



**Fourth Annual Work  
Plan**



# Ridge to Reef Watershed Project

USAID Contract No. 532-C-00-00-00235-00

## **R2RW FOURTH ANNUAL WORK PLAN FINAL DOCUMENT**

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Prepared for the  
Government of Jamaica's  
National Environment and Planning Agency  
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## Preface

The Ridge to Reef Watershed Project (R2RW) is a five-year bilateral initiative between the Government of Jamaica's National Environment and Planning Agency (NEPA) and the Government of the United States Agency for International Development (USAID). The Project focuses on three distinct, but interrelated activities working towards the objective of improving the management of Jamaica's watersheds. The R2RW Project Components are:

Component 1 Sustainable Environmental Practices

Component 2 Compliance and Enforcement

Component 3 Institutional Strengthening

The three Project components form a synergy of interventions contributing to the achievement of USAID's Strategic Objective 2 (SO2) – Improved quality of key natural resources in selected areas that are both environmentally and economically significant.

This Fourth Annual Work Plan (FAWP) provides an overview of the vision, implementation strategy, and activities to be applied to address the Work Statement in USAID Contract No. 532-C-00-00-00235-00. It articulates a clear vision of the desired end-of-project status by the principal stakeholders and provides further development of the Implementation and Life of Project strategies. This FAWP focuses on the presentation of a detailed road map of activities that will be carried out under each Component, along with a short description of the intent of each activity. The FAWP is a living document designed to provide focus to achieve the Project's intended results, but it is also prepared with sufficient flexibility to respond to emerging opportunities and constraints. This document is also linked to other planning documents such as the Performance Monitoring Plan.

## Acronyms

AGM	Annual General Meeting
ARD	Associates in Rural Development, Inc.
ASC	Administrative Support Center
BT	Barrington Taylor
CBO	Community-based Organization
CETF	Compliance and Enforcement Task Force
CDC	Community Development Committee
CIDA	Canadian International Development Agency
COP	Chief of Party
CRS	Compliance and Regional Services, (NEPA)
CWIP	Coastal Water Quality Improvement Project
EFJ	Environmental Foundation of Jamaica
EJASP	Eastern Jamaica Agricultural Services Project
ENACT	Environnemental Action Programme
EU	European Union
FAWP	Fourth Annual Work Plan
FD	Forestry Department
GNRS	Governance and Natural Resources Specialist
GOJ	Government of Jamaica
GRW	Great River Watershed
GRWMC	Great River Watershed Management Committee
GSC	Grant Screening Committee
HG	Hugh Graham
ICF	Island Constabulary Force
IDB	Inter-American Development Bank
IR	Intermediate Result
ISC	Inter-Agency Steering Committee
IT	Information Technology (NEPA)
JAS	Jamaica Agricultural Society
JE	Jason Excell
JIS	Jamaica Information Service
JS	Joseph Suah
JSIF	Jamaica Social Investment Fund
KAP	Knowledge, Attitude and Practices
LD	Leo Douglas
LDUC	Land Development Utilization Commission
LGRP	Local Government Reform Process
LS	Legal Services (NEPA)
LSDP	Local Sustainable Development Planning
LWMC	Local Watershed Management Committee
MBMP	Montego Bay Marine Park
MN	Mark Nolan
MOH	Ministry of Health
MOLE	Ministry of Lands and Environment
MOWH	Ministry of Water and Housing
MQD	Mines and Quarries Division: Ministry of Land and Environment
MS	Marline Stephenson
MW	Marcia Whyte
NB	Nerval Brown
NEEC	National Environmental Education Committee
NEPA	National Environment and Planning Agency
NGO	Non-governmental Organization



NIC	National Irrigation Commission
NIWMC	National Integrated Watershed Management Council
NRCA	Natural Resources Conservation Authority
NSWMA	National Solid Waste Management Authority
NW	Neville Williams
NWC	National Water Commission
ODPEM	Office of Disaster Preparedness and Emergency Management
PPAPRS	Participation, Public Awareness and Public Relations Specialist
PC	Parish Council
PDC	Parish Development Committee
PECO	Public Education and Community Outreach (NEPA)
PEPA	Portland Environment Protection Agency
PH	Public Health
PIC	Project Implementation Committee
PIOJ	Planning Institute of Jamaica
PMP	Performance Monitoring Plan
PPPCD	Policies, Programs and Projects Coordination Division (NEPA)
R2RW	Ridge to Reef Watershed Project
RADA	Rural Agricultural Development Authority
RGW	Rio Grande Watershed
RGWMC	Rio Grande Watershed Management Committee
RRA	Rapid Rural Appraisal
SAR	Semi-annual Report
SH	Sonja Harris
SDC	Social Development Commission
SO2	Strategic Objective 2
SOW	Scope of Work
SSU	Sanitation Support Unit
ST	Selvin Thompson
STTA	Short-Term Technical Assistance
SWB	Sustainable Watersheds Branch (NEPA)
SWM	Sustainable Watershed Management
TA	Technical Assistance
TAP	Targeted Appropriate Practice
TDP	Town Planning Department
TPDCo	Tourism Product Development Company
TE	Thera Edwards
TFT	Trees for Tomorrow
TS	Trevor Spence
USAID	United States Agency for International Development
WMC	Watershed Management Committee
WMS	Watershed Management Specialist
WMU	Watershed Management Unit
WPA	Watershed Protection Act
WRA	Water Resources Authority



# 1. Introduction

This Fourth Annual Work Plan (FAWP) was developed through an inclusive process that incorporated the considerations of a wide range of stakeholders including the following:

- ✍ USAID;
- ✍ NEPA;
- ✍ Stakeholders from the two target areas of the Project: the Great River Watershed and the Rio Grande Watershed; and
- ✍ Representatives of stakeholder organizations at the national level.

The FAWP has also benefited from an Internal Review that was conducted in May-June 2003 that made recommendations for improved programmatic and administrative performance. In addition, a 2-day retreat was held on September 4-5, 2003 attended by representatives from both the local and national levels who assessed progress to date and made recommendations for this Work Plan.

A major new feature of this FAWP is the incorporation of four Anchor Projects that focus project resources on the larger problems and issues that impact the management of the two target watersheds: The Anchor Projects are as follows:

1. Improved Production of Pineapple for Sustainable Livelihoods in the Great River Watershed
2. The Cleaning and Greening of Cambridge
3. Improved Sanitation Management Practices
4. Improved Land Management in the Rio Grande Watershed

The document is divided into the following sections:

- ✍ Section Two: Project Vision and Strategy: presents a summary of the vision and strategy, which guides the Ridge to Reef Watershed (R2RW) Project.
- ✍ Section Three: Sustainable Environmental Practices in the Great River Watershed presents detailed activities planned for the Great River Watershed including work with the Great River Watershed Management Committee, production and marketing activities, water and sanitation activities public awareness plans, and gender considerations. This section also contains descriptions of two of the four Anchor Projects.
- ✍ Section Four: Sustainable Environmental Practices in the Rio Grande Watershed presents detailed activities planned for the Rio Grande Watershed including work with the Rio Grande Watershed Management Committee, production and marketing activities, water and sanitation activities public awareness plans, and gender considerations. This section also contains a description of the 3<sup>rd</sup> Anchor Project described above.
- ✍ Section Five: Compliance and Enforcement presents activities planned at the national level and in the GRW and RGW.
- ✍ Section Six: Institutional Strengthening presents plans for building the capacity of institutions responsible for watershed management including the Sustainable Watersheds Branch

(SWB) of NEPA, Local Watershed Management Committees (LWMCs), and the National Integrated Watershed Management Council (NIWMC). This section also contains a description of the 4<sup>th</sup> Anchor Project described above.

- ✍ Section Seven: Project Management presents activities related to grant management, staffing and overall project management.

