subcommittee is responsible for initiating this activity. However, the subcommittee has been dormant due to the recent reorganization of that Agency. Resumption of this work is anticipated in 2005, at which time formal adoption of the standard will be an action item.

Standards that were adopted for nitrogen were derived from research in the Negril Marine Park.[7] Requirements for the inclusion of nitrogen and phosphorus as a part of the Blue Flag water quality criteria has since been dropped by the Blue Flag Campaign. However, NEPA has chosen to retain these parameters for application to Jamaican waters out of consideration for coral reef health and eutrophication, to be sampled quarterly by Blue Flag participants. The application of these figures outside of the Blue Flag Campaign is being reviewed by NEPA for refinement. Water quality results derived by Jamaican Blue Flag Campaign participants are shared with and are stored by NEPA.

3.4.8 Implementation and Sustainability Issues

The seating of a new Chief Executive Officer (CEO) in NEPA in early 2004 brought a new perspective to NEPA's collaborative approach to special projects. There was also a period of organizational restructuring that same year soon after the seating of the new CEO. This resulted in NEPA focusing on the resolution of institutional problems for much of the year. This in turn resulted in diminished collaboration from NEPA for NEPA/CWIP II programmatic initiatives especially in CR 2 implementation, as key personnel within NEPA were also closely involved in the restructuring activities. This impacted situations where NEPA played a direct role, and where the achievement of certain objectives was dependent on action by NEPA. These problems also impacted program integration. The problem was compounded in early 2005 with another CEO replacement.

CWIP II's solution to the problem was to continue work with the project's NEPA liaison to fulfill Work Plan objectives. While working to accomplish programmatic objectives, CWIP II also linked with stakeholder and partner organizations to ensure effective project collaboration.

3.4.9 Lessons Learned

A "Lessons Learned" section is presented in the appendix of this report.

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[7] B.E LaPointe, *Limnology & Oceanography*: 42. 1997.

4.0 GRANTS PROGRAM

4.1 BACKGROUND

Although the geographic focus of CWIP II was Port Antonio for CR1 to strengthen the capacity of the Portland Parish Council to address environmental management issues in collaboration with the PPC's partners, and the pilot facilities of Negril, Montego Bay, Ocho Rios and Port Antonio for CR 2, to establish the Blue Flag Campaign together with a strengthened water quality monitoring program, special grants projects and special studies were supported in other parts of Jamaica in support of USAID's SO2 program.

The grants programs were:

- Sanitation project in Whitehorses, Pamphret, and Botany Bay – St. Thomas (This project was also included under the post hurricane program);
- Preparation of an Integrated River Basin Management Plan for the White River Basin – St. Ann/St. Mary. This project was implemented with a separate budget secured from USAID but managed by ARD through CWIP II.
- Coral Reef Gardening Project

The two special studies were:

- Recreational Carrying Capacity Assessments for selected coastal recreational areas focusing on in Negril, St. Ann, St. Mary, and Port Antonio; and
- Classification of Jamaican Rivers for Recreational Use.

4.2 IMPROVED SANITATION IN WHITEHORSES, PAMPHRET, AND BOTANY BAY

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Construction of VIDP sanitary facility in Whithorse, St. Thomas.

This project was done as a part of the GOJ's Rural Water Supply Program (RWSP), which was established to expand the coverage of potable water and sanitation services throughout Jamaica, focusing on poorer communities in the rural areas. The RWSP supports the government's commitment to halve the number of persons without sustainable access to safe drinking water and basic sanitation by 2015. Funding for the project was secured from CWIP II (US $40,000.00), the United Nations Environmental program (UNEP – US $25,000.00), and the Environmental Foundation of Jamaica (EFJ – US $100,000.00). The Ministry of Water and Housing was also a program partner.

The project was implemented in the communities of Whitehorses, Pamphret, and Botany Bay which are adjacent communities located in the parish of St. Thomas. A unique feature of the community structure in relation to the water and sanitation project was the presence of a Benevolent Society, a group of community

representatives legally registered as a company to administer their water and sanitation program. This model is expected to be a feature of the Rural Water and Sanitation program islandwide. The program was implemented in phases with the CWIP II funded phase implemented first, given the relatively short life of CWIP II. Additionally, the CWIP II funded phase was managed by the Construction Resource and Development Centre (CRDC), a construction NGO. Piped water is expected to be introduced to the project area at a later stage.

The CWIP II/CRDC part of the project had four components. These were:

- To provide effective and environmentally sound sanitation solutions for poor households;
- To increase health and hygiene awareness among community members through training;
- To improve community development by building the institutional capacity of the Benevolent Society to manage a water and sanitation program; and,
- To strengthen partnership and cooperation with stakeholders outside of the area.

Key Achievements included:

- Construction of 30 sanitary solutions that benefited 200 persons, and which exceeded the target numbers initially set. The range of solutions that were all approved by the health authorities included ventilated improved double vaulted pit latrines (VIDPs), ventilated improved pit latrines (VIPs), a constructed wetland, and a tile field. Water supported systems could not be constructed because of the delay in the introduction of a sustainable potable water supply by the government. Members of the community were trained as builders, and beneficiaries contributed to the construction effort by assisting with site excavation.

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Constructed VIDP.

- Twenty-five (25) persons comprising the Water and Sanitation Hygiene (WASH) unit of the community project steering committee were provided health and awareness training using Participatory Learning and Action Methodologies (PLAM). These WASH promoters contributed to the selection of beneficiaries of the sanitary units, and to the dissemination of information on best practices as these related to sanitation and hygiene.
- Members of the Benevolent Society were trained in accounting skills to track project expenditures.
- Community members formed linkages with government agencies and stakeholders outside of the project area during the course of the project. These partnerships assisted the Benevolent Societies in establishing longer-term plans toward reducing the identified sanitation gaps.

4.3 INTEGRATED WATERSHED MANAGEMENT PLAN FOR THE WHITE RIVER BASIN – ST. ANN/ST. MARY[8]

Work on this project began in March 2003 to develop and implement an integrated river basin management plan for the White River watershed area, which serves both parishes of St. Ann and St. Mary. The program

[8] See documents, *Integrated Watershed Management Plan for the White River Basin,* and *Integrated Watershed Management Plan for the White River Basin – Community Version.* March 2005.

was supported with funding from USAID (Washington and Jamaica offices) under the Integrated Water and Coastal Resources Indefinite Quantities Contract and SO2 program respectively. Project administration was through ARD, Inc. under CWIP II. Implementers were Friends of the Sea, an Ocho Rios based environmental NGO, guided by a Core Planning Team comprised of a wide cross section of 25 stakeholders representing central and local government entities, the private sector, NGO and community based organizations and individuals.

The overall objectives of the project were, "To develop and implement an integrated river basin plan that reduces user conflicts and initiate early actions to address the environmental issues identifies by stakeholders." Specifics of the project's objectives, included:

- Collection of baseline data, and the identification of key stakeholders
- Development of a GIS database.
- Identification of pollution sources and presentations of options to mitigate pollution,
- Introduction of a governance structure for the integrated planning and implementation of environmental management strategies for the river basin.
- Development of effective strategies to combat the main threats facing the watershed
- Strategy for the initiation of early actions under the Integrated Water Resources Management Plan.
- Preparation of an integrated watershed management plan and the determination of compatible uses of river-based activities.

Strategies were presented in the Plan to manage:

- Solid waste;
- Wastewater;
- Urban impacts;
- Floodplain;
- Runoff and erosion control;
- Forestry;
- Information; and
- In stream biota.

Selected demonstration programs were also implemented.

It is expected that this project will establish the groundwork for long-term management of the White River watershed, through the identified community-based White River Watershed Management Committee that as formed from the CPT.

4.4 CORAL REEF GARDENING PROJECT[9]

This project demonstrated techniques for the culturing of corals at the facilities of the Discovery Bay Marine Laboratory (DBML) marine protected area (MPA). It was funded by CWIP II with other partners. CWIP II's contribution was US $25,000.00 based on a proposal from Counterpart International in partnership with DBML.

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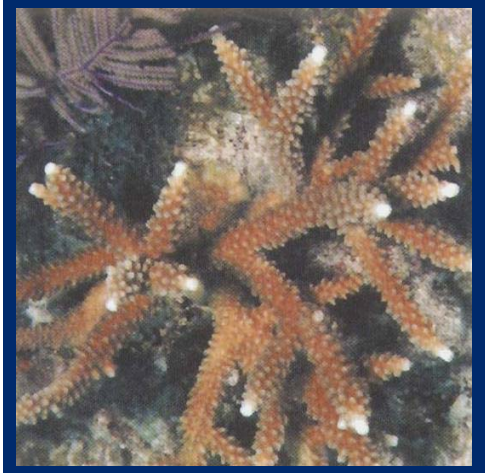

Top photo: Coral gardening exercise.

Bottom photo: Stag horn coral.

The project proposed a networking relationship among stakeholders to restore the coral *Acropora cirvicornis*, or the stag horn coral, as a means of restoring lost biodiversity and lost functionality of coral reefs within marine protected areas. This particular coral, which is important as a fisheries habitat because of it being the only large open branch coral species of both reef slope and back reef environments of Caribbean reef systems, was abundant throughout the Caribbean but its population has now declined. It was conceived that the loss of this coral species from reef systems represents a loss of marine habitat, thus posing a threat to biodiversity. The project conceived that restoration of this coral would increase fish abundance by increasing fisheries habitat. Small-scale demonstrations were conducted at the DBML site, and as an addition to the actual research program, the project provided training to Jamaicans in the techniques of culturing the stag horn coral.

Objectives of the project were to:

- Re-establish healthy corals initially in the Discovery Bay MPA;
- Investigate the potential for biodiversity and fisheries improvement using corals propagated under the DBML experiment; and,
- Build a network of persons trained with the skills of coral propagation.

Coral cultured under the project recorded measurable growth and survival rates, which differed according to the culture sites. In an evaluation exercise, eighty three percent of participants attending "Open Day" workshops organized by DBML on coral propagation thought that the coral propagation experiment was a worthwhile endeavor. Eighty percent appreciated being exposed to the skills required for monitoring the corals.

One of the investigators on the project made a presentation at the 18th Annual Scientific Research Council conference in Jamaica in November 2004 and was awarded the *Jamaica Scientific Research Council's Young Technologist/Young Scientist of the Year 2004 Award* based on work on this project. The principal investigator expects to publish papers based on the research findings from this project.

[9] See Series of three reports on, *Coral Reef Gardening Project.*, dated: July 12, 2004; October 12, 2004; and January 13, 2005.

4.5 RECREATIONAL CARRYING CAPACITY ASSESSMENTS FOR SELECTED COASTAL RECREATIONAL AREAS IN NEGRIL, ST. ANN, ST. MARY, AND PORT ANTONIO[10]

CWIP II collaborated with the Ministry of Industry and Tourism (MIT) through the Tourism Product Development Company (TPDCo.), NEPA, and the Maritime Authority of Jamaica (MAJ), to finance a north coast water and beach safety study. A meeting held in December 2004 outlined the procurement process, which was coordinated by TPDCo. From this process, a consultant was selected to implement the study. CWIP II's contribution was US$ 37,000.00.

The rationale for this study was the fact that the growth of hotels and leisure watersports activity over the decades has had a significant impact on the coastal and marine ecology of several of Jamaica's resort areas. The growth of the watersports industry has also negatively impacted visitor safety in the water. The Agencies supporting this study were interested in streamlining the management of water sports, and to integrate the activities into an overall framework for inter-sectoral management of tourism products, coastal environmental health and marine safety.

The study had five objectives, which were:

- Establish optimum capacities for water sports operations in marine and riverine recreational areas islandwide;
- Provide guidelines for the delimitation of zones for water sports activities for the determined focus areas, especially in marine parks;
- Determine the environmental impacts of water sports on the focus areas;
- Provide guidelines for the development of water sports activities in Jamaica in relation to safety, security, and marine/riverine pollution prevention; and
- Recommend better environmental management systems for marine protected areas.

Findings of the study are catalogued in three documents specific to the areas studied.

4.6 CLASSIFICATION OF JAMAICAN RIVERS FOR RECREATIONAL USE[11]

This study arose out of concerns by the Ministry of Industry and Tourism about the growing demands for the use of Jamaica's rivers and the challenges experienced in effectively monitoring and regulating the multiplicity of recreational river based watersports activities that operate on the same river and within the same locale.

The Ministry had been reviewing guidelines for river rafting in Jamaica. Guidelines that existed were biased to bamboo rafts and did not include other types of recreational vessels such as kayaks, tubes and rafts. A committee comprising representatives from the WRA, NEPA, ODPEM, and TPDCo., was established to re-examine the guidelines and to establish new standards.

From those meetings it was decided that an objective classification scheme for rivers was needed to inform the regulatory agencies on the compatibility of the types water sporting vessels with river morphology. It was proposed that the rivers to be classified be the seven rivers under the purview of the River Rafting Authority,

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[10] See *Recreational Carrying Capacity Assessment for Negril, Port Antonio, St. Ann to St. Mary*; May 2005

[11] See *Classification of Jamaican Rivers for Recreational Use*. June, 2005.

and that a technical study to classify rivers for recreational use in terms of public health and safety, security and riverine habitat conditions be undertaken.

It was conceived that the output from the classification study would lead to the development of an inter-sectoral policy governing the streamlining and integrated management of river-based watersports vessels. This policy, which would be an accompanying document to the National Oceans, and Coastal Zone Management Policy, would also engender sound environmental management and protection of the riverine environment. It would also feed into the development of a subsequent policy to streamline the operational and regulatory framework governing all river based leisure sports.

The Terms of Reference for the study were:

- Develop a rating system that would be used to classify the rivers and other rivers currently in use, in relation to the types of vessels and the hydrography/morphology of the river; and,
- Establish classification of the rivers in order to guide the overall development of river based watersports activities.