## 2. Project Vision and Strategy

The overall goal of the Ridge to Reef Watershed (R2RW) Project is to place “Natural Resources under Improved and Sustainable Management”. This goal is directly supportive of USAID/Kingston’s Strategic Objective 2 (SO2) of “*Improved quality of key natural resources in selected areas that are both environmentally and economically significant*”. The Project contains three components as follows:

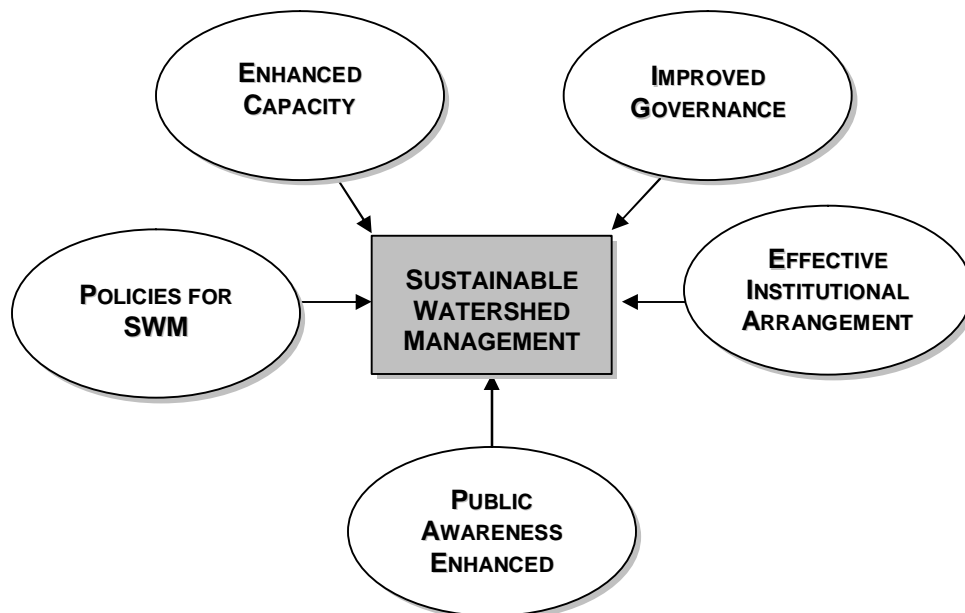
- Component 1 Through targeted organizations, **sustainable environmental management** practices by resource users identified and supported.
- Component 2 Incentives for and obstacles to **compliance and enforcement** of targeted existing environmental regulations identified and solutions supported.
- Component 3 **Institutional strengthening** of Jamaican government agencies, international donors, private sector and civil society organizations to implement effective watershed management programs enhanced.

The Project Vision and Strategy were articulated for the first time in the First Annual Work Plan and Life of Project Strategy. A summary of the vision and strategy are presented below for reference.

### 2.1 Project Vision

The vision articulated for the R2RW Project can be summarized in Figure 1: Sustainable watershed management (SWM) will be achieved through a comprehensive and integrated approach that includes enhancing the capacities of individuals and organizations through skills building training; improving governance mechanisms through focusing on local watershed management committees; updating policies and laws that directly impact watershed management; improving the coordination of institutions impacting SWM and the incorporation of SWM activities in corporate plans; and finally enhancing the awareness of the public to environmental issues in the degraded watershed areas.

Figure 1 R2RW Vision for Sustainable Watershed Management



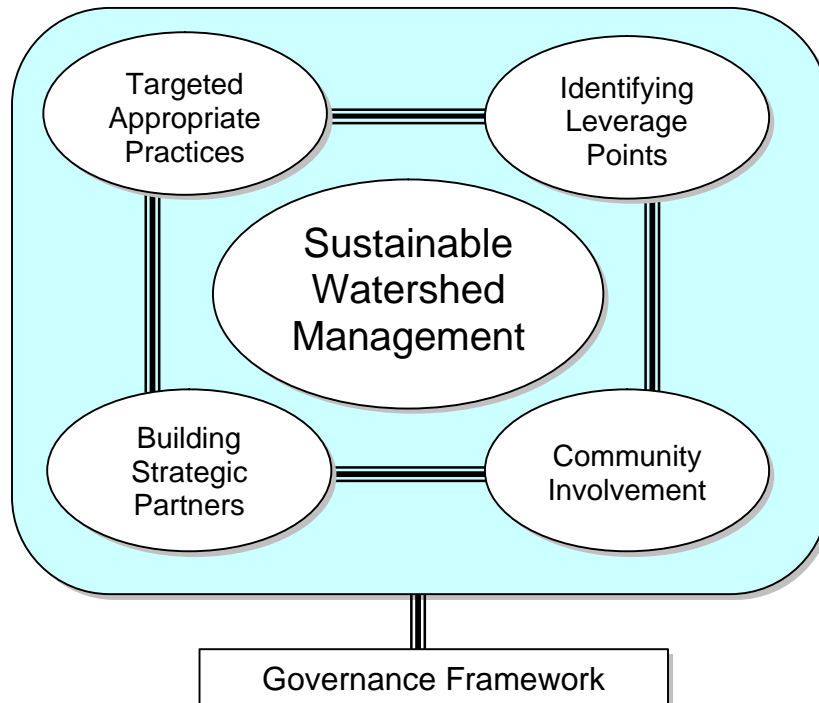
## 2.2 Project Strategy

The R2RW Project strategy to achieve the overall R2RW goal of “Natural resources under improved and sustainable management in identified watersheds” has evolved and matured during the first three years of the project. This section articulates four strategic principles under which the Project is implemented. These principles underlie the activities that are presented in the sections that follow. It is important to stress that these principles do not operate in isolation, but rather they inform and influence each other as project activities unfold. The four strategic principles are:

- ✍ Building strategic partners
- ✍ Approach to community involvement
- ✍ Identifying leverage points
- ✍ Targeted appropriate practices

The Project Strategy is summarized in Figure 2.

**Figure 2 R2RW Strategic Approach**



The governance framework of multiple centralized government agencies operating with weak regional, parish and local mechanisms for coordination forms the basis for the strategic pillars of sustainable watershed management.

### 3. Component 1A: Sustainable Environmental Practices in the Great River Watershed

During Years 2 &3, R2RW succeeded in having the Great River Watershed Management Committee (GRWMC) emerge as the principal mechanism supporting NEPA/SWB in the identifying priorities and devising solutions to environmental problems encountered in the watershed. A major achievement in Year 3 was the preparation of the *Strategic Plan for Sustainable Development of the Great River Watershed*, which provides a comprehensive framework to guide the actions of many stakeholders to produce outcomes that contribute to achieving integrated watershed management goals. Proposed tasks to be undertaken to implement proposed actions are to be planned in detail in the annual work plans of state agencies and the GRWMC. The FAWP incorporates elements of the Plan.

The R2RW Mid Term Internal Assessment Report recommended that specific activities implemented under Component 1 be consolidated and managed in such a way that impact is maximized and measured. The approach to consolidation is the implementation of major initiatives referred to as anchor projects, and two such projects will impact on the GRW under the FAWP. Summary descriptions of 3 of the 4 Anchor Projects are contained in Sections 3.2, 3.4 and 4.2, while complete descriptions can be found in Appendices 2-5.

The basis of Component 1 is to work with local organisations, governmental, non-governmental, private sector, and community-based groups – to identify appropriate management practices for watershed resource users and to enhance the capacity of specific watershed communities to improve environmental management.

Activities and tasks undertaken under this component will contribute to the USAID SO2 - and specifically to the Intermediate Results (IRs) below:

IR 1	Increased adoption of environmentally sound practices
IR 1.1	Increased effectiveness of environmental NGOs

Component 1A is broken out into seven main activity areas as follows.

- |   |
|---|
| <ul style="list-style-type: none"><li>3.1 Development of the Great River Watershed Management Committee</li><li>3.2 Improved Production of Pineapple for Sustainable Livelihoods – Anchor Project # 1</li><li>3.3 Production and Marketing in the Great River Watershed</li><li>3.4 Cleaning and Greening Cambridge – Anchor Project # 2</li><li>3.5 Water and Sanitation Activities in the Great River Watershed</li><li>3.6 Other Public Awareness Activities in the Great River Watershed</li><li>3.7 Gender Considerations Incorporated into Project Activities</li></ul> |
|---|

#### 3.1 Development of the Great River Watershed Management Committee

The GRWMC is established and fully functional, and provides a mechanism for the implementation of SWM practices in the GRW. R2RW's support to the GRWMC in the FAWP will focus on providing strategic direction through the adoption, capacity building in terms of meeting management and fund raising, and implementation of the 'Strategic Plan for Sustainable Development of the Great River Watershed'. Meetings of the GRWMC and its Task Forces will

benefit from the participation of R2RW technical officers. A Plan will be developed to further improve the capacity of the GRWMC to manage its own programs, generate funding for new initiatives, and to phase out R2RW support. This action should result in the GRWMC functioning with autonomy rather than as an instrument of the R2RW Project. The capacity building activities are further discussed in Section 6.