In a stakeholder meeting on June 16, 2005 at MIT to review the findings of the study, and to which CWIP II was invited and made an input, there was a consensus that the NEPA adopted levels for fecal coliform, as a measure of water quality would also be used in the study's recommendations relating to riverine water quality. There was also consensus that the "*Water Quality Monitoring Program and Strategy"* would be reference as a guide for monitoring procedures and protocols.

5.0 POST HURRICANE IVAN REHABILITATION/ RECOVERY ASSISTANCE PROGRAM

5.1 BACKGROUND

As already described, the broad purpose of CWIP II was to develop pilot integrated management approaches that would contribute to the improvement of coastal water quality. Activities focused on, a) The development of an integrated parish level environmental planning and management process in Portland, and b) The development of a Blue Flag beach and marina certification program for selected pilot sites, supported by a national water quality monitoring program.

CWIP II was instrumental in improving local level environmental management in the parish of Portland through its work with the Portland Parish Council and other stakeholders. Five sites across Jamaica were also awarded the Blue Flag certification for the 2004/2005 with CWIP II support and two additional sites were propped for this award for the 2005/2006 Blue Flag season.

During September 2004 the passage of Hurricane Ivan caused widespread damage in Jamaica. These damages in turn caused dislocations in economic activities with threats to public health from disruptions in drinking water supplies, sewage disposal facilities, solid waste management services, and drainage. Health care facilities were also impacted.

The CWIP II contract, LAG I-00-99-00018-00, Task Order # 809 was modified to:

1. Incorporate new contract deliverables for the USAID/Jamaica Mission to assist Jamaica in their recovery efforts from the impact of hurricane Ivan;

2. Redirect original program activities to support the assistance package.

5.2 TASK ORDER MODIFICATIONS

The original Task Order was amended to address specific hurricane relief across Jamaica. These activities are described below.

5.2.1 Water, Sanitation and Infrastructure – Reprogramming of Existing Funds

5.2.1.1 Activities Dropped

- Support for Coastal Conference
- Greening Project in Boundbrook
- Construction of four bio-digesters (BSTs) in Boundbrook and Prospect
- Procurement of NEPA Laboratory Glassware

5.2.1.2 Activities Added

- CRDC Sanitation Project for Whitehorses/Pamphret/ Botany Bay communities in St. Thomas
- Provision of roofing material and water supply to Whitehorses/Pamphret/ Botany Bay communities
- Boundbrook drain rehabilitation project
- Construction of thee BSTs – one each in flood prone areas of Boundbrook, the Boundbrook primary school, and Prospect
- Assessment of NWC Disaster Response and Mitigation Plan

5.2.2 Land and Coastal Zone Rehabilitation

5.2.2.1 Activities Dropped

- Support for Blue Flag National Operator
- Support for International Consultant for Advanced Participatory Methods (APM) training at the Management Institute for National Development (MIND)
- National Conference on Governance and Environmental Management
- Procurement of additional MIS equipment for the Portland Parish Council
- Provision of international technical assistance for water quality monitoring program

5.2.2.2 Activities Added

- Sea Wall restoration at Treasure Beach
- Assessment of damage to coastal and natural systems from Hurricane Ivan
- Expansion of Blue Flag Campaign activities to south coast communities hit by the hurricane
- Repairs to Norman Manley Sea Park and the craft market in Negril
- Public awareness campaign concerning the importance of disaster preparedness and emergency management for the protection of beaches

5.2.3 Disaster Mitigation

5.2.3.1 Activities Dropped

- Provision of Technical Assistance - international Water Resources Specialist
- Provision of technical Assistance – International Commodity Procurement Specialist
- Provision of technical Assistance – International Monitoring and Evaluation Specialist

5.2.3.2 Activities Added

- Regional conference on Hazard Mitigation, Disaster Preparedness, and Coastal Zone Management
- Public Awareness campaign in Boundbrook, Prospect, Negril, St. Thomas, Clarendon, and St Elizabeth communities on disaster preparedness and early warning systems
- Support to Parish Council (Portland) for improving local ODPEM early warning and disaster preparedness systems

The additional funds allocated were to be used under the general categories of Development Assistance (DA) and child Survival and Health (CSH). Activities were identified to satisfy the conditions of the CSH funding. CSH activities were implemented though the Environmental Health Unit of the Ministry of Health (EHU(MOH)), and the South Eastern Regional Health Authority of the Ministry of Health (SERHA(MOH)) with the provision of potable water backup storage facilities. These activities were implemented with the approval of USAID.

5.4 IMPLEMENTATION STRATEGY

March 31, 2005 was designated by USAID as the target date for the completion of hurricane related activities. CWIP II therefore had to mobilize quickly to address hurricane related activities, given the relatively short period with which to implement and complete these activities. The March date was later changed to April 30, 2005 for the completion of activities that were still outstanding after that date.

Some activities such as the Boundbrook and Prospect sanitation programs, and the drain cleaning exercise in these two Port Antonio communities, also the Whitehorse's sanitation program in St. Thomas, were programmed activities under the initial CWIP II contract. These were continued under the post hurricane assistance program but modified to focus on hurricane rehabilitation and recovery efforts.

Discussions were held with the EHU and SERHA on ways that CWIP II could assist. Proposals were submitted by both institutions from which CWIP II made selections on the basis of which activities could be supported with the funds that were allocated and which could be implemented within the time frame within which post hurricane activities had to be completed.

5.5 ACHIEVEMENTS

5.5.1 Water, Sanitation and Infrastructure

5.5.1.1 Drain Cleaning and Drain Rehabilitation in the Boundbrook and Prospect Communities of Port Antonio, Portland

Boundbrook is a large, densely populated community in Port Antonio, and located adjacent to the Annotto River that empties into the West Harbor. Given the poor state of the drains and the fact that the community

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Top photo: Clearing mouth of drain in Prospect, Port Antonio.

Bottom photo: Constructing drain across road in front of school in Boundbrook, Port Antonia.

was prone to flooding, drain cleaning was identified by stakeholders as an important activity to be undertaken by CWIP II prior to the passage of Hurricane Ivan.

Over 3845 meters of drains were cleaned prior to the hurricane and this action contributed to sparing the area from flooding during the period leading to the passage to Hurricane Ivan and during the passage of this hurricane. Work was done at a cost of

US $18,380.00, and 126 persons were employed to the programme. Work was facilitated in partnership with the Portland Parish Council, the Portland Parish Development Committee, the Social Development Commission and the Boundbrook CDC, and impacted residents.

Work continued after the hurricane, and again in collaboration with the partners already named, to clean debris from the river, to clear hurricane related blockages, and to repair hurricane damaged drains along the entire drainage network. A cross drain by the road adjacent to the infant school was also modified after the hurricane to facilitate improved drainage. More than 70 persons were employed on post hurricane drain and river cleaning activities at a cost of US $10,800.00. The entire Boundbrook community and the western section of Port Antonio benefited. In addition to being residential, this area also houses schools and provide for certain commercial activities.

A similar drain cleaning exercise was carried out in the Prospect community, another densely populated community in Port Antonio that drains to the East Harbor. The cost of this exercise, which was done after the hurricane, amounted to US $16, 886. This particular exercise employed 111 persons to clean 31 drains. This project positively impacted over 1200 persons in Prospect, also the eastern section of Port Antonio.

CWIP II also provided to the Portland Parish Council a Bobcat skid-steer loader with a back-hoe attachment for drain cleaning purposes. A similar piece of equipment was also provided to the Ministry of Local Government for the same purpose. Both pieces were acquired at a cost of US $70,000.00 and were formally handed over by USAID at a ceremony at the Portland Parish Council on January 20, 2005, directly to the Mayor of Portland by the Deputy USAID Mission Director.

An additional US $30,000.00 was spent on the procurement of GIS equipment for the Portland Parish Council to assist in the mapping of drains and for use in general planning for the Parish. This assistance was supported with training for staff members in the use of the equipment.

5.5.1.2 Construction of Bio-digester Septic Tanks (BSTs) in the Communities of Boundbrook and Prospect in Port Antonio, Portland

Both Boundbrook and Prospect are densely populated communities within Port Antonio. Boundbrook is situated on the western section of the town adjacent to the Annotto River that drains to the West Harbor area of the Port Antonio coast. Prospect, situated on the eastern side of town drains to the East Harbor. The West Harbor houses the recently constructed marina, which was recently constructed to spur the revival of economic life in Port Antonio. A fishing community is located on the shores of the East Harbor. Sections of both communities are without proper facilities for sewage treatment and disposal.

The construction of bio-digesters, one each in Boundbrook (Campbell Lane), and Prospect (Prospect Land Settlement #1), addressed CWIP II's program to implement pilot integrated management approaches to

improve coastal water quality and to protect the viability of Jamaica's tourism sector, also to address post hurricane Ivan rehabilitation initiatives to mitigate the spread of water borne diseases from human waste during periods of rainfall and hurricane episodes, as the treatment units are located underground and shielded form hurricane events. Construction of the units also served to demonstrate a technology that could survive flooding.

This demonstration project, which was done at a cost of US $23,235, will serve as an incentive for community members to build additional systems over time. The Boundbrook unit will serve 11 low-income households (55 persons on average), and the Prospect unit will serve 4 low-income households (16 persons on average). Construction of the third BST at the primary school was not done because of funding constraints. Further the sanitary provision at the school was adequate to serve the needs of that institution.

5.5.1.3 Assistance to the Whitehorse's, Pamphret, and Botany Bay Communities In St. Thomas

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Water tank for the Whitehorses/ Pamphret/Botany Bay communities.

The communities of Whitehorse's, Pamphret, and Botany Bay are neighboring coastal communities in St. Thomas that were receiving assistance from USAID's Coastal Water Quality Improvement Project-Phase II (CWIP II) and other partners, including the United Nations Environmental Programme (UNEP), and the Environmental Foundation of Jamaica (EFJ), and the Ministry of Water and Housing through the Construction Resource and Development Centre (CRDC) for the provision of low cost sanitary solutions to residents in the area.

The project, which was supplemented with a sanitary education program, started before the hurricane with USAID/CWIP's contributing US$40,000.00. The program continued after the hurricane as the need for sanitary facilities became more urgent to prevent the possible outbreak of gastrointestinal diseases.

Twenty-nine Ventilated Improved Double Vaulted Pit Latrines (VIDPs) and Ventilated Improved Pit Latrines (VIPs) were constructed for twenty-eight households; one house was outfitted with a constructed wetland, and another with a tile field. A septic tank system was constructed for the community centre. Approximately 200 persons benefited from the installations at the homes, and over 1000 persons benefited from the sanitary education program.

Lives were also disrupted with the loss of roofing to houses, and the dislocation of potable water supplies in the area. USAID/CWIP II provided four (4) plastic water storage tanks to the communities for drinking water storage and distribution purposes at a cost of US $2000.00, and this benefited over 1000 persons. CWIP II also facilitated transportation of USAID donated plastic roof covering from the Jamaican Red Cross in Spanish Town to the affected communities. Over 200 houses were covered in these communities.

5.5.1.4 Assessment of NWC Disaster Response and Mitigation Plan

This activity was not pursued as NWC was already evaluating its mitigation program.

5.5.2 Land and Coastal Zone Rehabilitation

5.5.2.1 Sea Wall Restoration at Treasure Beach

This activity was investigated but not pursued with USAID concurrence as all affected sea walls that were destroyed and where there was a danger of coastal erosion from the sea in the Treasure Beach area were already restored.

5.5.2.2 Assessment of Damage to Coastal and Natural Systems from Hurricane Ivan

CWIP II held discussions with personnel from the PIOJ, the institution that would be coordinating this study, in an effort to assist in making the study a reality. Coordination with other partner organizations would not have happened within the project timeframe, hence CWIP II addressing this activity through the provision of APM training to select stakeholders to more effectively address the assessment of a multiplicity of hurricane related issues. This route was pursued because of stakeholder demand and for the activity to be completed before the March 31, 2005 deadline. See section 6.4.

5.5.2.3 Expansion of Blue Flag Campaign Activities to South Coast Communities hit by the Hurricane

CWIP II, along with NEPA worked with a Treasure Beach Hotel beach facility and a public beach facility at Font Hill, both in the parish of St. Elizabeth on the south coast of Jamaica to apprise operators of those facilities of the Blue flag Campaign. Both facilities were evaluated by the NEPA/CWIP II team who also provided answers to questions. Facility operators were given Blue Flag Campaign literature and application forms at their request. NEPA and NEPT will pursue the appropriate follow up activities and provide the necessary support to these facilities for the 2006/2007 Blue Flag season.

5.5.2.4 Clean-up and Rehabilitation of the Norman Manley Sea Park/Community Centre in Negril, Westmoreland

The Norman Manley Sea Park houses the Negril Green Island Local Planning Authority (NGIALPA), the community centre, two environmental NGOs - the Negril Area Environmental protection Trust (NEPT), and the Negril Coral Reef Preservation Society (NCRPS). The property also houses a craft market which houses 274 craft traders, and a Blue Flag designated public beach.

Negril and surrounding communities are heavily dependent on tourism for their economic well-being. The park and community centre, which sustained extensive damage form Hurricane Ivan, is the focus of much of the areas social and economic activities. Damages were sustained to the community, craft market, and the snack shop form hurricane Ivan. The property was also littered with felled trees and debris.

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Felled trees from Hurricane Ivan .

CWIP provided US $20,000.00 to the cleanup and rehabilitation efforts at this facility, including restoration of the snack shop, and the cutting and removal of logs and debris from the grounds. The activity was implemented in partnership with the Negril Green Island Local Planning Authority (NGIALPA) and the Negril Chamber of Commerce. Other entities also assisted in the overall effort. Twenty-five persons were directly employed to the CWIP cleanup/rehabilitation program; trucks and backhoe equipment were also

employed. Indirect benefits accruing to the community from the restoration effort included the restoration of social, commercial, and municipal services to the Sea Park and community centre.

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Left photo: Hurricane damage to snack shop.

Right photo: Repaired snack shop.

5.5.2.5 Public Awareness Campaign concerning the importance of Disaster Preparedness and Emergency Management for the Protection of Beaches

Discussions with the Office of Disaster Preparedness and Emergency Management (ODPEM) suggested that the most effective strategy to address public awareness issues related to disaster management was to work with ODPEM who already had such a program in place and where teams delivered disaster management related information to communities around the island according to a prepared schedule. CWIP II was asked to support the printing of specific brochures to support the ODPEM's program. Ten thousand (10,000) copies each of the following brochures were printed at a cost of US $3,500.00 and presented to the ODPEM national headquarters:

- Flood Preparedness
- Hurricane Safety for Businesses
- Earthquake Safety
- Earthquake Preparedness for children
- Shelter Preparedness

5.5.3 Disaster Mitigation

5.5.3.1 Regional Conference on Hazard Mitigation, Disaster Preparedness, and Coastal Zone Management

Jamaica's Office of Disaster Preparedness and Emergency Management (ODPEM) held a regional disaster conference, "Managing Hazards in a Changing Environment", over the period November, 1-3, 2005 after the passage of three hurricanes through the region, including Hurricane Ivan, to exchange information and sharpen the region's disaster preparedness and mitigation skills. The conference was held at Rose Hall in Jamaica, and received CWIP II support with USAID approval.

A variety of topics were presented covering the following:

- Risk Management
- Business continuity and Recovery Planning
- Risk Identification
- Flood Management
- Climate and Climate Change
- Building Resilience and Capacity to Live with Risk
- Contingency Planning
- Health Sector Issues
- Risk Reduction and Applications
- Information and Knowledge Management
- Community Disaster Planning Approaches and Experiences

The conference closed with a workshop on the Jamaican experience and a plenary on the way forward. USAID/CWIP II's contribution to this effort was US $25,000.00, which saw over 136 regional participants in attendance.

5.5.3.2 Public Awareness Campaign in Boundbrook, Prospect (Port Antonio), Negril, St. Thomas, Clarendon, and St Elizabeth Communities on Disaster Preparedness and Early Warning Systems

In an effort to provide disaster preparedness and mitigation training to Port Antonio stakeholders and to update provisions for an early warning system for flooding, training was provide to Port Antonio stakeholders over a period of two weeks. This training, which was facilitated by CWIP II, and was conducted by the ODPEM, the Jamaica Red Cross, and the Jamaica Fire Service. In addition to presentations on early warning systems and building codes and standards, topics covered included:

- Shelter Management
- Damage Assessment
- First Aid
- Search and Rescue

Over 42 persons were trained comprising persons from the Portland Parish Council, and community members. CWIP II supported the effort with US $2000.00 and participants were presented with proficiency certificates.

Additional information is provided under the report for CR 1 under Section 2.5.8.

See Section 5.5.2.5 for public awareness activities for the other communities.

5.5.3.3 Support to Parish Council (Portland) for improving local ODPEM early warning and preparedness systems

See Sections 2.5.6 and 5.5.3.2

5.5.3.4 Provision of Backup Potable Water Storage to Hospitals and Health Centres

Hurricane Ivan left in its wake a trail of social, environmental, and public health challenges. Sections of the country, especially in the south experienced greater damage than others. The ability to provide adequate patient care at a number of hospitals (public and private) and other health care facilities was compromised because of the disruption of potable water supplies immediately following the hurricane. Both the Environmental Health Unit and the South Eastern Regional Health Authority (SERHA) of the Ministry of Health (MOH) expressed the need for the acquisition and placement of water storage tanks at selected health facilities.

43,000-gallon potable water storage tank at a leading hospital in Kingston.

Specially constructed potable water storage tanks of glass fused on steel with lifetime guarantees, and having capacities ranging from 22,000 – 43,000 gallons were procured and installed at the, a) University Hospital of the West Indies; b) the Annotto Bay Hospital; c) the Bellevue Hospital; and, d) the Mandeville Hospital. These tanks were acquired at a cost of US $244,739, and will serve over 1,000,000 persons, considering the provision of specialty services islandwide.

Twenty-three smaller plastic tanks having capacities ranging from 600 – 1000 gallons were installed at 16 health centres and clinics in St. Thomas and St. Catherine. An additional 7 were procured and placed at a hospital in St. Thomas and a health care facility in St. Catherine.

The total number of persons expected to benefit from this initiative to improve the capacity of health care delivery at these facilities is 77,300 from 144 communities in St. Catherine and 17,000 from 36 communities in St. Thomas. Much of the constituencies served are women and children. A total of US $31,000.00 was spent on this program, and a workforce selected by the Ministry of Health was used.

5.5.3.5 Recreational Carry Capacity and Safety Study

CWIP II supported the Ministry of Industry and Tourism (MIT) to conduct a study directed at streamlining the management of leisure water sporting activities in an effort to integrate this into an overall framework for inter-sectoral management of tourism products, and coastal environmental health and marine safety. Areas studied included:

- St. Ann and St. Mary
- Negril
- Port Antonio
- Montego Bay

The objectives of the study were to:

- Provide guidelines for the overall development of water sports activities in Jamaica in relation to safety, security, and marine/riverine pollution prevention;

- Recommend optimum capacities for water sports operations in marine and riverine recreational areas islandwide;
- Provide guidelines for the delimitations of zones for water sports activities in the focus locations, especially in marine parks;
- Document environmental impacts of water sports in the focus areas;
- Recommend better environmental management systems for the marine protected areas.

CWIP supported this study in the amount of US $37,000.00.

5.6 IMPLEMENTATION ISSUES

Some of CWIP II's partners found it difficult working with the short implementation timeframe for the post hurricane rehabilitation effort. Training should be given to the staff of public institutions for them to increase their responsiveness to facilitating disaster management and relief activities. This training should be supported by institutional provisions that are clearly articulated.

6.0 APM TRAINING

6.1 BACKGROUND

CWIP II and the Ridge to Reef project (R2RW), another bilateral initiative between the Government of Jamaica through NEPA, and the Government of the United States through its Agency for International Development (USAID), have been applying techniques in Advanced Participatory Methods (APM), a tool developed by ARD, Inc. to their work in Jamaica. These tools were, and are still being successfully applied in diverse sectors and around technical issues such as environmental and health management, strategic planning, civil society development, institutional capacity-building and inter-governmental relations. The APM tools used were APM 1, APM 2, APM 3, and Training of Trainers in APM 1. These are describe as follows:

- APM – 1 describes Basic Group Facilitation Methods and is the foundation of Advanced Participation Methods (APM), which is a series of tools that strengthen public participation in development activities
- APM – 2 describes level 2 of the skills training techniques and focus on Advanced Group Advanced Group Facilitation Methods and Techniques
- APM – 3: addresses Community Project Planning. This program was custom designed to meet specific community development conditions in Jamaica, and a clear readiness and willingness by community leaders to become active in their own development process
- Training of Trainers (TOT) in APM – 1 program provides participants with the skills necessary to conduct the group facilitating process. Participants were trained to apply the techniques on a sustained basis.

Over the period March to December 2004, both projects provided training to a number of stakeholders, with special emphasis on the Social Development Commission (SDC), National Environment and Planning Agency (NEPA), Management Institute for National Development (MIND), and the parish of Portland in APM 1, 2, 3 (Community-based Project Planning activities), and Training of Trainers for APM 1.

6.2 TRAINING ACTIVITIES

Training programs included those supporting Work Plan related activities. These were, however, later expanded with USAID approval, to support other institutional programs, also to provide more in depth training in Portland. The expanded training activities came about because of the popularity of the APM program and the programs effectiveness in supporting institutional and group objectives. A description of these activities follows.

6.2.1 Initial Work Plan Activities

CWIP II and R2RW jointly planned and implemented the following activities:

- A residential Seminar on Basic Group Facilitation Techniques (Level 1) in Advanced Participation Methods (APM) for 35 participants at the Golden Seas Beach Resort, Oracabessa, St. Mary, from March

23-24, 2004. This session facilitated the training of staff members of CWIP II and R2RW, in addition to community and institutional partners, and consultants.

- A residential Advanced Skill Building Seminar in Group Facilitation Methods and Techniques (Level 2) in Advanced Participation Methods (APM) for 25 participants at the at the Golden Seas Beach Resort, Oracabessa, St. Mary, from Thursday, March 25 to Friday, March 26, 2004.

- A Community Action Planning Workshop (APM 3 demonstration) for Boundbrook in Portland for approximately 43 participants on March 31, 2004. The participants agreed on a "Flood Mitigation Project", which was funded by CWIP II.

- A Community Action Planning Workshop (APM 3 demonstration) for Cambridge, St. James for approximately 25 persons on April 3, 2004 under R2RW. This training supported the building of a basic school which was funded by the Jamaica Social Investment Fund (JSIF) to the tune amounting to J$4.3 m. Total project cost with local contribution was estimated at J$8m),

- A residential Seminar on Basic Group Facilitation Techniques (Level 1) in Advanced Participation Methods (APM) for 38 participants at the Golden Seas Beach Resort, Oracabessa, St. Mary, from May 25-26, 2004. Participants were drawn mainly from the five SDC Regions, NEPA, JSIF, Portland Parish Council, NSWMA, as well as CWIP II and R2RW Staff.

- A residential Advanced Skill Building Seminar in Group Facilitation Methods and Techniques (Level – 2) in Advanced Participation Methods (APM) for 35 participants at the Golden Seas Beach Resort, Oracabessa, St. Mary, from May 27 – 28, 2004.

- A residential **Training of Trainers in Basic Group Facilitation Techniques** in Advanced Participation Methods (APM) - Level 1, for 25 participants at the Golden Seas Beach Resort, Oracabessa, St. Mary, from May 31 – June 3, 2004.

- A demonstration of APM techniques to over 30 USAID Staff, and other USAID project implementers on June 4, 2004. This demonstration was geared to examining how these methods could contribute to and influence other USAID's interventions in Jamaica.

The courses and demonstrations were conducted under the leadership of ARD's international APM Specialist. Manuals were developed for the Basic, Advanced Facilitation Methods, and Training of Trainers Courses, as well as for the One-Day Community Action Planning Workshops.

Participants included staff from NEPA, Social Development Commission (SDC), Forestry Department, RADA, JSIF, Portland Parish Council, NSWMA, and both the R2RW and CWIP II Projects.

6.2.2 Expanded Training

The demand for APM training, especially from the SDC, encouraged the CWIP II and R2RW Projects to expand training commitments to:

- Respond positively to requests for additional courses in two SDC regions, also to support other initiatives in Portland;

- Enter into discussions with MIND about the possibility of institutionalizing these courses at that institution;

- Implement APM training for MIND facilitators, individuals, and personnel from other institutions;

- Planned discussions with JSIF and EFJ towards gaining their support for further training request;

- Encouraged SDC to develop a Training Plan; and
- To develop a National Coaching and Training Team to undertake further training.

The expanded activities described below were implemented by a Jamaican APM expert as Lead Facilitator. He was supported by trained individuals from NEPA, the SDC, CWIP II, and R2RW. The expanded training activities are described below under the headings of "General Training", "Training in SDC Regions", "Training in Portland", and "Training at MIND".

6.2.3 General Training

- Meeting held with CWIP II, R2RW, and MIND to discuss institutionalization of the APM Training;
- Training for the Portland Parish Council at a Retreat held from June 22-24, sponsored by CWIP II and ENACT, using APM methods; and
- Training of Planners from the Office of the Prime Minister (OPM), and members of other State Agencies, using APM methodology. This session was sponsored by the City Alliance Project with the Kingston and St. Andrew Parish Development Committee (KSAPDC).

6.2.4 Training in SDC Regions

This set of training activities was geared to exposing and equipping the Community Development Officers (CDOs) throughout the five SDC Regions, together with members of the SDC Regional Support and Administrative Team, and staff members of selected Agencies with skills focused on Group Facilitation Methods, APM Levels 1 & 3, as well as project proposal writing, fund raising and registration of CBOs as a Benevolent Society. Training was designed to:

- Providing an effective step by step process to assist in guiding discussions;
- Developing productive workshops and results oriented action planning sessions;
- Building staff capacity;
- Improving the efficiency of facilitation sessions conducted with community based organizations, and within communities; and
- Improving the ability of SDC officers to assist with the creation and implementation of plans in a timely manner.

A section of APM-Level 2, specifically the area of Visual Graphics and Chart Writing tips and techniques was also included in the SDC training as it was considered that skills learned would improve the level of visual facilitation and presentation techniques of the officers in the field. SDC training focused on the following:

1. Training in APM, Fundraising, Project Writing, and Registration of Groups for Community Development and Management Staff of SDC Region 3 (Western Region), covering St. James, Hanover, Westmoreland, and Trelawny. This session was held at the Holiday Inn in Montego Bay and supported 38 participants over the period July 6-9, 2004. Participants from NEPA, R2RW's Great River Watershed Management Committee, and MIND also attended.
2. Training in APM, Fundraising, Project Writing, and Registration of Groups for Community Development and Management Staff of SDC Region 2, covering Portland, St. Ann, and St. Mary, held at Breezes, Runaway Bay, for over 40 participants over the period July 27-30, 2004. Participants from MIND also attended.

Because the SDC was impressed with the training, they contributed funding support for training of their Regions 1, 3, and 5. This training was as follows:

1. Training in APM, Fundraising, Project Writing, and Registration of Groups for Community Development and Management Staff of SDC Region 4, covering the parishes of Manchester, St. Elizabeth, and Clarendon. This session was held at the Golf View Hotel, Mandeville, for over 36 participants on September 7. The passage of Hurricane Ivan interrupted this exercise on September 8, so the activity was curtailed. The completion of this training was done from November 17 – 19 at the same location.

2. Training in APM, Fundraising, Project Writing, and Registration of Groups for Community Development and Management Staff of SDC Region 1, covering Kingston, St. Andrew, and St. Thomas. These sessions were held at Hotel Four Seasons in Kingston, for over 40 participants from October 5–8, 2004.