**Output**

The principal outputs will be:

- ✍ Strategic Plan for Sustainable Development of the Great River Watershed finalized and widely distributed with State agencies incorporating different aspects of the Plan into their annual work programming.
- ✍ Build capacity in meeting management, writing skills, appraisal techniques, facilitation, fund raising and proposal writing
- ✍ Plan to phase out R2RW support in place as a strategy to put the GRWMC on a path to self-governance and sustainability.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
3.1.1	Finalize and implement the GRW Strategic Plan	HG	JS, LD, TS	GRWMC, SWB
3.1.2	<i>Management Activities of the GRWMC</i>	LD	MN, HG, SH	GRWMC, SWB
	Regular Meetings of the GRWMC	LD	TEAM	GRWMC, SWB
	Production and Marketing Task Force	HG	JS, LD	GRWMC, RADA
	Water and Sanitation Task Force	JE	LD	GRWMC, NWC
	Compliance and Enforcement Task Force	TS	MN, LD, SH	GRWMC, FD
	Public Awareness Task Force	SH	LD	GRWMC, NWC
3.1.3	Develop Plan to phase out R2RW support to GRWMC	LD	TEAM	GRWMC, SWB

**3.2 Improved Production of Pineapple for Sustainable Livelihoods: Anchor Project # 1**

**Output**

To improved the production practices of the most significant agricultural crop grown in the upper Great River Watershed.

**Objective**

The objective of this R2RW Anchor Project is to establish an agricultural production system for pineapple that will not only meet the goal of improving income and be environmentally friendly but that will also be affordable, practical for local farmers, sustainable, replicable in other watersheds and have desirable multiplier effects. This Anchor Project will serve to focus project resources by



concentrating initiatives on improving the income earning potential and the environmentally sustainability of pineapples, the major crop in the upper Great River watershed. This will be a major focus of key partners such as RADA, will serve to bring together private sector interests of growers and processors in a concentrated program of education and production.

### **Key Implementation Partners**

The Rural Agricultural Development Authority (RADA) has the national mandate for agricultural development. NEPA has responsibility for enforcing environmental protection legislation and assists in ameliorating problems leading to pollution. The Jamaica Agricultural Society (JAS) has responsibility for marshaling resources for farmers and organizing group activities. The Jamaica 4-H Clubs and local schools are important for the involvement of young persons in promoting good agricultural practices. The Forestry Department has responsibility for establishing timber planting on private lands. Lead farmers in the target communities will establish demonstration plots of improved practices and varieties, and will host field days to disseminate crop technologies to farmers in their communities.

### **Beneficiaries**

The farmers in the upper GRW and their families will be the direct beneficiaries. It is expected that the Project will impact an average of thirty farmers in ten communities each cultivating approximately two acres of pineapple. Hence the project will affect 600 acres or about 40% of the approximately 1500 acres of pineapple in the target area. Other beneficiaries will be the marketers (including higglers and exporters), processors, truckers, small businesses in the area and businesses external to the project area e.g. tour operators. Benefits will include increased and sustainable income generated from all the activities accruing from the increased and improved production of pineapples grown under environmentally friendly conditions. The environment will benefit from reduced soil erosion through planting of pineapples in contour barriers, improved water quality through reduction in the use of pesticides and herbicides, and through farmers participating and acting as stewards of the resources in the headwaters of the GRW.

<b>Activity Number</b>	<b>Activity Name</b>	<b>R2RW Leader(s)</b>	<b>Participants</b>	<b>Partner Organizations</b>
3.2.1	Secure buy-in from stakeholders including RADA on anchor project	HG	JS	RADA, JAS
3.2.2	Marketing analysis and investigation of local processing potential	HG	JS	RADA, JAS
3.2.3	Hire Project Manager	HG	JS	RADA
3.2.4	Site selection and soil and water analysis	HG	JS, JE	UWI, NEPA, NWC
3.2.5	Arrangements for planting material including opportunities for tissue culture with SRC	HG	JS	SRC, UWI
3.2.6	Public awareness for anchor project 'Improved production of pineapple for sustainable livelihoods – video production, extension materials, community capacity building	SH	HG, JS, SH, MN	RADA
3.2.7	Demonstrate environmentally friendly production practices – demonstration plots, contour planting, improved cultural practices and varieties	HG	JS	RADA, JAS, FD

### 3.3 Production and Marketing

Activities started under the third annual work plan promoting sustainable agricultural practices will continue with a focus on documenting achievements, disseminating lessons learned, and planning to phase out R2RW support to this area by the end of the year. These activities include:

- ✍ Establishing demonstration plots of disease resistant bananas and plantain
- ✍ Implementing hot pepper projects
- ✍ Development and marketing of agricultural bi-products
- ✍ Completing goat improvement projects
- ✍ Plant a Tree Campaign

#### **Output**

The principal output is increased area of agricultural land brought under sustainable use. Indicators to show achievement of this objective will be refined and quantified during Project Year Four.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
3.3.1	Improved Crop Varieties – disease-resistant demo plots, organic farming promotion, seedling establishment	HG	JS	RADA
3.3.2	Livestock Improvement - goat breeding and control	HG	JS	RADA
3.3.3	Plant A Tree Campaign – production, sourcing, distribution, TA on care, link to Green Villages	HG	JS	FD, RADA

### 3.4 Cleaning and Greening of Cambridge: Anchor Project # 2

#### **Output**

Citizens of the GRWs most populous town are working together effectively to address deteriorating solid waste and sanitation conditions in their community.

#### **Objectives**

The objectives of this anchor project are the long-term “Cleaning and Greening of Cambridge” through the re-development of the Community Development Committee (CDC) for Cambridge and increasing public awareness of environmental regulations. The CDC will be supported to serve as a local governance mechanism to facilitate community involvement in the management of its natural resources including implementing activities of the CDC and its constituents that will contribute to improved watershed management; conducting public awareness activities to increase compliance with and community involvement in the enforcement of environmental regulations; and strengthening local organizations to maintain improvements.

This Anchor Project will serve to focus project resources by concentrating initiatives on the development of a sustainable governance mechanism for addressing solid and liquid waste management in the greater Cambridge area. This will be a major focus of key partners such as the SDC and the NWC, and will seek to mobilize community resources towards assuming responsibility and stewardship for their most important environmental issue.

### **Key Implementation Partners**

The Social Development Commission (SDC), who through its role under the CIDA funded Integrated Community Development Program, and the Local Government Reform Program has special responsibilities for development of CDCs and their integration into the Parish Development Committee (PDC). The SDC is expected to take the lead role in this intervention that will bring together GOJ Stakeholders with community residents. Other partners that are expected to be involved include: PC, JCF, NSWMA, PHD, RADA, GRWMC and its Task Forces, and the CBOs in and around Cambridge.

### **Beneficiaries**

The main beneficiaries of this project will be the 9,000 residents of the Cambridge area, who will benefit from a cleaner environment. Community civic associations such as the Chamber of Commerce, police youth clubs, school environmental clubs, and neighborhood associations will be strengthened through participating in activities that address public health issues.