3. Training in APM, Fundraising, Project Writing, and Registration of Groups for Community Development and Management Staff of SDC Region 5, covering the parish of St. Catherine, for 35 participants. These sessions were conducted from October 26-29, 2004, at the Arian Restaurant, Spanish Town.

   A total of 189 persons were trained in these five SDC Regions.

4. The SDC requested and was provided with One-Day training in Project Writing, in order to address Hurricane Rehabilitation and Projects in general. This activity was facilitated by R2RW, and was conducted at the Golden Seas Beach Resort, Oracabessa, St. Mary, on December 1, 2004 for over 120 Field Staff of the SDC.

6.2.5 Portland Activities

Because both CWIP II and R2RW Projects were active in Portland, there was an agreement to do Community-based Action Planning Workshops in that parish. Nine (9) Workshops were completed, including one for Boundbrook. Some were completed without the Lead Trainer, indicating the growing capacity to undertake this training. The Community-based Action Plans developed included:

- **Flood Mitigation Project for Boundbrook** with 43 persons. This project was complete with funding from CWIP II.

- **A Solid Waste Management Project for Moore Town**, with some 50 persons participating. Follow-up meetings were held with the National Solid Waste Management Authority (NSWMA) for developing a pilot holding-area in Fellowship;

- **Renovation and Completion of the Fellowship Community Centre.** Over 30 persons participated in this workshop;

- **Snow Hill Basic School Project.** Over 20 persons participated in this workshop.

- **Charles Town Sanitation Project** had over 20 persons participating.

- **Prospect Flood Mitigation Project** had 11 participants. A J$1.07m project was identified, which was funded by CWIP. A follow-up workshop was held in January 2005;

- **Rehabilitation of Road in Fairy Hill** had some 40 participants from the CBO. This group raised J$150,000 towards this project, and the Member of Parliament representing the area (MP) agreed to match the Community's effort;

- A two-day Community-based Action Planning Workshop for **Bybrook, Portland to deal with a J$15.2 m Water Project.** This session was held over the period October 20-21, 2004, for 45 participants. These funds were allocated by the Jamaica Social Investment Fund (JSIF), under its Poverty Reduction Programme, financed by the European Union (EU), for the rehabilitation of its domestic water supply. The Community-based Organization (CBO) was identified to manage this project on behalf of the 1,500 residents of Bybrook and Skibo.

- A one-day Community-based Action Planning Workshop for **Bellevue, Portland to deal with a J$8.7m Water Project** was held on November 11, 2004 for 40 participants. This project has since been approved by the Jamaica Social Investment Fund (JSIF), under its Poverty Reduction Programme, financed by the European Union (EU), for the rehabilitation of that community's domestic water supply.

6.2.6 Training at MIND

Training of MIND Facilitators, CWIP II and R2RW Staff, and others in APM 1, 2, 3, project writing, fundraising, and registration of Community-based Organizations (CBOs) took place at MIND from December 6-10, and 13 -14, 2004, for 25 participants. A Training of Trainers session in APM 1 (with some modification to include 3), followed for 25 participants, from December 14-17, 2004. The concept of developing a training curriculum for institutionalizing APM methodologies at MIND was also discussed. The training at MIND also allowed for the development of an Action Plan for the Maryland Community in Rural St. Andrew. Some 20 participants from the Papine Development Area Committee (PDAC) joined the trainers for a live demonstration of APM 3 on December 15. An Action Plan for the Development Area was also undertaken.

6.3 ACTIVITIES TO BE COMPLETED

Upon completion of the CWIP II and R2RW support for APM activities, a number of activities were identified for follow up. Key among these were:

- Follow-up on the institutionalization of APM training at MIND. This would include working with MIND to develop course outline and curriculum;

- Convening of an APM Facilitators Conference. Facilitators had indicated the need for a forum that would continue the facilitation of the sharing of ideas and to update skills. Consideration was also given for the Jamaica program to becoming a Chapter of the International Association of Facilitators (IAF).

- Presentation of APM 3 to the Annual Conference hosted by the IAF, on the *Art and Mastery of Facilitation*, scheduled for Saddlebrook Resort, Tampa, Florida from June 8 – 11, 2005. It is noteworthy that APM 3 methods have already been successfully used in Lebanon and Jordan in community projects.

- Continuation of training for senior staff members of the SDC who missed the training at MIND.

6.4 RESPONSE TO HURRICANE IVAN

As already indicated, APM training in the SDC Region 4 (Manchester, St. Elizabeth, and Clarendon), was interrupted by Hurricane Ivan. Passing of the hurricane allowed for the following observations and adjustments in the training program:

- Reports from the Regions already trained, and from SDC Headquarters indicated that the training in Advanced Participation Methods (APM):

  - Provided the Staff of the SDC with the necessary skills to undertake better quality assessment of hurricane damage;
  - Equipped the Officers with the tools to prepare adequate reports;
  - Assisted the Community Development Officer, and the Community to build consensus around issues relating to the impact of the Hurricane;
  - Assisted in the preparation of Action Plans to deal with rehabilitation issues; and
  - Assisted communities in preparing projects that would lead to rehabilitation and relief from the effects of Hurricane Ivan.

- Training that took place in Region 1 (Kingston, St. Andrew, and St. Thomas) since the passing of the Hurricane was modified to demonstrate how the consensus method could be an important instrument in assessing damage from the Hurricane. Demonstration of the Action Plan Method focused a community that was damaged by the Hurricane in order to build a Hurricane Rehabilitation Project;
- Training in Region 5 from October 26-29 used "The Relocation of Vendors in the Old Harbor Bay Area", as the demonstration activity for the Action Planning Method. The relocation of these vendors was necessary because of the impact of Hurricane Ivan.
- The rescheduled training for Region 4 (Manchester, St. Elizabeth, and Clarendon), the parishes most affected by the hurricane, on November 17 – 19, at the Golf View Hotel, Mandeville, was modified to address the hurricane devastation in the region.
- Training in Project Writing also gave an opportunity to address hurricane rehabilitation programs in Regions 4 and 5.

6.5 SUMMARY OF APM TRAINING

The output from this program included:

- Training of 287 Facilitators in APM 1;
- Training of 85 Facilitators in APM 2;
- Training of 214 Facilitators in APM 3;
- Training of 47 Facilitators as Training of Trainers for APM 1;
- Two hundred twenty-seven persons that now qualify as Coaches in the system;
- Training Manuals for APM 1, 2, 3, and the Training of Trainers for APM 1 have been printed and distributed. Training materials for Project Writing, Fundraising, and the Registration of CBOs have also been printed and distributed;
- Discussions on development of Curricula for APM training was initiated with MIND;
- Many public sector, and civil society agencies now have the capacity to conduct their work within community settings using APM methods. The making of community-based plans, projects, fundraising events, and the registration of groups have already started to use APM methods.

Collection of Pictures on APM Training.

7.0 PROJECT MANAGEMENT

Associates in Rural Development, Inc. (ARD) was the institutional contractor for the implementation of the Coastal Water Quality Improvement Project – Phase II (CWIP II), under the Water Indefinite Quantities Contract. Dr. Scott McCormick, ARD's Chief of Party (COP) was responsible for technical performance and in-country management of the contract from project inception to October 31, 2004 when he was replaced by Louis Daley who assumed these responsibilities as ARD's Chief of Party from November 1, 2004 to June 30, 2005.

The Burlington, Vermont ARD office provided administrative, technical, and logistical support to the ARD/Kingston office as it has under both CWIP II and R2RW contracts. ARD's Home Office Senior Technical Advisor for CWIP II, Dr. James Talbot, and the CWIP II Project Manager backstopped all logistical and technical aspects of the project, while the ARD Business Management Office insured reliable and efficient financial management and oversight for CWIP II.

7.1 GOJ AND USAID MANAGEMENT AND IMPLEMENTATION OVERSIGHT

A three-tier Project management, advisory, and coordination structure was instituted to insure effective program oversight. The structure included the Interagency Steering Committee (ISC), Project Implementation Committee (PIC), and Planning Sub-committee of the Portland Parish Development Committee. The ISC had overall policy and implementation guidance responsibility for CWIP II. The ISC was comprised of representation from NEPA, MOH, MOWH, PIOJ, MLE, MIT, Ministry of Local Government, Community Development and Sport, CWIP II and USAID and was mandated to meet at least twice per year to provide overall project guidance. The primary function of the ISC was to review, critique, and approve semi-annual progress reports and annual work plans.

The PIC was mandated to provide routine implementation oversight and management to the project. With startup of CWIP II, separate PICs for R2RW and CWIP were combined into one body. Additionally, the Project Coordinator from the Environmental Audits for Sustainable Tourism (EAST) project was added to the committee. The reason for including all USAID environmental projects on the PIC was to improve opportunities to coordinate the Port Antonio activities of the separate endeavors.

The PIC, therefore, was comprised of the NEPA Chief Executive Officer, USAID's Director for the Office of Environment, the USAID Cognizant Technical Officer for R2RW, the Chiefs of Party from CWIP II and R2RW, the Project Coordinator from EAST, the Director of the Policies, Programmes, and Project Coordination Division – NEPA, and the Director of Planning and Development Division – NEPA. It was intended that the PIC would meet frequently during the startup of EAST and CWIP II activities in Port Antonio, initially monthly, and allow on-going discussion and decision-making surrounding emerging issues and problems. The PIC only met once, during the life of the project, however. During this period NEPA underwent an organizational restructuring. Coordination was maintained through NEPA's Director of the Policies, Programmes, and Project Coordination, and USAID's Director for the Office of Environment, and the PDC/CWIP II Task force in Port Antonio, which is described below.

In Port Antonio, CWIP worked through the Portland PDC with the PDC/CWIP II Task Force. A PDC/CWIP Task Force was created in June 2001 under CWIP I to assist in grant proposal development and review, project monitoring, and coordination with the PDC. With the advent of CWIP II and the necessity to better coordinate USAID projects, the PDC/CWIP II Task force, a Task Force of the PDC Planning Sub-

committee, was re-established to guide to and assist in the coordination of all resources utilized in the parish for environmental management. Each of the USAID projects had oversight committees – CWIP II (Task Force of Planning Sub-committee, that is, PDC/CWIP II Task Force), R2RW (Rio Grande Watershed Management Committee), and EAST (Portland Destination Management Group).

In accordance with the CWIP II contract and USAID guidance, Semi-Annual Reports were the primary reporting tool on CWIP progress. Semi-Annual Reports (SARs) for the project were prepared for the periods, a) September, 2003 – February, 2004; b) March, 2004 – August, 2004; c) September, 2004 – February, 2005. In addition to the SARs, CWIP II responded to emerging reporting needs of USAID and NEPA and other evaluative exercises as necessary, including the submission of monthly reports to NEPA, and the submission of quarterly reports to satisfy Water IQC requirements. All reports were delivered to USAID/Jamaica and NEPA. In addition, semi annual reports were submitted to Cognizant Technical Officer for the Water IQC in Washington, D.C.

CWIP II contributed to the national environmental agenda through coordinated activities guided by its host institution, NEPA. CWIP II was responsible for contributing to the NEPA Annual Corporate Plan, also to NEPA's monthly and quarterly Reports.

CWIP II provided monthly financial reporting to USAID on project fiscal operations, in addition to submitting all other required reports.

8.0 PERFORMANCE INDICATORS

The Performance Monitoring Plan (PMP) developed as part of the CWIP II Work Plan provides information that responds to the need to report on overall progress toward achieving the USAID/Jamaica environmental Strategic Objective (SO2).

The PMP also presents information that indicates CWIP II progress toward meeting its contractual obligations, providing a series of indicators and benchmarks by which progress toward meeting contractual obligations and outputs can be gauged.

8.1 CWIP II PROJECT INDICATORS AND BENCHMARKS

The PMP provides result indicators and benchmarks. Result indicators are those indicators that are measurable over time and measure progress toward specified targets. Benchmarks are those discrete measures of progress towards activity completion. The following sections provide results for indicators and activity benchmarks.

CWIP indicators are presented by Contract Result (CR) in the following tables. CWIP II progress towards meeting these indicators is presented in the tables.

CONTRACT RESULT 1 INDICATORS AND TARGETS

Performance Indicator	Indicator Definition And Unit of Measure	Baseline Data		Project Year 1		End of Project	
		Year	Value	Target	Value	Target	Value
CR 1: Integrated Parish-level Environmental Sustainability and Management Process in Portland Developed							
No. of community-based environmental management initiatives (CBEMI) implemented in target site that are designed to improve coastal water quality	**CBEMI: an activity identified and implemented by organizations operating in the community** **Unit: Cumulative numerical**	**2003**	**0**	**5**	**3**	**7**	**8**

Performance Indicator	Indicator Definition And Unit of Measure	Baseline Data		Project Year 1		End of Project	
		Year	Value	Target	Value	Target	Value
Number of CBO's or civil society groups strengthened for environmental management	Strengthened: Organizations that move from one level to the next using Organizational Ranking System (ORS) Unit: Cumulative numerical	2003	0	3	3	5	9
Number of broad –based inclusive GOJ agency /community/civil society fora facilitated	Fora: formal meetings and informal work groups Facilitated: organized for the exchange of information, ideas and solutions to improve awareness among citizenry in target area.	2003	0	5	25	8	41
Number of personnel of GOJ agencies, local government, and community members trained	Trained: received information that fills a skills gap and using that information toward improving environmental management Unit: Cumulative numerical	2003	0	65	354	80	633

CONTRACT RESULT 2 INDICATORS AND TARGETS

Performance Indicator	Indicator Definition And Unit of Measure	Baseline Data		Project Year 1		End of Project	
		Year	Value	Target	Value	Target	Value
CR 2: Blue Flag Beach and Marina Certification Program for Pilot Sites Developed							
Number of facilities certified under Blue Flag Program	Facilities: Beaches and marinas Certified: Recognized by Blue Flag International as having met their minimum set of criteria to participate in the program Unit: Cumulative numerical	2003	0	0	Four beaches and one marina (5 facilities) being prepared for certifica-tion in Nov.	3	5
Number of sites conducting water quality monitoring	Conducting: collecting and analyzing samples of fresh and marine water Unit: Cumulative numerical	2003	0	3	3	5	116

Performance Indicator	Indicator Definition And Unit of Measure	Baseline Data		Project Year 1		End of Project	
		Year	Value	Target	Value	Target	Value
Number of requests for water quality data disseminated by NEPA's Information Management System	Disseminated: reports generated and distributed in hardcopy and electronic format Unit: Cumulative numerical	2003	0	5	65	15	86
Number of localized Blue Flag regions selected and operational	Regions: areas of the country with distinct geographical and coastal zone characteristics conducive to Blue Flag certification Unit: Cumulative numerical	2003	1	4	4	5	5
Number of water quality related policy documents formally approved by NEPA for national applications	Policy documents: policies, guidelines, strategies, or regulations Approved: reviewed and endorsed by NRCA Board or NEPA senior management Unit: Cumulative numerical	2003	0	1	Discus-sions cont. with NEPA	2	2
Number of plans prepared to support strengthening of Blue Flag coordinators	Unit: Cumulative numerical	2003	0	1	Draft Scope of Work prepared Waiting for selection of National Operator	1	2

9.0 PROJECT EXPENDITURES

The program expenditures provided in the following table indicates CWIP II expenditures at the end of May, 2005. At that point, the project budget was 95% expended. It is expected that at the project completion date, that is, June 30, 2005, the budget will be 98% spent.