<b>Activity Number</b>	<b>Activity Name</b>	<b>R2RW Leader(s)</b>	<b>Participants</b>	<b>Partner Organizations</b>
3.4.1	Develop governance mechanism for solid waste management – engage Parish Council, establish baseline community profile, participatory action planning, capacity building, strengthen CDC	TS	JE JS, MN, SH, NW	SDC, WPM, PC, PH
3.4.2	Improve land management and sanitation practices – action planning; improve sanitation, waste disposal, and soil conservation; share best practices	HG	JE, JS, NW,	SDC, RADA, NWC, PH
3.4.3	Public awareness for anchor project 'Cleaning and Greening Cambridge' – improve compliance with laws by strengthening existing clubs, targeting special events, introducing environmental "kits"	SH	TS, JE, HG, MN, LD	RADA, MBMP, WPM, NWC

### **3.5 Water & Sanitation Initiatives in the Great River Watershed**

Stakeholders continually rank water and sanitation issues as their highest priority. During Years 2 and 3, R2RW initiated response to this concern by supporting a viable and functioning water and sanitation task force. During Year 3, R2RW established demonstration systems of the constructed wetland technology in the communities of Pisgah, Retrieve and Content. In addition, water quality sampling and testing was conducted at several sites along the Great River and its tributaries to determine levels of pollution based on several criteria including concentrations of fecal coliform bacteria, chlorophyll, and pesticides. The preliminary results show elevated levels of nitrates, phosphates and fecal coliforms. Continued water quality monitoring of these parameters will provide useful information for planning and implementation of Year 4 activities.

Solid waste management was also a high priority of stakeholders at the Strategic Action Planning Workshop held in 2001, and continues to be of high concern to the Water and Sanitation as well as the Compliance and Enforcement Task Forces. Key partners such as the National Solid Waste Management Authority (NSWMA), and the Montego Bay Marine Park (MBMP) are engaged in organizing community clean-ups and organizing a solid waste management seminar for Montego Bay. Communities from throughout the watershed, in part inspired by the Green

Village Awards Program, have been taking increasing interest in organizing community clean-ups. Year four activities will concentrate on the following:

- ✍ Consolidation of progress made in Years 2 and 3 and linking the experience to Anchor project # 2 Cleaning and Greening Cambridge;
- ✍ Completing a community car wash and laundry at Mafoota;
- ✍ Hosting a solid waste management seminar along with the Montego Bay Marine Park;
- ✍ Working with the NSWMA to provide support to community-based solid waste management initiatives; and
- ✍ Analysis of water quality monitoring results, and the use of this information to guide recommendations for a simplified water quality monitoring program.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
3.5.1	Water & Wastewater intervention – completion of car wash and laundry	JE	NW, HG	NWC, PH, WRA
3.5.2	Solid Waste Management Interventions – promote community composting	JE	LD, SH, TS, HG, JS, NW	NWC, WPM, MBMP
3.5.3	Water Quality Monitoring on the Great River – refine practice based on experience, use results for decision-making	JE	HG, TA	NWC, WRA,

### 3.6 Other Public Awareness Activities

A low level of public awareness is the main reason for poor environmental practices in watershed areas. Enhancing public awareness of environmental issues therefore remains a priority. A communication strategy was developed that involved a step-wise process that first sought to identify key strategic partners, assess their capacity and build their commitment to public awareness activities. The process has been greatly enhanced by the production of a Knowledge, Attitudes and Practices Survey in Year 2, a very active Public Awareness Task Force, and the employment by the Project of a full-time specialist in public awareness. The main public awareness activities to be carried out during Project Year Four include:

- ✍ Building consensus from the WMC, anchor project managers and partners on the public awareness strategy;
- ✍ Continuing use of existing awareness-raising strategies such as the Action Boyz and Green Village Program;
- ✍ Continuing participation in fairs, expositions, and community environmental fora;
- ✍ Promoting core technologies through multiple media; and
- ✍ Meetings in town squares to disseminate information and mobilize community support.

#### Outputs

- ✍ Consensus obtained on public awareness strategy from anchor project managers and key strategic partners and action initiated under the strategy;

- ✍ Existing strategies such as Action Boyz and Green Village Program refined and actively promoted;
- ✍ R2RW actively participated in fairs, expositions, and community environmental fairs; and
- ✍ Core technologies in sanitation and land use management promoted through press releases, radio programs, information brochures, PowerPoint presentations and seminars.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
3.6.1	Build consensus from WMCs, anchor project mgrs & partners on PA strategy	SH	LD, JE, TS, HG, MS	PH, RADA, MBMP, FD
3.6.2	Enhance environmental awareness through community drama (Action Boyz)	SH	LD, TS	PH, NWC, MBMP
3.6.3	Promote GRW Green Village Stewardship program	SH	LD, NW, TS	SWB, PECO
3.6.4	Participate in fairs, expos and community environmental fora	LD	SH, NW, TS	SWB, PECO
3.6.5	Design baseline and mid-point indicators for new and existing public awareness strategies	SH	HG	STTA, PECO
3.6.6	Plan and implement 2nd Youth & the Environment Forum	SH	TS, LD, TE, MS	4H, GRWMC
3.6.7	Plan and implement seminar on Religion and the Environment	LD	SH, TS	GRWMC
3.6.8	Finalize content, produce and provide enviro kits to youth and community organizations	SH	LD, TS	SDC, MBMP

### 3.7 Gender Considerations

Gender considerations have been an integral part of all R2RW activities. Previous work includes a gender checklist for activities and a set of gender-sensitive field practices; holding WMC and task force meetings at venues and at times that enhance gender equity; monitoring gender equity principles; and completing annual gender reports. A draft Annual Gender Report begun in Year 3 needs to be completed. The major activities under this area for Year 4 are as follows:

- ✍ Evaluating gender in the R2RW and assessing gender considerations;
- ✍ Targeting and tailoring activities to meet gender sensitive needs; and
- ✍ Completing the annual gender report.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
3.7.1	Evaluating gender in the R2RW and assessing gender considerations	SH	Team	SWB
3.7.2	Targeting and tailoring activities to meet gender sensitive needs	SH	Team	SWB

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
3.7.3	Provide annual gender report of project activities	SH	Team	SWB

**Activity Benchmarks**

A summary of proposed benchmarks applicable to the fourth year of this Component is presented below.

<p><b>Year Four</b></p> <ul style="list-style-type: none"> <li>✍ Plan to phase out R2RW support to GRWMC developed</li> <li>✍ Improved pineapple production practices demonstrated</li> <li>✍ Cambridge CDC implementing activities to address solid waste management</li> <li>✍ Eight communities educated on waste management issues</li> <li>✍ Three initiatives to enhance public awareness of priority issues implemented</li> <li>✍ Six communities educated through community drama</li> </ul>
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R2RW 4th Annual Workplan  
October 1, 2003 - September 30, 2004

ID	Name	Month											
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	<b>3 Sustainable Environmental Practices in the Great River Watershed</b>	[Milestone]											
2	<b>3.1 Development of the Great River Watershed Management Committee</b>	[Milestone]											
3	3.1.1 Finalize and implement the GRW Strategic Plan	[Task]											
4	3.1.1.1 Distribution of Final Plan	[Task]											
5	3.1.1.2 Develop MOUs to implement GRWMC Programs	[Milestone]											
6	3.1.1.2.1 Develop MOUs with state agencies to implement GRWMC Programs	[Task]											
7	3.1.1.2.2 Develop MOUs with local government agencies to implement GRWMC Programs	[Task]											
8	3.1.1.2.3 Develop MOUs with communities to implement GRWMC Programs	[Task]											
9	3.1.2 Management Activities of the GRWMC	[Task]											
10	3.1.2.1 Regular meetings of the GRWMC	[Task]											
11	3.1.2.1.1 Quarterly meeting of GRWMC	[Milestone]											
16	3.1.2.1.2 GRWMC Executive Committee	[Milestone]											
21	3.1.2.1.3 GRWMC AGM	[Milestone]											
22	3.1.2.2 Production and Marketing Task Force	[Milestone]											
27	3.1.2.3 Water and Sanitation Task Force	[Milestone]											
32	3.1.2.4 Compliance and Enforcement Task Force	[Milestone]											
37	3.1.2.5 Public Awareness Task Force	[Milestone]											
42	3.1.3 Develop Plan to phase out R2RW support to GRWMC	[Task]											
43	3.1.3.1 Transfer communication database to GRWMC	[Task]											
44	3.1.3.2 Prepare Plan to phase out R2RW support	[Task]											
45	<b>3.2 Improved Production of Pineapple for Sustainable Livelihoods - Anchor Project #1</b>	[Milestone]											
46	3.2.1 Secure buy-in from stakeholders incl. RADA on anchor project	[Task]											
47	3.2.2 Marketing	[Milestone]											
48	3.2.2.1 Conduct market analysis for GRW produced pineapples	[Task]											
49	3.2.2.2 Host workshops between producers and potential buyers	[Task]											
50	3.2.2.3 Investigate opportunities for processing	[Task]											