Associates in Rural Development, Inc. (ARD) – CWIP II

Contract Number LAG-I-00-99-00018-00

Task Order No. 809

	Total Expenditures May 31, 2004	Project Totals	Remaining Balance
Project Management & Admin	916,895	1,030,806	113,911
Consultants			
- International	20,488	44,148	23,660
- Local	122,454	181,440	58,986
Travel, Transportation & Per Diem	135,813	117,409	-18,404
Equipment & Supplies	199,431	102,000	-97,431
Operating Costs	155,931	36,305	-119,626
Subcontracts for Tech Assistance	0	0	0
Grants	481,105	690,392	209,287
Training	107,679	47,500	-60,179
Totals	**2,139,796**	**2,250,000**	**110,204**

The Coastal Water Quality Improvement Project - Phase II List of Reports

001.	Port Antonio Coastal Water Quality Monitoring Programme
002.	Procurement and Property Management Plan
003.	Project Work Plan and Performance Monitoring Plan
004.	White River Management Plan Workshop Report 2003
005.	Integrated Watershed Management Plan for the White River Basin – Final
006.	Capacity Study of Local Government Authorities in Portland to Provide Environmental Management Services
007.	Semi Annual Report, September 2003 – February 2004
008.	Semi Annual Report, March 2004 – August 2004
009.	Semi Annual Report, September 2004 – March 2005
0010.	Safety Risk Assessment and Emergency Response Plan for Blue Flag Facilities 2004/2005
0011.	Port Antonio Solid Waste management Plan
0012.	System for Classification of Jamaican Rivers for Recreational use – Final Draft
0013.	Clean the Drains Campaign Workshop Report – Boundbrook and Prospect, Port Antonio
0014.	Study to Determine Capacity and Safety in Marine Recreational Areas, Final Location Report – Port Antonio
0015.	Study to Determine Capacity and Safety in Marine Recreational Areas, Final Location Report – Negril
0016.	Study to Determine Capacity and Safety in Marine Recreational Areas, Final Location Report – St. Ann to St. Mary
0017.	Blue Flag Campaign in Jamaica: Strategic and Capacity Building Plan
0018.	Improved Sanitation in White horses, Pamphret and Botany Bay – St. Thomas
0019.	Improved Sanitation in White horses, Pamphret and Botany Bay – St. Thomas Final Report
0020.	Coral Reef Gardening Project First Quarterly Report & Evaluation, April, 2004 – June 2004
0021.	Coral Reef Gardening Project Second Quarterly Report & Evaluation, July 2004 – September 2004
0022.	Coral Reef Gardening Project Third Quarterly Report & Evaluation, October 2004 – December 2004
0023.	CWIP II Final Report

CWIP II Team Members

Technical Team	
Louis Daley	Chief of Party (November, 2004 – June, 2005)
Dr. Scott McCormick	Chief of Party (September, 2003 – October, 2004)
Thera Edwards	Project Support Specialist
Caryl Grant	Community Outreach Strengthening Specialist
Clifton Parris	Community Outreach Officer
Administrative Team	
Natalie Holness	Information Management Specialist
Macrena Bennett	Financial Management Specialist
Nardia Pessoa	Grants Specialist/Accounts Assistant
Stacey-Ann Luke	Report Production Assistant
Mark Morgan	Logistics Coordinator
Clive Wadell	Clerical/Logistics Assistant

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COASTAL WATER QUALITY IMPROVEMENT PROJECTS I & II

LESSONS LEARNED REPORT

April 2005

Prepared for the Government of Jamaica's Natural Resources Conservation Authority and the United States Agency for International Development. USAID Contract No. 532-C-00-98-00777-00 and No. LAG-I-00-99-00018-00

Implemented by:
Associates in Rural Development, Inc.
P.O. Box 1397
Burlington, Vermont 05402

COASTAL WATER QUALITY IMPROVEMENTS PROJECTS I & II

LESSONS LEARNED REPORT

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

CONTENTS

ACRONYMS AND ABBREVIATIONS

AMC	Advisory and Monitoring Committee
APM	Advanced Participatory Methodologies
CBE	Community-based Enterprise
CBO	Community-based Organization
CTO	Cognizant Technical Officer
CWIP	Coastal Water Quality Improvement Project
EFJ	Environmental Foundation of Jamaica
EHU/MOH	Environmental Health Unit/Ministry of Health
ENGO	Environmental Non-Governmental Organization
FAO	Food and Agriculture Organization
JWOA	Jamaica Wastewater Operators Association
KMS	Knowledge Management Specialist
NEPA	National Environment and Planning Agency
NGO	Non-Governmental Organization
NSWMA	National Solid Waste Management Authority
NWC	National Water Commission
PDC	Parish Development Committee
RADA	Rural Agricultural Development Authority
SDC	Social Development Commission
SRC	Scientific Research Council
USAID	United States Agency for International Development
VIDP	Ventilated Improved Double-vault Pit Latrine
WRA	Water Resources Authority

1.0 INTRODUCTION

This assessment of lessons learned in the Coastal Water Quality Improvement Projects I and II (CWIP I and II) considers work that took place over a six-year period. Between 1998 and 2005, the projects worked in three areas of the country in a phased manner, beginning in Negril, moving to Ocho Rios, and finally to Port Antonio. Because CWIP sought to achieve specific contract results in different locales over time, the project offers ideal conditions for assessing lessons learned.

Important characteristics of this study thus include:

- **Assessing change over time:** For many of CWIP's initial initiatives in Negril and Ocho Rios, official project support ceased between two and four years ago. In the midst of ongoing activities, CWIP could not recognize many of the lessons that relate to the project's long-term impact. Reviewing those initiatives today, it is possible to extract these. The six-year duration of CWIP I and II also offers perspective on the effects of institutional change on project investments. Following the close of many projects, government counterparts and organizational partners often undergo transition that threatens the sustainability of the previous projects' developments. Many assessments, due to their timing, fail to capture the relationship between institutional change and long-term project results. However, major partner institutions that participated in CWIP I, including the National Environment and Planning Agency (NEPA) and the National Water Commission (NWC), underwent significant transition by the close of CWIP II. At present, it is possible to recognize lessons learned from those transitions.
- **Comparing the results from different geographic areas**: Lessons learned assessments often take a "success story" approach that considers the characteristics of an isolated group or experience. However, many individual successes and failures are unique, affected by the circumstances, individuals and organizations involved. As the CWIP experience has illustrated, a given approach may yield different results when replicated in different locations. Because CWIP attempted to achieve the same contract results in three distinct areas of the country, it is possible to assess which successes and challenges are unique to an individual group, and which are applicable in a wider range of circumstances. This report highlights the latter, those successes and challenges a range of stakeholders experienced in a variety of contexts. To the experienced practitioner, some of these lessons may appear self evident. However, those highlighted here are important because of the extent to which they resonated with stakeholders in the CWIP experience.

Often, those intimately involved with a project learn from the strengths and pitfalls of their experience. Project staff may therefore succeed in applying lessons learned as they proceed through the life of the project. As a project ends, however, vested parties risk losing this living knowledge, as people involved from the project staff, partner institutions, and donor agencies change. This report attempts to capture important lessons from CWIP I and II, for the benefit of future implementers and stakeholders in Jamaica and beyond.

2.0 METHODOLOGY

This study took place in March and April 2005, in the final quarter of the six-year Coastal Water Quality Improvement Projects I and II (CWIP). It employed a stakeholder-driven approach, whereby people who have been involved with and affected by CWIP provided the raw material for the lessons extracted. In order to effectively gather and analyze these stakeholder inputs, the Knowledge Management Specialist (KMS) conducted a series of activities that include the following:

1) Identifying key elements of the project history

Through interviews and document review, the KMS identified key elements of project design, implementation challenges, and successes of CWIP's history. She interviewed ARD technical staff who have been involved with CWIP since its pre-implementation stage, including those who worked on the initial proposal, Chiefs of Party, and Senior Technical Advisors. She also perused years of project documentation, sorting important information from the project technical reports according to technical theme.

2) Establishing a framework with USAID

The KMS met with the CWIP USAID Cognizant Technical Officer (CTO) to identify the thematic areas of importance to USAID in assessing CWIP lessons learned. This solicited the CTO's perspectives on important elements of CWIP's implementation, and on key areas that the lessons learned assessment should further investigate. Thematic areas identified included:

- Governance;
- Training;
- Community-based enterprises; and
- Community stewardship.

3) Gathering the perspective and experiences of stakeholders

In Negril, Ocho Rios, Montego Bay, Portland, and Kingston, the KMS conducted semi-structured interviews with over 50 stakeholders. These interviewees represented a cross-section of CWIP stakeholders, belonging to institutions that ranged from national government agencies to rural community-based organizations. Through these interviews, the KMS guided stakeholders to identify and elaborate upon the significant lessons arising from their involvement with CWIP, including experiences related to the pre-identified thematic areas.

4) Analyzing information and extracting lessons learned

The KMS analyzed information provided by stakeholders to clarify key themes, identify important similarities and differences, and extract the most predominant lessons arising from their collective project experience. In this analysis, she assessed the effects of time, geographic location, and stakeholders' background on their

project-related experiences. She identified those lessons that were important to a number of stakeholders in a variety of contexts, and compared different stakeholders' perspectives regarding key themes.

3.0 FINDINGS

3.1 GOVERNANCE AND ENVIRONMENTAL SERVICES

1. **Donor-funded projects can act as a catalyst for bringing local concerns to the attention of national decision makers.**
2. **Stakeholders at all levels (national, regional, and local) have the capacity to rapidly recognize and adopt the benefits of participatory environmental management.**
3. **Linkages with and between government entities involved in environmental management have been weak in Jamaica. Strengthening these linkages can be critical to sustained natural resource management.**
4. **A project or program that seeks to achieve lasting results must anticipate and prepare for transition within partner agencies and organizations.**

3.1.1. Donor-funded projects can act as a catalyst for bringing local concerns to the attention of national decision makers.

Many of CWIP's stakeholders contend that it has long been difficult for local people in Negril, Ocho Rios, and Portland to gain the attention of national government agencies. The CWIP experience has shown that a donor-funded project such as CWIP can position itself to communicate directly with people at all levels of government and civil society. Because CWIP earned the respect of decision makers at the national level, it brought national attention to key problems experienced outside of Kingston. Stakeholders from the private sector and civil society explain that CWIP's facilitation helped national decision-makers to notice and to address their concerns:

> "CWIP was accepted at a different level than an NGO, there was a little more respect for CWIP from the government agencies than the NGOs receive and so they were able to present things slightly differently. They were listened to a lot more than we ever were listened to when we were standing alone."—Former Director, CWIP Partner NGO

In serving as a catalyst, CWIP could then provide follow-on support that enabled national agencies to attend to local matters without the project's assistance. Through newfound appreciation for participatory processes, adopted procedures to solicit local input[1], and policies that institutionalize these procedures[2], agencies developed the understandings and framework necessary to continue to address local concerns on specific environmental issues.

3.1.2. Stakeholders at all levels (national, regional, and local) have the capacity to rapidly recognize and adopt the benefits of participatory environmental management.

Government service providers for solid waste and wastewater in Jamaica are often burdened with significant responsibility, limited resources, and regular implementation difficulties. As a result, most have little opportunity or incentive to engage with local level stakeholders. Local people may feel that their frustrations with the service provider, in turn, remain unattended to. Prior to CWIP, this was the case in many of the project's partner towns and communities.

"One of the big ways that [CWIP] worked was in the area of us realizing through the partners that there are easier ways to do things, and we don't have to do things by ourselves; for example, the AMC where the people themselves can be workers that you don't have to employ, can be our eyes on the ground."—NWC Manager

In a relatively short timeframe, however, this distanced relationship between communities and service providers changed. CWIP solid waste and wastewater stakeholders made impressive advances toward participatory environmental management and service provision. In retrospect, a number of decision-makers from the NWC, NEPA, and the National Solid Waste Management Authority (NSWMA) expressed what they learned about the benefits of engaging stakeholders in decision making and responsibility for local services. **"One of the lessons learned [in CWIP] is that, if you put some of the problems to people on the ground, they are going to come up with solutions,"** explained a NEPA Manager. Such decision-makers demonstrate that the benefits of these participatory processes can be substantial enough to gain the support of involved parties at all levels.

[1] Such as the Advisory and Monitoring Committees

[2] Such as the Water and Wastewater Connections Act

Stakeholders accomplished this through new participatory approaches that engaged them in dialogue, decision-making, and management with one another. One such approach was the Advisory and Monitoring Committee (AMC), developed to address wastewater problems that the NWC and communities face in a given locale. AMCs include representatives from the community and private and public sectors and offer a novel mechanism for the NWC to interface with local stakeholders regarding wastewater management. In some areas such as Negril, the AMCs established working groups that assisted the NWC in providing oversight to sewerage system construction. Although challenging, the experience taught the NWC that engaging stakeholders can reduce the corporation's actual workload. **"Previously, NWC didn't realize that if they interface with the community, it would aid in their management of what they had to do,"** explained one government employee.

The NSWMA realized similar benefits. Two of the leading challenges that NSWMA faces with respect to rural service provision are access to the communities and many communities' lack of discipline for packaging garbage into one location. By engaging stakeholders in dialogue about solid waste management, the NSWMA and participating communities developed solutions that enabled a drastic improvement in local garbage collection. NSWMA employees reflected on the benefits of the participatory management approach:

> "To us [the NSWMA], the greatest benefit from CWIP was working to identify problems and get communities to interact. This was not monetary, but people and results."—NSWMA Manager

> "I liked the approach whereby the community could be organized to say that we will do it and bring it to point where we can join your network. This gave them responsibility and maintained their rural status."—NSWMA employee

An important benefit of the participatory approach was an increased awareness at the community level, which helped to improve working relationships and productivity:

> "It helped in the sense that it negated an adversary position that existed, that it, is us against them. NWC was a polluter, this bad guy, not doing a damn thing…about it. When we sat together, they could see that it is not really so, they have constraints, and they are trying to do something."—NWC Manager

> "Before the Parish Council was considered an organization to do everything… people became aware of our limitations."—Parish Council employee

> "[The engagement with communities] put more onus on us, but that was balanced by increased community awareness. We benefited from getting awareness in terms of how to package waste and treat skips."—NSWMA Manager

3.1.3. Linkages with and between government entities involved in environmental management have been weak in Jamaica. Strengthening these linkages can be critical to sustained natural resource management.

In retrospect, CWIP stakeholders explain that the project helped to foster their newfound connections with responsible parties of government institutions, which are critical to sustained environmental management. Many explain that before the project, they were disassociated with government agencies that address aspects of environmental management, and were not aware of the persons' responsibilities. Through workshops,

"There are people who are willing and participate and show more interest because, out of CWIP, you have a greater collaboration with agencies,…you are friends with NEPA, RADA, etc., and… when your community member calls on you and asks about turtles, you know exactly who to [contact]."—Former Director, CWIP Partner NGO

committees, and activities facilitated by CWIP, an understanding of the people and agencies deepened. As a result, it is now easier for people within agencies to collaborate with and call upon each another.

> "CWIP being here helped to deepen the process of working with other agencies."— Social Development Commission (SDC) Coordinator

> "They were able to bring a difference [to] the whole aspect of water quality and importance [of] marine environment to the government because they had a national committee of all key partners and key agencies, brought us to the table and tried to link, so we got an idea of what…everyone was doing. So, you got the opportunity in one area to say why don't we link, coordinate, sequence, etc."—Department of Tourism employee

> "The experience has been helpful in terms of how we need to engage Parish Council for certain level of activities, and how to articulate it."— NSWMA employee

> "The government has created far too many agencies, which is [why] CWIP is wonderful, because they tried to work not just at the community level but at the national level to try to smooth some of these things out."— NEPA Manager

> "I got a good vibe at a national level—bringing technocrats at a level where we could interact and talk. You have got to understand what other people are all about."— Department of Tourism Manager

> "Believe me, [CWIP] made a difference, because we were trying for years to reach out to NWC and were not able to do so until the intervention of CWIP, and we made connections at the highest level and that really got us involved with NWC. And now we are permanent with respect to the AMCs. To me that was a major highlight. They had the link with NWC that we did not have. They were able to set up meetings with SRC offering how we could assist them, and…based on the systems we were promoting, they really needed our expertise. CWIP pretty much said to them, here is an entity like the SRC that could really assist you moving forward. The synergy started."— Scientific Research Council of Jamaica employee

CWIP learned that, at the community level, these linkages with government are best established through activities that allocate responsibility to local residents. Through the drain-cleaning program in Portland communities, for example, participants had to interface with the NSWMA, the Ministry of Health, and the Parish Council to complete their work. If community members discovered drains in poor condition, they, rather than a project employee, had to report these to the Ministry of Health. Where community members discovered excessive dumping of solid waste, they had to appeal to the NSWMA to remove the waste. The Parish Council, meanwhile, supervised the drain cleaning work as it proceeded. **"As time has gone on, they have built relationships with these communities; when the project withdraws, the community will know the persons with different responsibilities,"** explained one member of the CWIP team in Portland.

3.1.4. A project or program that seeks to achieve lasting results must anticipate and prepare for transition within partner agencies and organizations.

The departure of partner organizations' key staff members posed some of the most significant challenges to CWIP's ability to achieve and sustain results. Both of CWIP's key institutional partners, NEPA and the NWC, have undergone substantial restructuring since the project began. Some individuals who had been part of the project's developments in a variety of areas (including policy, governance, and agency service provision), changed positions or left the institutions altogether. The experience illustrated that when a champion for a particular development leaves his or her post, that development is at risk of suffering tremendous setbacks or completely halting.

The environmental NGOs in Jamaica are very small and particularly prone to upheaval and loss with change in key personnel. One of these had four different executive directors throughout the life of the six-year project. As executive directors and key board members changed within CWIP partner organizations, some took important elements of institutional memory and interest with them. "We realized that the Executive Director just resigned and left everything in a state of upheaval," explained one NGO partner board member. As a result, the change in directorship had major ramifications on the NGOs' work under CWIP.

People who are new to the positions of responsibility must carry decisions, tasks, and sub-projects forward in the post-transition period. Interviews with them suggest that certain steps are helpful in guarding against the negative setbacks that these transitions may cause. Key steps that they suggest include the following:

- **Avoid creating human bottlenecks at all stages of project and activities design.** Often, one individual assumes responsibility for liaising with a project on behalf of an institution or organization. This can create problems when the project liaison's responsibilities within the organization shift, particularly if no one else within the organization has been involved with the project in a meaningful way. Where more than one "champion" for an initiative existed within an institution, the experience and perspective of "champions" who remained were invaluable to the continuation of CWIP supported initiatives. Bottlenecks can also threaten the project in a post-transition period at high levels of institutional decision making. To mitigate this problem, the project and donor could develop formal linkages to a partner agency's board and planning institute, as well as to its Executive Director, at the onset of the project. These linkages may facilitate problem solving when institutional change threatens an institution's continued cooperation with the project.

- Clearly document important developments, procedures, and plans. Some CWIP stakeholders contend that clear documentation on important aspects of an initiative can be invaluable to people who are left to continue work after a personnel transition. To be effective, this documentation should include not only a summary of key developments to-date, but procedures taken to achieve them and the plan for next steps. **"This way, if all goes well, at least documentation exists to refer to,"** explained an NWC manager. An NGO outreach officer similarly emphasized the importance of a clear, written plan for newcomers to succeed at continuing pre-existing activities: **"[In order to carry forward with what others started], we needed to have a sustainable plan and something concrete to follow up."**

- **Ensure that project staff are communicative and reliable.** Some incoming decision-makers explain that the project staff's accessibility, reliability, and ability to communicate with new persons have been important to carrying project-related activities forward. Some claim that this was even more helpful than information passed down to them from their predecessors. **"I didn't have to refer to the documents because CWIP was always there,"** explained a Parish Council decision-maker who's position began half-way through the project.

- **Provide a consultative briefing on project status and opportunities for next steps.** Newcomers to partner institutions note that a briefing from the project staff was helpful during the early stages of their posting. Such briefings informed newcomers of what had happened through CWIP to-date and where the project planned to go in the future. Importantly, they also offered the newcomers an opportunity to provide input into the project plans and to articulate their vision as it related to the project.

- **Work with organizations to ensure that when people change, old responsibilities are re-assigned to specific staff person(s).** In some partner organizations when personnel changed, certain responsibilities remained unassigned. "(The organization) has gone through change in people, and there is no one to follow up" explained one NGO employee. Both the project and the organization should be aware of this danger and seek to avoid it by ensuring that after a transition period, major responsibilities are re-assigned to new people.

3.2 COMMUNITY MOBILIZATION FOR RESOURCE MANAGEMENT

1. **The political affiliations of implementers and local leaders strongly affect community stakeholders' willingness to participate in a given activity.**
2. **Demonstration technologies can play an important role as an indirect catalyst for environmental improvement. However, in order for a technology to directly inspire replication by stakeholders, it must be strongly desired and financially sensible to them.**
3. **Successfully raising awareness about environmental issues is essential to the realization of improved environmental stewardship at the community level.**
4. **It is important to incorporate flexibility into community programs administration, particularly when working with intermediary grant administrators.**
5. **The specific methodologies utilized significantly affect the outcomes of a "participatory" approach to community outreach.**

3.2.1. The political affiliations of implementers and local leaders strongly affect community stakeholders' willingness to participate in a given activity.

In all three project areas, stakeholders proved highly sensitive to political affiliations. Many resisted associating themselves with groups or individuals believed to have political connections. One Portland community-based organization (CBO) partner illustrated this. The CBO, in spite of CWIP interventions, remained relatively stagnant for over 18 months. After this period, the organization rapidly mobilized and engaged in environmental stewardship activities. Members explained that a change in chairperson of the organization was the catalyst for this change: **"As a known political activist, the community was hesitant to work with her (the former chairperson)."** When a new chairperson came in and worked to convince people of his political neutrality, members' willingness to engage in real activity radically improved.

In other regions of the country, community members raise suspicion of government organizations like the SDC and the Parish Council. Some of CWIP's NGO partners have managed the issue by inviting politically charged representatives to key meetings, without working through them or relying heavily on their infrastructure:

> "Our team doesn't have a political representative just to dispel the notion that it is influenced at all. We inform [the local government authorities] and invite them to meetings that we are doing in their areas... and we would ask where we can get things."

> "If they think that the Councilor is behind something, then [community members] will object if they are from a different party."

The CWIP experience does not imply that stakeholders will unconditionally reject a project if they associate it with such organizations. In Portland, CWIP was successful in engaging the operational division of the Parish Council in project activities, noting the clear separation between the council's political and the operational divisions. However, CWIP's experience cautions that any community-based project must be attentive to the issue of political suspicion when developing community outreach approaches and address it carefully when designing project partnerships, and when facilitating CBO development.

3.2.2. Demonstration technologies can play an important role as an indirect catalyst for environmental improvement. However, in order for a technology to directly inspire replication by stakeholders, it must be strongly desired and financially sensible to them.

CWIP supported a limited amount of demonstration technology for rural sanitation solutions, including Ventilated Improved Double-vault Pit (VIDP) latrines and Biodigestors. In both cases, the infrastructure was ultimately well received. However, the greatest benefits of these demonstration technologies will not be found in the replication of the technology by stakeholders.

Instead, the benefits of this type of demonstration technology lie in the professional relationships, momentum for stewardship, and new activities inspired by the demonstration technology. A CWIP-supported sanitation program in Saint Thomas serves as an example. In this program, three communities received a total of 30 sanitation "solutions" to disadvantaged households. In order to facilitate this, the project helped the communities to organize into a benevolent society, with a steering committee for the sanitation initiative. As a result, they have since attracted additional attention from a variety of funding sources, and mobilized new development activities. An outreach officer for the program explained, **"Because of the sanitation projects, the community is doing its own reconstruction. So much has been leveraged, the community is energized. Since they've started, the FAO has gone in, Habitat for Humanity, the EFJ and the Peace Corps."** Similarly, in Retrieve Negril, CWIP-funded demonstration VIDP latrines served as a catalyst to mobilize some community members around solid waste stewardship (see

Section 3.4.2, "Training and Awareness). In addition, development and promotion of the technologies has helped to strengthen connections between government agencies that were formerly weak, as in the case of the demonstration Biodigestors that CWIP supported.[3]

However, the ability for the demonstration infrastructure to inspire independent replication of the technology appears limited. Communities that received assistance with the VIDPs, for example, provide positive feedback on the technology they did receive and still rank sanitation as a leading concern. Nonetheless, many claim that they have no interest in financing VIDP latrines for themselves, even if loans were available. They explain that they do not even make such investments to improve their homes! Because no national agency has the mandate to develop sanitation infrastructure in rural areas, there is little chance that any government entity would further finance the latrines. This suggests that if the goals of providing demonstration technology include replication of the technology for improved environmental management, then it must address an existing demand and be financially, as well as technically, appropriate to recipients.

3.2.3. Successfully raising awareness about environmental issues is essential to the realization of improved environmental stewardship at the community level.

When CWIP began to work with communities in Negril, low levels of environmental awareness and high prioritization of non-environmental concerns tainted communities' interest in environmental activities. In the second and third geographic regions of implementation (Ocho Rios and Portland), CWIP began all community mobilization activities with education and awareness work. Implementing NGO partners in Ocho Rios and Portland who participated in this approach emphasizes the importance of leading with awareness raising. While CWIP's initial environmental awareness programs were general in nature, implementers learned that it is important to provide focused education on the environmental issue of concern, such as water quality, in order to mobilize people toward addressing that specific issue.

3.2.4. It is important to incorporate flexibility into community programs administration, particularly when working with intermediary grant administrators.