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ID	Name	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
51	3.2.3 Hire Project Manager for Anchor Project #1													
52	3.2.4 Site selection & conduct soil and water analysis													
53	3.2.5 Arrangements for planting material incl. opportunities for tissue culture with SRC													
54	3.2.6 Public awareness for anchor project 'Improved production of pineapple for sust livelihoods'													
55	3.2.6.1 Develop video on pineapple production													
56	3.2.6.2 Develop & distribute extension materials on pineapple production													
57	3.2.6.3 With participants establish linkages bet livelihoods & sus envir practices													
58	3.2.7 Demonstrate environmentally friendly production practices													
59	3.2.7.1 Establish pineapple demonstration plots													
60	3.2.7.2 Demonstrate contour planting on hillsides													
61	3.2.7.3 Demonstrate good cultural practices (nutrients supply, spacing, replanting, etc)													
62	3.2.7.4 Introduce improved varieties i.e. Smooth Cayenne, Ripley and Sugar Loaf													
63	3.2.7.5 Introduce appropriate technology (including tools & equipment)													
64	<b>3.3 Production and Marketing in the Great River Watershed</b>													
65	3.3.1 Improved Crop Varieties													
66	3.3.1.1 Continue to multiply and distribute disease resistant banana/plantain suckers													
67	3.3.1.2 Establish demo plots of disease resistant bananas & plantain, collect & analyze data													
68	3.3.1.3 Continue to implement and monitor hot pepper development projects													
69	3.3.1.4 Support initiatives to promote organic farming potential													
70	3.3.1.5 Establish holding bay for seedlings													
71	3.3.2 Livestock Improvement													
72	3.3.2.1 Continue to implement and monitor Goat Improvement Project													
73	3.3.2.2 Establish goat stud stations with high quality bucks													
74	3.3.3 Plant A Tree Campaign													
75	3.3.3.1 Assess management of program delivery													
76	3.3.3.2 Continue production, sourcing & distribution of seedlings													





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ID	Name	Timeline											
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
77	3.3.3.3 Monitor establishment and provide TA on care of plants	[Task bar]											
78	3.3.3.4 Integrate tree planting with Green Village program	[Task bar]											
79	<b>3.4 Cleaning and Greening Cambridge - Anchor Project #2</b>	[Milestone bar]											
80	3.4.1 Develop governance mechanism for solid waste management	[Milestone bar]											
81	3.4.1.1 Liaise with Parish Council on Anchor project to establish link with local govt. initiatives	[Task bar]											
82	3.4.1.2 Contract Project Manager for Anchor Project' Cleaning and Greening Cambridge'	[Task bar]											
83	3.4.1.3 Develop community profile and establish 'before status'	[Task bar]											
84	3.4.1.4 Conduct mult-stakeholders workshop/s to develop an envir action plan	[Task bar]											
85	3.4.1.5 Conduct community training	[Task bar]											
86	3.4.1.6 Develop and implement reporting and monitoring procedures	[Task bar]											
87	3.4.1.7 Launch the CDC	[Task bar]											
88	3.4.2 Improve land management & sanitation practices	[Milestone bar]											
89	3.4.2.1 Develop community action plan	[Task bar]											
90	3.4.2.2 Procure receptacles, tools & equip. for clean up and garbage disposal	[Task bar]											
91	3.4.2.3 Establish sorting depot in Cambridge	[Task bar]											
92	3.4.2.4 Conduct physical clean up and greening activities	[Task bar]											
93	3.4.2.5 Erect signs	[Task bar]											
94	3.4.2.6 Implement alternate sanitation and waste disposal solutions	[Task bar]											
95	3.4.2.7 Conduct demonstrations of soil conservation best practices	[Task bar]											
96	3.4.2.8 Conduct field days, workshops & seminars to share best practices	[Task bar]											
97	3.4.3 Public awareness for anchor project 'Cleaning and greening Cambridge'	[Task bar]											
98	3.4.3.1 Test participation and commun program with stakeholders at different educ levels	[Task bar]											
99	3.4.3.2 Strengthen/establish clubs with environmental mandates	[Task bar]											
100	3.4.3.3 Conduct competitions and special activities - mural, quiz, debating, etc	[Task bar]											
101	3.4.3.4 Develop and distribute enviro kits	[Task bar]											
102	<b>3.5 Water and Sanitation Activities in the Great River Watershed</b>	[Milestone bar]											

R2RW Fourth Annual Work Plan	Task	[Task bar]	Summary	[Milestone bar]	Rolled Up Milestone	◇
	Milestone	◆	Rolled Up Task	[Task bar]		

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ID	Name												
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
103	3.5.1 Water & Wastewater intervention												
104	3.5.1.1 Complete implementation of community Mafoota Car wash & laundry												
105	3.5.2 Solid Waste Management Interventions												
106	3.5.2.1 Host solid waste seminar with NSWMA & MBMP												
107	3.5.2.2 Provide support to community solid waste management initiatives e.g. composting												
108	3.5.3 Water Quality Monitoring on the Great River												
109	3.5.3.1 Analyze implications of results from water quality monitoring program												
110	3.5.3.2 Make recommendations for simplified water quality monitoring program												
111	3.5.3.3 Use water quality information to guide land management and W&S initiatives												
112	<b>3.6 Other Public Awareness Activities</b>												
113	3.6.1 Obtain consensus from WMCs, anchor project managers & partners on PA strategy												
114	3.6.2 Enhance environmental awareness through community drama (Action Boyz)												
115	3.6.3 Promote GRW Green Village Stewardship program												
116	3.6.4 Participate in fairs, expos and community environmental fora												
117	3.6.5 Design baseline and mid-point indicators for new and existing educ strategies												
118	3.6.6 Plan and implement 2nd Youth & the Environment Forum												
119	3.6.7 Plan and implement seminar on Religion and the Environment												
120	3.6.8 Provide enviro kits to youth and community organizations												
121	<b>3.7 Gender Considerations in the Great River Watershed</b>												
122	3.7.1 Evaluate gender in R2RW and plan with partners use of a gender equity approach												
123	3.7.2 Demonstrate how the gender equity process promotes SWM												
124	3.7.3 Provide annual gender report of project activities												
125	<b>Component 1A Benchmarks</b>												
126	Plan to phase out R2RW support to GRWMC developed												
127	Improved pineapple production practices demonstrated												
128	Cambridge CDC implementing activities to address solid waste management												

R2RW Fourth Annual Work Plan

Task



Summary



Rolled Up Milestone



Milestone








Rolled Up Task



R2RW 4th Annual Workplan  
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ID	Name													
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
129	Eight communities educated on waste management issues													
130	Three initiatives to enhance public awareness of priority issues implemented													
131	Six communities educated through community drama													

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R2RW Fourth Annual Work Plan	Task		Summary		Rolled Up Milestone	
	Milestone		Rolled Up Task			

## 4. Component 1B: Sustainable Environmental Practices in the Rio Grande Watershed

Considerable progress was made in Year 3 to strengthen the capacity and functions of the Rio Grande Watershed Management Committee (RGWMC) established in July 2002. Four task forces of this Committee are now fully established, providing meaningful support to thematic areas of SWM. The RGWMC influences development decisions in Portland through its formal association (via a signed MOU) with the Portland Parish Development Committee.

The R2RW Mid Term Internal Assessment Report recommended that specific activities implemented under Component 1 to support improvement to Targeted Appropriate Practices (TAPs) be consolidated and managed in such a way that impact is maximized. As with Component 1A, the approach to consolidation is the implementation of anchor projects, and one such project will impact on the RGW under the FAWP.

Activities and tasks undertaken under this Component will contribute to the USAID SO2 - Improved quality of key natural resources in selected areas that are both environmentally and economically significant - and specifically to the Intermediate Results below:

IR 1	Increased adoption of environmentally sound practices
IR 1.1	Increased effectiveness of environmental NGOs

Component 1B is broken out into the following seven activity areas.

- |     |  |
|-----|--|
| 4.1 | Development of the Rio Grande Watershed Management Committee |
| 4.2 | Improved Land Management in the RGW - Anchor Project # 4     |
| 4.3 | Production and Marketing Activities                          |
| 4.4 | Water and Sanitation Activities                              |
| 4.5 | Water & Wastewater interventions                             |
| 4.6 | Other Public Awareness                                       |
| 4.7 | Gender Considerations  |

### 4.1 Development of the Rio Grande Watershed Management Committee

The RGWMC is established and fully functional, providing a mechanism for the implementation of SWM practices in the RGW. R2RW's support to the RGWMC in the FAWP will focus on providing technical assistance for the preparation of a Strategic Plan for the RGW. Meetings of the RGWMC and its Task Forces will benefit from the continued participation of R2RW technical officers, but during the coming year, a plan will be developed to internalize the capacity of the RGWMC and to phase out R2RW support. This action will result in the RGWMC functioning with autonomy rather than as an instrument of the R2RW Project. Proposed capacity building activities are described in detail in Section 6.

#### **Outputs**

- ☞ The Strategic Plan for RGW will be prepared using a demand driven participatory approach with stakeholders from State Agencies such as NEPA, the SDC and the Urban Development

Corporation; local Government entities such as the Parish Council and the Parish Development Committee; and community groups from the RGW.

- ☞ Plan to phase out R2RW support in place and being applied as a strategy to put the RGWMC on a path to self-governance and sustainability.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
4.1.1	Develop RGW Strategic Plan – develop SOW for external TA, participatory input and approval	HG	ST, TE, LD, MN	RGWMC, SWB
4.1.2	Management activities of the RGWMC	LD	HG, MN	RGWMC
	Regular Meetings of the RGWMC	LD	TEAM	RGWMC, SWB
	Land and Conservation Task Force	HG	JS, LD	RGWMC, RADA, FD
	Water and Sanitation Task Force	JE	LD	RGWMC, NWC, WRA, PH
	Compliance and Enforcement Task Force	TS	MN, LD	RGWMC, FD
	Public Awareness Task Force	SH	LD	RGWMC, JCDDT, PDC
4.1.3	Develop Plan to Phase out R2RW support to RGWMC	LD	Team	RGWMC

#### 4.2 Improved Land Management Practices in the Rio Grande Watershed: Anchor Project # 4

The RGW has suffered from unfavorable land use practices including farming in unsuitable areas and inappropriate farming practices. Many of the areas now cultivated are prone to soil erosion and would be better left under natural vegetation. This is due in part to the steepness of most of the slopes, high rainfall, and the associated soil types and shallow profiles. The establishment of coffee farms on steep slopes, illegal occupation of lands designated as forest reserves and inappropriate land use practices are the principal causes of land degradation and river contamination. There is an urgent need to influence change in the attitude of watershed residents through well-planned interventions to improve land management.

##### **Output**

Slowing of deteriorating watershed health – soil erosion, flooding, water pollution - resulting from unfavorable land use practices including farming in unsuitable areas and inappropriate farming practices.

##### **Objective**

To meet the urgent need to influence change in attitude of watershed residents through well-planned interventions to improved land management including the following:

1. Improving ground cover and land permeability to improve water quality and quantity, protect the existing soil, maintain and enhance biodiversity, mitigate disasters, and create sustainable livelihood opportunities; and

2. Deepening understanding of natural resource issues and conflicts in the RGW to mitigate potential hazards;

### **Key Implementation Partners**

The following groups are expected to play a significant role in the implementation of this Anchor Project:

- ✍ Rio Grande Watershed Management Committee (RGWMC)
- ✍ Forestry Department (FD)
- ✍ Rural Agricultural Development Authority (RADA)
- ✍ Social Development Commission (SDC)
- ✍ Jamaica Agricultural Society (JAS)
- ✍ Office of Disaster Preparedness and Emergency Management (OPDEM)

### **Beneficiaries**

The principal beneficiaries of this Project are residents of the Rio Grande Watershed who will benefit from land under sustainable management that will lead to a lessening of the potential of destructive landslides, soil erosion, and localized flooding. Specific beneficiary organizations are small groups in many communities of the watershed that function as JAS branches, church groups, citizens' organizations and Community Development Organizations (organized by the SDC), and the Moore Town Maroon Council.

<b>Activity Number</b>	<b>Activity Name</b>	<b>R2RW Leader(s)</b>	<b>Participants</b>	<b>Partner Organizations</b>
4.2.1	Secure buy-in from stakeholders on anchor project	HG	JS	JAS, RADA, FD
4.2.2	Hire Project Manager for Anchor Project #4	HG	JS	RADA
4.2.3	Approve/implement three community agro-forestry projects	JS	HG	JAS, RADA, FD
4.2.4	Implement RGW tree planting initiative	JS	HG	JAS, RADA, FD
4.2.5	Introduce and promote environmentally friendly cropping practices – cropping systems, coffee, root crops	JS	HG	RADA
4.2.6	Establish other land stabilization structures	JS	HG	RADA, FD
4.2.7	Conduct special studies – sediment budget, land slippage, land tenure, hot spot identification	HG	MN	STTA, MQD
4.2.8	Public Awareness to support anchor project 'Improved land management in the RGW – field days, public education, linkages to JCDDT grant, agricultural extension bulletins	SH	HG, JS, LD	STTA, JCDDT, PDC

### **4.3 Production and Marketing Activities**

The objective of interventions in this area is increased area of agricultural land brought under sustainable use. Activities started under the third annual work plan promoting sustainable agricultural practices will continue into Project Year four. These activities include:

- ✍ Establishing demonstration plots of disease-resistant bananas and plantain;
- ✍ Developing potential for organic farming;
- ✍ Continuing implementation of agro-forestry projects; and
- ✍ Holding field days to demonstrate sustainable agricultural practices.

New activities in Year four will include:

- ✍ Establishing goat stud stations to improve the genetic quality of local goats;
- ✍ Developing strategies to reduce damage by stray animals to private and public forest plantations;
- ✍ Supporting improved goat rearing projects; and
- ✍ Exploring agro-processing opportunities.

### **Outputs**

- ✍ Three new agro-forestry projects implemented;
- ✍ Three goat stud stations erected in selected communities;
- ✍ Strategies developed to reduce damage by stray animals to private and public forest plantations;
- ✍ Agro-processing initiatives supported; and
- ✍ Indicators developed and measured to demonstrate watershed impacts of production and marketing activities.

<b>Activity Number</b>	<b>Activity Name</b>	<b>R2RW Leader(s)</b>	<b>Participants</b>	<b>Partner Organizations</b>
4.3.1	Improved Crop Varieties – suckers, demonstration plots, organic farming, hydroponics	JS	HG	RADA
4.3.2	Livestock Improvement – goat studs, stray animal control	JS	MN, HG	RADA
4.3.3	Enterprise Development – agro-processing, eco-tourism	JS	HG, MN	RADA

## **4.4 Water and Sanitation Activities**

During Year 3, emphasis under this section was on sewage management and particularly on demonstration systems of the constructed wetland technology. The work focused on residential system installation in Milbank, and the design and implementation of water supply improvement interventions in Moore Town, Cornwall Barracks, and Comfort Castle. Design work has taken place for water supply initiatives in Comfort Castle and Cornwall Barracks, and for a sanitation initiative in Belleview, and will be continued in Year four. Stakeholders have prioritized a pilot solid waste management initiative in an effort to demonstrate viable alternatives to the

predominant practice of burying or burning garbage. Work in Year 4 will be jointly conducted with CWIP II Project.

Objectives for Year 4 include:

- ✍ Consolidating progress made in Year 3;
- ✍ Reviewing the cost effectiveness of sanitation technologies; and
- ✍ Increasing public awareness efforts.