CWIP implementers learned that, in spite of excellent planning, events may occur that affect a community's willingness to devote time and energy to a given activity. The project's experience with an Ocho Rios community demonstrates this point. The community had planned to conduct a solid waste management project with CWIP. Just prior to mobilization of the actual work, roadwork began in the area. This covered drains and blocked access-ways to homes, raising major concerns for the community. The consequences of roadwork displaced people's immediate interest in solid waste management. **"It's not that they weren't interested, but at the time that the funding came through…there were huge issues that were immediate, and solid waste fell down on priority at that time. It didn't get off the ground at all,"** explained an outreach officer who worked with the community. The experience illustrated the importance of incorporating sufficient flexibility into a grants program to address such problems, even if they arise after the grant has been approved. Otherwise, when the grantee or the intermediary organization facilitating the grant has already worked to process and receive approval for its application, they may be compelled to force the activity forward in spite of minimal community interest. This is not likely to promote success. When implementers utilize participatory methodologies to plan and problem-solve throughout the life of the community project, solutions are often imminent. One Portland outreach officer explained: **"I took a step back and let the community members run the project themselves. In Boundbrook, their work started as drain cleaning but there were spin-offs. It showed how versatile the design was."**

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[3] The Scientific Research Council (SRC) had been trying to promote these Biodigestors to NWC for some time, with minimal success. However, through collaboration under CWIP, they have developed a much stronger working relationship together. "For years, we were trying to reach out to NWC and were not able to do so until the intervention of CWIP… now they recognize our general wastewater expertise," explained an SRC employee.

3.2.5. The specific methodologies utilized significantly affect the outcomes of a "participatory" approach to community outreach.

Although CWIP utilized "participatory" methodologies throughout its community projects' implementation, the specific techniques changed with time. The project began with an "animation" approach that involved "animators" building relationships of trust with communities and gradually helping communities to define their needs. As CWIP moved beyond Negril to communities in Ocho Rios and Portland, the project reviewed and further developed its participatory methodologies. A later Advanced Participatory Methodologies (APM) package that CWIP utilized was more action-oriented and complete, yet more rapid, than the "animation" approach. **"We had to find a methodology that was pretty quick, pretty simple, and inclusive,"** explained a CWIP community outreach officer. When comparing CWIP's community-based activities at the beginning of the project (in Negril) and the end (in Portland), it is clear that the tailored APM methodologies proved extremely useful in realizing success with community environmental stewardship. **"In terms of what came out of the APM meetings, they got a chance to choose a project they wanted… we saw that an integrated approach means not just agencies but the people who are affected on the ground, because if they don't buy into it, it's just a handout,"** explained one Portland outreach officer.

3.3 COMMUNITY-BASED ENTERPRISES

1. **Short implementation timeframes detract from prospects for sustainable Community-Based Enterprise Development.**
2. **To realize success, new Community-Based Enterprises should be linked to a stable support system and market.**
3. **The active, financially successful members of a Community-Based Enterprise often end up as a small, core group of people.**

3.3.1. Short implementation timeframes detract from prospects for sustainable Community-Based Enterprise development.

CWIP allocated an 18-month timeframe for the implementation of community-based grants. In retrospect, many grant recipients and administrators contend that this was too short a timeframe for the development of a sustainable community-based enterprise, unless that enterprise was affiliated with a long term, reliable support structure. A CWIP partner's Community Outreach Officer explained the weak position from which many of their Community-Based Enterprises (CBEs) begin: **"Where the community groups are concerned, if I don't have someone there at all times from the organization to give continual guidance to help in the decision making and to handle the finances, in no time they fall apart because they think this one is taking the money and so on. Eventually you have a lot of grievances and people just walk."** When beginning from scratch with no ties to long-term external assistance, these ventures needed a longer period to strengthen their organizational and business capacities, develop the capacity to overcome problems on their own, employ marketing techniques, and sustain the enterprise that they established.

CWIP stakeholders learned that when grant implementation timeframes are short, those administering the grants may be compelled to "push" developments along so as to ensure that grant recipients reach their required milestones on time. This further reduces the prospects for sustainability of the enterprise, for it results in less opportunity to address real problems and potentials of the group. Under these circumstances, most enterprises would require significant external support following the project in order to survive.

3.3.2. To realize success, new Community-Based Enterprises should be linked to a stable support system and market.

Enterprises that began with CWIP grants and show promise of long term operation and financial viability demonstrate this lesson. They include the Negril Recycling Center and the Walkers Wood Pepper Project. Both of these enterprises have relationships with well established commercial entities (in these cases, the Negril Chamber of Commerce and Walkers Wood Caribbean Food, Ltd.) that help to ensure that the CBE goods have a market, and that experienced professionals can advise the enterprise when necessary.

Other small enterprises funded through the CWIP grants program, such as the Rock Spring Chicken Farm and the Springfield Organic Farm, were less successful in the long term. Most of these relied on selling their goods to the public at large, rather than to a select market or single buyer, and suffered from insufficient marketing efforts. In the case of the Rock Spring Chicken Farm, CWIP assisted with a market assessment during the early stages of the enterprise formation and identified markets for the goods to be produced. Nonetheless, operations failed to meet expectations, and the enterprise struggled with insufficient sales, mismanagement of finances, and disagreements between members.

In these cases, a project-sponsored business assistant would not substitute for a stable, long-term support structure. One of the NGO partners employed an accountant with a business background to act as a supervisor to the community enterprises. The NGO's Executive Director during that period reflected on the experience: **"It is one thing, us having that supervisor, and another actually running the business. So in the two-week interim between our accountant visiting and her next visit, all kinds of things could happen. These are not people who are used to keeping records etc. And they complain, saying, hey this is supposed to make us money. These are people living on the edge."**

3.3.3. The active, financially successful[4] members of a Community-Based Enterprise often end up as a small, core group of people.

Where successful business operators remain as a result of the CWIP grant infusion, they involve a small group of people. This holds true even in those instances where the enterprise initially consisted of a larger number of members but was later reduced to a productive few (as in the Mt. Airy Bee-Keeping Project). When very successful, as in the case of Walkers Wood, this core group could then leverage additional employment in order to support their enterprise. Overall experiences with CBEs in CWIP suggest that when developing CBEs, employing a careful selection process for participants with drive and potential and keeping the core group small through the initial stages, chances of success will improve.

[4] Note that this lesson specifically focuses on the financial viability of the enterprise. Improvement of environmental practices is another important component of the grant programs' objective.

3.4 TRAINING AND AWARENESS

1. **Technical certification programs can help institutions to fulfill their mandates while providing an incentive for job performance.**
2. **Effective environmental education is implemented over the long term, in a range of existing learning environments.**
3. **When an internship program allocates technical responsibility, strict oversight and correlation of academic programming promote success.**

3.4.1. Technical certification programs can help institutions to fulfill their mandates while providing an incentive for job performance.

Many stakeholders at the NWC, NEPA and elsewhere name CWIP's Wastewater Operators Certification Program as the project's greatest contribution to training and educational development. Its popularity at the close of CWIP is telling, for during the certification program's conceptualization, some questioned whether this was feasible within the confines of a project. CWIP proceeded, and in close collaboration with NEPA, NWC, the Environmental Health Unit of the Ministry of Health (EHU/MOH), the Water Resources Authority (WRA) and the Scientific Research Council (SRC), developed the curriculum and administrative details for the certification program. It will offer a range of certifications that Jamaican wastewater operators may pursue, taught through three Jamaican educational institutions. Each certification will apply to a specific type of wastewater treatment process. At present, NWC and the educational institutions utilize the curriculum developed. Importantly, NEPA has incorporated provisions of the Wastewater Operator Certification requirements into Jamaica's Water and Wastewater Regulations, which are currently being drafted for promulgation. This would formally mandate Wastewater Operator Certification on a national scale.

According to stakeholders, the salient features of this "certification" approach to project assistance in training, which should be taken into consideration for future initiatives, include the following:

- **The program addresses a practical need of both the service provider and the regulator.** Lack of competent personnel to operate wastewater systems, laboratories, and other technical facilities remains a major hindrance to environmental compliance in Jamaica.

  Both NEPA and the NWC agree that without properly trained people, wastewater systems will continue to pollute beyond acceptable limits, regardless of the quality of facilities or the stringency of environmental regulations. "**You can have systems, but if you don't have human resources trained, competent, and with the right skills set, you won't get what you want in the end. We have a major problem with compliance to standards here. The quality of [NWC's] manpower and getting them trained is crucial,**" explained a NEPA Standards Branch employee. The certification program addresses the need for quality human resources in a way that normal project-based training cannot, for it establishes standards and requires comprehension for the student to achieve certification. When implemented fully, the program will also require re-certification on an annual basis, so that operators must keep their skills up-to-date in order to remain certified.

  Regulators point out that one distinct asset of the program is the required training for the operation of specific systems. This addresses a recurring problem of technical persons working on systems that differ in type from those systems they were trained for. A NEPA employee explains: **"We use activated sludge treatment, in conjunction with sand filters, all sorts of stuff. Let's say you have competence to work in a given system, that doesn't give you competence to act in a system that has activated sludge. We want different levels, and if you are trained in x or y or both, but you need to have specific skills sets for the type of process."**

- **Institutions can incorporate the program into their existing training plans and procedures.** NWC emphasized that the certification program is beneficial because NWC can incorporate the materials and certification requirements into its existing systems for human resources development. **"Projects should formulate some way of ingraining[training] in the companies' structures. It shouldn't be for [the project] to do it all the time,"** explained an NWC manager. In the case of the certification program, this is happening in two phases. Currently, the academic institutions and NWC are utilizing the curricula in ongoing training courses for wastewater operators. When the certification aspect is official, the institutions will continue using these curricula, offering certification and the ability for qualified employees to attend the required courses. The fact that this training is certification based, and that it

operates through local institutions, enabled NEPA to mandate the training through Jamaica's Water and Wastewater regulations.

- **The program provides career path development and, therefore, professional incentive, for operators.** Many technical professionals working within institutions such as the NWC have little opportunity for upward mobility if they choose to remain in a scientific field. A certification program offers wastewater operators the opportunity to acquire, sharpen, and update skill sets that they will be officially recognized for. It also provides an avenue for liaising with other professionals and establishing a sense of professionalism and respect for the job position. As a result, CWIP, EHU/MOH, and the US Peace Corps worked to facilitate the creation and registration of a Jamaica Wastewater Operators Association (JWOA). One Standards Branch employee explained that the concept is so important that they want to implement it, via the certification program, throughout the Caribbean: **"We want…[the Wastewater Operators Certification Program] to be Caribbean-wide, wastewater operators to be treated as professionals."**

3.4.2. Effective environmental education is implemented over the long term, in a range of existing learning environments.

Persons involved with implementing CWIP's environmental awareness programs learned that in order to improve environmental stewardship to scale, the lessons should become part of educational systems that already exist in the target population. Reasons for this, emerging from their experiences with CWIP, include:

- **Continuity of lessons will not readily occur when using outside trainers.** When CWIP implementers directly entered schools and churches to educate the community, they realized some success, but felt that the education would not continue in their absence. Those who worked to develop and implement curriculum with *existing* educators in communities recognized greater long-term benefits to their efforts in training and education.

- **Environmental terminology takes time to absorb into local vocabulary.** In CWIP's experience, environmental terms such as "watershed" can be foreign to community members, and those who are introduced to the concepts for the first time often misunderstand the concepts after an initial round of training. **"The message that we give isn't always the message being carried away,"** explained one trainer. Repeated training over time can help people to understand and incorporate the environmental terminology and associated concepts in their vocabulary and lives.

- **Project-based training does not reach everyone.** Institutionalization of the environmental message will help it to spread and slowly gain cultural acceptance.

In addition to classroom learning, CWIP stakeholders showed that when they receive information in a way that resonates with their everyday lives, the experience can spur conversation and mobilize action in a way that classroom learning often can not. A community in Retrieve, Negril provided one example of this. Retrieve became inspired to improve solid waste management following a field trip to Kingston. This outing was organized in preparation for Retrieve's latrine initiative, supported under a CWIP grant. In this trip, CWIP took select community members to neighborhoods where people used latrines as garbage receptacles. The community members were then encouraged to consider the sanitation and cleanliness of Retrieve holistically, and to determine how Retrieve would prevent a similar problem with solid waste following receipt of new latrines. As a result of this experience and the discussions and meetings that it evoked throughout Retrieve, the community launched a solid waste collection system, and independently financed their own receptacles for garbage collection.

3.4.3. When an internship program allocates technical responsibility, strict oversight and correlation of academic programming promote success.

CWIP's support to environmental education included an applied research/internship program with students at the College of Agriculture, Science, and Education (CASE). This program worked with students and professors to conduct CWIP's water quality monitoring activities in Portland. Conceptually, the approach to engaging CASE in the water quality monitoring program had multiple objectives. These included 1) educating and engaging students, as emphasized by CASE's president: "If students can get involved, we are putting out environmental stewards, who can then move to action," 2) strengthening local academic institutions, and 3) achieving the technical objectives of the project activity, in this case, water quality monitoring. Through this experience, CWIP and CASE learned that these objectives can conflict with one-another and certain measures must be taken into account in order to meet them. These measures include the following.

- When an internship program involves technical responsibility, such as collection of water quality samples, strict and consistent oversight must be applied. This is particularly true if the sponsoring academic institution does not have longstanding experience with the task at hand. Project-related training of professors and students on data collection procedures, even if thorough, may not result in technically sound implementation practices.
- The university should design the students' academic program to ensure that students are taking a classroom course that coincides with the subject matter of the internship. In the best case, students should take this course during the same period of time that they are conducting the internship. This would enable students' classroom and field experiences to be integrated.
- If at all possible, professors overseeing the program from the university side should have hands-on experience with the subject matter.
- Logistics need to be well thought out when designing such a program. A well-run program requires careful scheduling that takes into account transportation costs and students' schedules.

3.5 USE OF ADVISORY COMMITTEES AND TASK FORCES

1. **Well-run forums and committees can have a significant impact upon stakeholders' experience of a project.**
2. **Projects should anticipate that committees will change after external support ceases. With proactive attention to this transition, however, committees can continue to serve a useful purpose into the future.**

3.5.1. Well-run forums and committees can have a significant impact upon stakeholders' experience of a project.

CWIP used advisory committees and task forces heavily in order to guide the project's implementation. Stakeholders at all levels of the country, from directors of national institutions to rural community members, were involved in these group mechanisms for project-related decision-making. Many stakeholders' recollection of CWIP is closely associated with their experiences in these committees. Although most had been involved in similar structures in the past, they point out that CWIP was unique in its ability to communicate goals, realize results, and foster transparency through the committee mechanisms. **"We sat on some committees for [other projects] but didn't see as much tangible out of those,"** explained a stakeholder from the Department of Tourism. An NGO partner made a similar observation: "**CWIP did exactly the right thing doing the stakeholder groups, they were talked about a long time after they happened, there were discussions about why didn't other people do it the way CWIP did."** Stakeholders in Portland explain that at the community level, committees allowed for new leaders to evolve and take action and responsibility. This has already demonstrated long-term benefit to the social fabric of the community.