**Outputs**

- ✍ Cost effectiveness of sanitation technologies demonstrated;
- ✍ Project at CASE demonstrating integrated crop/livestock production and waste management completed; and
- ✍ Improved public awareness of sanitation technologies.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
4.4.1	Implement water harvesting and sanitation project in Belleview	JE	MN, ST	NWC, WRA
4.4.2	Implement water supply projects Windsor, Comfort Castle, Cornwall Barracks	JE	MN, ST	NWC, WRA
4.4.3	Solid waste interventions – community sorting centre, garbage collection	JE	HG, SH	NEPM, WRA
4.4.4	Water quality monitoring – collaborate with CWIP2, sampling and analysis in RGW	JE	MN, HG	CASE, NWC, WRA

**4.5 Other Public Awareness Activities**

Enhancing public awareness of environmental issues remains a priority for the RGW. A communication strategy was developed that involved a step-wise process that first sought to identify key strategic partners, assess their capacity, and build commitment to public awareness activities. A major public awareness program commenced through the JCDT in ten communities of the RGW. The main public awareness objectives for the FAWP are:

- ✍ Obtaining consensus from the WMC, anchor project managers and partners on a public awareness strategy for Year 4;
- ✍ Continuing to use existing public awareness strategies including continued implementation of JCDT public awareness project;
- ✍ Continuing participation in fairs, expositions, and community environmental for a;
- ✍ Promoting core technologies through multiple media; and
- ✍ Meetings in town squares to disseminate information and mobilize community support



## Outputs

- ✍ Consensus obtained on public awareness strategy from anchor project managers and key strategic partners;
- ✍ Existing strategies refined and actively supported;
- ✍ R2RW actively participated in fairs, expositions, and community environmental for a; and
- ✍ Core technologies in sanitation and land use management promoted through multi media linkages.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
4.5.1	Share lessons learned in GRW with participants in RGW	SH	LD	RGWMC, SDC
4.5.2	Work with CWIP2 and EAST projects to promote Portland as a green destination	SH	TS, LD, MS	JHTA, CWIP, EAST, PECO
4.5.3	Participate in fairs, expos and community environmental fora	SH	HG, LD, MS	SWB, RADA, FD
4.5.4	Plan and implement community education program for the lower Rio Grande Valley	SH	MN, LD	PDC, SWB
4.5.5	Provide enviro kits to youth and community organizations	SH	LD, MS, TS	PECO, SWB

## 4.6 Gender Considerations

Gender considerations have been an integral part of all R2RW activities. Previous work include a gender checklist and a set of gender sensitive targeted appropriate practices; holding WMC and task force meetings at venues and at times that enhance gender equity, monitoring gender equity principles and completing annual gender reports. The major activities under this area for Year 4 are tabulated below:

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
4.6.1	Evaluating gender in the R2RW and assessing gender considerations	SH	Team	SWB
4.6.2	Targeting and tailoring activities to meet gender sensitive needs	SH	Team	SWB
4.6.3	Provide annual gender report of project activities	SH	Team	SWB

## Activity Benchmarks

A summary of proposed benchmarks applicable to the Fourth year of this Component is presented below.

### Year Four

- ✍ RGW Strategic Plan prepared
- ✍ Plan for Phase out of R2RW support to RGWMC developed
- ✍ Three new agro-forestry projects implemented
- ✍ Three water harvesting and sanitation projects completed
- ✍ Two exchange visits to GRW conducted
- ✍ Annual gender report prepared

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ID	Name	Month											
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
132	<b>4 Sustainable Environmental Practices in the Rio Grande Watershed</b>	[Rolled Up Milestone]											
133	<b>4.1 Development of the Rio Grande Watershed Management Committee</b>	[Rolled Up Milestone]											
134	4.1.1 Develop RGW Strategic Plan	[Task]											
135	4.1.1.1 Develop Scope of Work & define contents of Plan	[Task]											
136	4.1.1.2 TA to develop Plan	[Task]											
137	4.1.1.3 Present Plan at facilitated seminar	[Task]											
138	4.1.1.4 Incorporate feedback and publish Plan	[Task]											
139	4.1.2 Management activities of the RGWMC	[Rolled Up Milestone]											
140	4.1.2.1 Regular meetings of the RGWMC	[Rolled Up Milestone]											
141	4.1.2.1.1 Quarterly meetings of the RGWMC	[Task]											
146	4.1.2.1.2 RGWMC Executive meetings	[Task]											
151	4.1.2.1.3 RGWMC AGM	[Task]											
152	4.1.2.2 Land & Conservation Task Force	[Task]											
157	4.1.2.3 Water & Sanitation Task Force	[Task]											
162	4.1.2.4 Compliance & Enforcement Task Force	[Task]											
167	4.1.2.5 Public Awareness Task Force	[Task]											
180	4.1.3 Develop plan to phase out R2RW support to RGWMC	[Rolled Up Milestone]											
181	4.1.3.1 Transfer communication database to RGWMC	[Task]											
182	4.1.3.2 Prepare plan to phase out R2RW support	[Task]											
183	<b>4.2 Improved Land Management in the RGW - Anchor Project #3</b>	[Rolled Up Milestone]											
184	4.2.1 Secure buy-in from stakeholders on anchor project	[Task]											
185	4.2.2 Hire Project Manager for Anchor Project #3	[Task]											
186	4.2.3 Approve/implement three community agroforestry projects	[Task]											
187	4.2.4 Implement RGW tree planting initiative	[Task]											
188	4.2.5 Introduce and promote environ. friendly cropping practices	[Rolled Up Milestone]											
189	4.2.5.1 Introduce and promote new cropping systems	[Task]											

R2RW Fourth Annual Work Plan	Task	[Task Icon]	Summary	[Rolled Up Milestone Icon]	Rolled Up Milestone		◇
	Milestone	◆	Rolled Up Task	[Task Icon]			

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ID	Name	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
190	4.2.5.2 Introduce code of practice for coffee farmers												
191	4.2.5.3 Introduce code of practice for root crop production												
192	4.2.6 Establish other land stabilization structures												
193	4.2.7 Conduct special studies												
194	4.2.7.1 RG river sediment budget (type, volumes and transport)												
195	4.2.7.2 Determine extent & hazard of land slippage/faulting in Dumphries												
196	4.2.7.3 Land Tenure study on RGW												
197	4.2.7.4 Document areas for priority attention with LDUC												
198	4.2.8 Public Awareness to support anchor project 'Improved Land Management in the RGW												
199	4.2.8.1 Conduct 5 field days to maximize demonstration effect & mainstreaming												
205	4.2.8.2 Host 3 awareness activities to educate public on land management C&E												
209	4.2.8.3 Link anchor project to JCDT public awareness project												
210	4.2.8.4 Design and distribute three agric. extension bulletins												
211	<b>4.3 Production and Marketing Activities</b>												
212	4.3.1 Improved Crop Varieties												
213	4.3.1.1 Continue to multiply and distribute disease resistant banana & plantain suckers												
214	4.3.1.1.1 Continue multiplication and distribution of suckers												
215	4.3.1.1.2 Establish demo plot & collect/analyze data												
216	4.3.1.2 Establish holding bay for seedlings												
217	4.3.1.3 Continue support of initiatives to develop organic farming potential												
218	4.3.1.4 Demonstration of hydroponics at CASE												
219	4.3.2 Livestock Improvement												
220	4.3.2.1 Establish 3 goat stud stations												
221	4.3.2.2 Identify strategies to reduce damage by stray animals to forest plantations												
222	4.3.3 Enterprise Development												
223	4.3.3.1 Explore and lend support to agro-processing opportunities												