Often through the strategic use of the committee structure, CWIP was able to maintain a productive working relationship with entities that wanted to be involved with the project, but could have been problematic or politically sensitive as major implementing partners. For some potential partners, serving on a decision-making committee was a preferable arrangement to other, more direct positions of implementation responsibility. In one case, an NGO partner was given more financial and implementation responsibility during CWIP I than CWIP II. However, the organization's executive director contends that the organization was better positioned in the second phase of the project, when the organization had less direct responsibility and more perceived equality in decision making:

> **"During the first phase, our interaction with CWIP was different, [the organization] was administering programs. During the second phase, we were more like equal partners…this worked better. In second phase we sat on the task force, were able to work on issues in communities."**

3.5.2. Projects should anticipate that committees will change after external support ceases. With proactive attention to this transition, however, committees can continue to serve a useful purpose into the future.

Committees and task forces seldom continue to exist in the same manner beyond the life of the project or initiative which formed them. In some cases, the groups address a specific planning or implementation need over a limited period of time. In other cases, committees and task forces can serve an important role in society beyond the life of a project. The experiences of CWIP's committees and task forces following the close of CWIP I suggest that attention to key factors can help such groups to prepare for a smooth transition. These include:

"Representatives from each of the projects would attend monthly meetings, and the Environmental Action Group was there to question what was going on; it became a very good forum for exchanging information and data [and] served to educate a lot of people in the community about environmental issues."—Former Director, CWIP NGO Partner

- **Ability to keep related issues alive.** Members' motivation to continue to attend meetings of a task force or committee is dependent upon their level of interest in the issues being addressed. Beyond the life of CWIP I, groups had greater success in attracting people to continue as active members if they engaged members in new activities or issues of interest. For example,

one Ocho Rios committee maintained involvement by working on new school-based programs in the post-CWIP period.

- **The secretariat's mandate and access to funds for continuation of meetings.** Although secretariats were identified for all CWIP task forces, some struggled to keep meetings active beyond the life of the project due to lack of a budget. Secretariat organizations will be challenged to find the time and resources to call a meeting, prepare and distribute minutes, and carry out other administrative functions required unless they have a budget and official mandate for these tasks. In the AMC model, CWIP stakeholders solved this problem by requiring that the chairing institution (the NWC) funds the secretariat's costs. Experience to-date suggests that this solution can work if the chairing institution is a part of the process from the beginning, and if buy-in from that institution continues at decentralized levels of decision-making.

"It did work very well until the project finished. Then we got back to the problem that there is no funding to sustain it. There is no money around for this, and if no businesses are going to step up and see the usefulness, it fades away" –Former CWIP Partner NGO Director

- **Precedence that is set with meeting amenities.** If a project sets the precedence of financing committee meetings in rather expensive venues with meals included, it may be difficult for others to continue in this manner or to otherwise entice people to attend meetings following the project. "It's a good way to get into communities to get stakeholders involved in something, but if you spoil them with the comfort with food and air conditioning and venues, then it is hard for them to continue," explained one member of an organization that serves as the Secretariat of a CWIP-initiated committee.

Portland is a parish with a small population and a small leadership base. The same persons are involved in almost all initiatives. This is very true for [this organization] whose board members are active in most things, including the PDC."

- **Ability for the committee to be flexible with meeting arrangements.** In many cases, the people who were members of a CWIP-related committee were active members of "heir communities" in a variety of ways, and were therefore regularly called to a variety of meetings. Some have been successful in keeping the CWIP-related agenda alive by coordinating task force meetings with other meetings in the area.

3.6 NGO-PROJECT COLLABORATION

1. **The result of NGO strengthening efforts depends upon an organization's level of development when the support is given and whether support addresses critical gaps.**
2. **When NGOs are small, it is important to find creative ways of engaging their board of directors in decisions and training.**

3.6.1. The result of NGO strengthening efforts depends upon an organization's level of development when the support is given and whether support addresses critical gaps.

Partner NGOs were heavily involved in the CWIP model for community-based environmental stewardship. As part of this model, CWIP supported organizational strengthening of these NGOs, which would improve the organizations' ability carry out similar work into the future. In retrospect, the extent to which organizational strengthening efforts *for specific parameters* affected each organization was dependent upon that organization's developmental stage *for those parameters* at the time of CWIP intervention. For example, an important part of the CWIP assistance dealt with financial accounting systems, so that the partner organizations could become certified to distribute grants. Organizations were more likely to adopt these systems and use them to apply for and manage other grants into the future, if they had very weak financial accounting systems prior to CWIP intervention.

> "We needed it, and have stuck with that, and used it though for other projects that we had, so for us it was tremendously beneficial, we were all new at this game and had never done grant management, this was the first grant that we got."—NGO manager

3.6.2. When NGOs are small, it is important to find creative ways of engaging their board of directors in decisions and training.

Environmental NGOs (ENGOs) with whom CWIP worked, like most of those in Jamaica, were staffed by only a handful of employees and experienced high rates of turnover. NGO staff explain that their relationship with the NGO board posed challenges throughout the CWIP experience. Staff from two of CWIP's three main partner NGOs name this working relationship between the NGO staff and its board as a priority issue for future NGO strengthening efforts.

CWIP's experiences suggest an additional reason for including NGO board members in key developments: these board members often serve as the institutional memory of the organization. Whereas NGO staff, including the executive director, are often willing and able to work outside of the NGO's locale if better job opportunities arise, the organizations' boards include members who are stable figures of their community. As such, the board members are more likely to be a consistent part of the local decision-making network into the future.

Partner organizations have found it difficult to engage board members in traditional training and workshop activities because they have full-time jobs outside of the organization. In order to effectively engage with board members, creative measures must be employed that recognize their time and schedule constraints. Such measures may, for example, work with board members in small groups or on an individual basis if it is not feasible to bring the entire board together for a participatory event.

APPENDIX A. BLUE FLAG

Blue Flag is an international certification program for beaches and marinas that has been operating in Europe for over twelve years. The program certifies beaches for their adherence to an established set of criteria related to water quality, environmental management, safety, and environmental education. CWIP helped to introduce Blue Flag to Jamaica, with the objective of engaging private sector in water quality monitoring. Through a participatory event sponsored by CWIP, stakeholders from the Jamaican tourism industry agreed that Jamaica should pursue the Blue Flag program, which NEPA proceeded to establish with CWIP support.

Lessons learned from Blue Flag implementation thus far include:

- **Incentive-based programs that engage the private sector to help it succeed at improving environmental monitoring.**

  In the vicinity of beaches that are Blue Flag-certified, the National Water Commission and other entities have successfully initiated and continued regular water quality monitoring. In these areas, no regular water quality monitoring took place prior to Blue Flag intervention. Stakeholders contend that not only has the discipline of collecting water quality information improved in these areas, but that the NWC has also been much more efficient in providing this information to the public for Blue Flag sites than for any other areas.

- **The issue of public access to beaches can discourage Jamaican hoteliers.**

One specific Blue Flag requirement has deterred many resorts from participating in the program. This is the requirement that, in order to become certified, establishments must allow the public access to their beach. Some solutions proposed through stakeholders involved with CWIP include:

- Joining beaches into "blocks," and providing intermittent public access ways; and
- Allowing beaches to charge the public for a "beach pass," which would be a reduced rate from the "day pass."

At present, the Government of Jamaica does not require that resorts provide public access to the beach. If Blue Flag allowed resorts to charge a fee to the public for access, this would improve the public's access options from their current status. Unless Jamaica's National Beach policy changes, many resorts will only regain interest in the Blue Flag program if they are allowed to charge a relatively high fee for beach access, thus mitigating the perceived business risk associated with allowing the general public access to their resorts or if or market forces force all-inclusive hotels to join the program. FEE, the organization that sponsors Blue Flag internationally, has agreed that the resorts in Jamaica could charge up to US$50 for public access. At the time of this report production, this issue is still under consideration of the Jamaica Blue Flag chapter.

- Implementing organizations' buy-in and implementation of a national plan for Blue Flag will be essential to the future of the program. Experiences to-date suggest that aspects of this plan that will be vital to the program's survival include:
  - The program's financial and administrative plan, including provisions for an individual responsible for spearheading the program. The current national coordinator is currently understaffed. Although they have received a grant from EFJ for administering the program, they will again be in need of funding to administer the program when this grant expires.
  - A plan for how regional Blue Flag regional representatives participate in the program. Coordinating organizations in each region suggest that their willingness and ability to advance the program is hampered by lack of funds dedicated specifically to Blue Flag.
  - The ability of implanting organizations to clearly articulate the Blue Flag program's benefits and requirements with a consistent message. Experiences to-date suggest that the nature and content of basic communications can significantly affect the perception and interest that Jamaican resorts express for the Blue Flag program.

APPENDIX B. PERSONS CONSULTED

1. **Althea Johnson, Senior Director, Ministry of Tourism**
2. **Ainsley Henry, Coastal Zone/Watersheds Employee, National Environmental and Planning Agency**
3. **Andrew Ross, Science Officer, Montego Bay Marine Park Trust**
4. **Ann-Marie Rodriquez, Director of Operations, National Solid Waste Management Authority**
5. **Anthony Greenaway, Sr. Lecturer and Associate, University of the West Indies Center for Marine Sciences**
6. **Brian Zane, Executive Director, Montego Bay Marine Park Trust**
7. **Carmen Griffiths, Executive Director, Construction Resource and Development Centre**
8. **Caryl Grant, Community Outreach and Organization Specialist, Coastal Water Quality Improvement Project/ARD**
9. **Chloe HoSang, Project Manager for White River Water Management**
10. **Christopher McGahey, former Senior Technical Advisor, Coastal Water Quality Improvement Project/ARD**
11. **Cliff Reynolds, former Chair, Negril Chamber of Commerce; Chair, Negril Resort Board; Chair,**
12. **Negril Green Island Local Planning Authority**
13. **Clifton Parris, Community Outreach Officer, Coastal Water Quality Improvement Project/ARD**
14. **Dennis Jacobs, Prospect Community Development Committee**
15. **Don Streete, Manager of Water Quality and the Environment, National water Commission**
16. **Doreen Lawrence, Boundbrook Community Development Committee**
17. **Ethlyn Douglas, Manger of Planning, Portland Parish Council**
18. **Fern Hamilton, Manager of Human Resources, National water Commission**
19. **Franklin Smith, Secretary Manager, Portland Parish Council**
20. **Franklyn McDonald, Former Chief Executive Officer, National Environmental and Planning Agency**
21. **Gerald White, Retrieve Community Organizer**
22. **Howard Batson, United States Agency for International Development**
23. **Jan Auman, former Chief of Party, Coastal Water Quality Improvement Project/ARD**
24. **Janice Blake, Environmental Foundation of Jamaica**
25. **Jean Jackson, Secretary Manager, Negril Chamber of Commerce**
26. **Jill Williams, former Executive Director, Montego Bay Marine Park Trust**
27. **John McDonald, Manager, Doctors Cave Bathing Club**
28. **John McFarlane, Executive Director, Environmental Foundation of Jamaica**
29. **Johnny McFarlane, Manager, Walkers Wood; Director, St. Ann Chamber of Commerce; Board Member, Environmental Foundation of Jamaica; Board Member, Friends of the Sea**
30. **Jonathan Hodgkin, Technical Advisor, Coastal Water Quality**

Improvement Project/ARD

31. **Julia Brown, Manager of Waste Water, Scientific Research Council**
32. **Kathy Byles, former Executive Director, Friends of the Sea**
33. **Keisha Spencer, NEPT Education and Awareness Officer**
34. **Kenrick Davis, Chair, Negril Area Environmental Protection Trust ; former President, Negril chapter of the Jamaica Hoteliers and Tourism Association**
35. **Louis Daley, Chief of Party, Coastal Water Quality Improvement Project/ARD**
36. **Machel Donegon, Executive Director, Portland Environmental Protection Association**
37. **Marcia Brown, Boundbrook Community Development Commission**
38. **Maria Protz, Board Member, Friends of the Sea**
39. **Maurice Ottey, Prospect Community Development Commission**
40. **Moshe Simpson, Supervisor Roads and Works, Portland Parish Council**
41. **Nardia Ferguson, NEPT Executive Director**
42. **Natalie Hoilett, Administrative Assistant, Friends of the Sea**
43. **Paul Ivey, President, College of Science and Education**
44. **Paulette Colbush, National Environmental and Planning Agency Standards Branch**
45. **Peter Reid, Supervisor, Recycling Center, Negril**
46. **Ralph Falloon, Field Services Manager, Social Development Commission**
47. **Ray Arthurs, former Chair and Executive Director of the Negril Environmental Protection Trust; Treasurer, Negril Environmental Protection Trust, former President, Negril Chamber of Commerce**
48. **Scott McCormick, former Chief of Party, Coastal Water Quality Improvement Project/ARD**
49. **Shakira Jackson, Retrieve Community Representative**
50. **Susan Otuokon, former Executive Director, National Environmental and Planning Agency**
51. **Syble Rendle, Chairperson, Portland Parish Development Committee**
52. **Thera Edwards, Project Support Specialist, Coastal Water Quality Improvement Project/ARD**
53. **Trevor Spence, Advanced Participatory Methodologies Specialist, Coastal Water Quality Improvement Project/ARD**
54. **Vernon Barrett, Vice President for Strategic Planning, National Water Commission**
55. **Winsome Townsend, Director of Special Projects, National Environmental and Planning Agency**

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