R2RW Fourth Annual Work Plan

Task



Summary



Rolled Up Milestone



Milestone



Rolled Up Task



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ID	Name												
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
224	4.3.3.2 Foster and promote eco-tourism initiatives												
225	<b>4.4 Water &amp; Wastewater interventions</b>												
226	4.4.1 Implement water harvesting and sanitation project in Bellevue												
227	4.4.2 Implement water supply projects												
228	4.4.2.1 Windsor												
229	4.4.2.2 Comfort Castle												
230	4.4.2.3 Cornwall Barracks												
231	4.4.3 Solid Waste interventions												
232	4.4.3.1 Collaborate with NSWMA community sorting centre based on Cambridge experience												
233	4.4.3.2 Collaborate with NSWMA on garbage collection in Upper RGW												
234	4.4.4 Water Quality Monitoring												
235	4.4.4.1 Collaborate with CWIP2 Re water quality monitoring program for Portland												
236	4.4.4.2 Identify/hire TA for water quality monitoring program for the RGW												
237	4.4.4.3 Conduct sampling and analyze water quality data												
238	<b>4.5 Other Public Awareness Activities</b>												
239	4.5.1 Share lessons learned in GRW with participants in RGW												
240	4.5.2 Work with CWIP2 and EAST projects to promote Portland as a green destination												
241	4.5.3 Participate in fairs, expos and community environmental fora												
242	4.5.4 Plan and implement community education program for the lower Rio Grande Valley												
243	4.5.5 Provide enviro kits to youth and community organizations												
244	<b>4.6 Gender Considerations in the Rio Grande Watershed</b>												
245	4.6.1 Evaluate gender in R2RW and plan with partners use of a gender equity approach												
246	4.6.2 Demonstrate how the gender equity process promotes SWM												
247	4.6.3 Provide annual gender report of project activities												
248	<b>Component 1B Benchmarks</b>												
249	RGW Strategic Plan prepared												




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ID	Name												
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
250	Plan for phase out of R2RW support to RGWMC developed												
251	Three new agroforestry projects implemented												
252	Three water harvesting and sanitation projects completed												
253	Two exchange visits to GRW conducted												
254	Annual gender report prepared												

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Task  Summary  Rolled Up Milestone 

Milestone  Rolled Up Task

## 5. Component 2: Compliance and Enforcement

The “Mid-term Internal Assessment Review” identifies the reasons for the revision of the original premise regarding Component 2 – compliance and enforcement of environmental regulations would be increased or enhanced if communities were more involved in the management of the resources and in the enforcement of the laws and regulations that governed those resources.

The Knowledge, Attitudes and Practice Study (KAP) found that the communities involved lacked basic awareness of environmental issues, especially as they relate to the concept of watershed. Surprisingly, the KAP Study also identified that neither communities nor relevant authorities are aware of the laws, regulations, and policies that exist to protect the environment. Based on these findings, the Project is approaching compliance and enforcement through a heightening of awareness of environmental issues and of relevant laws both at the community and national levels. The parish of Portland and the GRW provide the targeted communities

The “Mid-term Internal Assessment Team endorsed the public awareness emphasis for Component 2, and feels that “given that many Jamaican communities do not have a history of making their own rules, resolving conflict, or enforcing compliance, ...a public awareness campaign of the nature the project is engaged in is the best and most realistic alternative.

### SO Linkages

Component 2 contributes to USAID's SO2 by reporting on indicators established for the following Intermediate Results:

IR 1.2	Increased economic incentives for environmentally sound practices
IR 2	Adoption of policies for improved Environmental Management
IR 2.1	Effective promulgation and enforcement of environmental regulations
IR 2.2.1	Increased capacity of key GOJ agencies

### Year 4 Activities

The Component 2 activities for Year 4 are divided into three major categories, namely:

- |     |  |
|-----|--|
| 5.1 | Compliance and Enforcement – Nationally                          |
| 5.2 | Compliance and Enforcement in the Great River Watershed (GRW)    |
| 5.3 | C&E in Portland, with emphasis on the Rio Grande Watershed (RGW) |

#### 5.1 Compliance and Enforcement - Nationally

The national activities under Component 2 are being done in partnership with the ENACT Project; NEPA Legal, Compliance and Regional Services, and Public Education Divisions, as well as the SWB and the Incentives Working Group of the NIWMC. In addition, three symposia were jointly funded by ENACT and R2RW Project Year 3 to sensitize Supreme Court Judges, Resident Magistrates, and Clerk of the Courts on environmental issues and laws. A CD is now being prepared from the material presented.

The feedback from the symposia has been excellent and has led NEPA Legal Division to request support to continue the sensitization program for Deputy Clerk of Courts, Private Lawyers, and Lay Magistrates during Project Year 4.

ENACT has undertaken a training assessment to develop and institutionalize training courses with MIND. Toward this end, ENACT has also been working with a National Partnership Group chaired by the Director of Compliance and Regional Services at NEPA. R2RW will join ENACT during Project Year 4 to fund the development and delivery of curricula and materials for five courses for the training of Enforcement Supervisors, Senior Agencies Personnel, Enforcement Officers, and Community Leaders (including Lay Magistrates). In addition, R2RW will work to train enforcement officers and community leaders in its targeted areas.

In addition to training, R2RW will continue to print and lead the distribution of the Pocket-size Field Guide developed with ENACT and NEPA, continue distributing the popular materials developed in Year, and develop and distribute a 2004 calendar using the “It Haffi Legal” campaign posters

As identified by the Assessment Team, by working with both the supply side – the judiciary and other government officials responsible for providing enforcement of existing laws - and the demand side – creating awareness of environmental issues and laws - it is hoped that communities will self-enforce, demand enforcement from the relevant authorities, and have a supportive court system.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
5.1.1	Sensitization of magistrates, other court personnel & senior agencies personnel – CD distribution, further seminars	TS	MN	LS, ENACT
5.1.2	Training of enforcement officers – develop curricula and materials with partners, deliver training courses	TS	MN	LS, ENACT
5.1.3	Identify baseline on environmental cases convicted in court	TS	MN	LS, ENACT
5.1.4	Develop & distribute pocket guide to environmental laws in Jamaica – revise and complete second edition, distribute second edition	TS	MN, MW	LS, ENACT
	Promote development and dissemination of popular materials on C&E – continue poster dissemination, develop and disseminate related calendar	TS	SH	PECO

## 5.2 Compliance and Enforcement in the Great River Watershed (GRW)

The lessons learned from the implementation of Component 2 at the local level in the two targeted watersheds to date are supported by the findings of the Mid-Term Assessment Review that “community enforcement and incentives for community enforcement are predicated on a policy and regulatory environment that truly devolves authority to local jurisdictions and citizens so that legal standing and judicial recourse to make environmental laws, raise funds, and levy the fines and penalties associated with enforcement.” In spite of many years of local government reform, the Team had to conclude that we are not yet ready for community enforcement.



Agencies at the central government level are mainly responsible for enforcement activities through multiple laws and agencies. The Compliance and Enforcement Task Force of the GRWMC has therefore identified priorities for the FAWP.

Year 4 activities will continue to build the capacity of the C&E Task Force as the partnership that will review C&E issues. R2RW will work with the Compliance and Regional Services Division of NEPA and the Task Force to reach consensus on the continuity of the partnership after R2RW comes to an end. In addition, the Task Force identified garbage disposal as a major problem in the GRW. They decided that communities and hotspots should be identified and made clean and green. Cambridge was considered the major hotspot, and the work plan reflects this consideration. The cleaning and greening of Cambridge has been developed as an anchor project for action during Project Year 4. Additional areas will be identified and clean up implemented.

It is hoped that all these activities will encourage greater involvement of communities in enforcement activities, and indicators will be developed to measure this success.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
5.2.1	Partnership and Coordination – workshops, focused support to NEPA	TS	SH, MN	CRS
5.2.2	Watershed level environment training and sensitization program – C&E officers, community leaders	TS	SH, LD	CRS, ENACT
5.2.3	Cleaning and greening of communities and 'hotspots' – identify, plan, and support community clean up in multiple locations	TS	JE, SH, LD	NSWMA
5.2.4	Fostering community enforcement – training, community leadership and monitoring, reporting of offenses to authorities for action	TS	JS, SH, LD	SWB

### 5.3 C&E in Portland, with emphasis on the Rio Grande Watershed (RGW)

R2RW developed its C&E Task Force from the Inter-Agency Working Group started by ENACT. The decision was therefore taken to continue the parish-based focus, but to widen the participants to include civil society and community participation.

Besides continuing to develop the parish partnership, which is considered to be a model for parish-based enforcement, and conducting training activities for compliance and enforcement officers and community leaders, the major activity decided on by the Task Force is the development of a Quarry Monitoring Committee. R2RW will assist with this development intended to monitor licenses and permits issued for, among other things, the quarrying of sand on the Rio Grande River.

A new stream of activities for R2RW in Portland during Project Year 4 related to disaster mitigation. Portland has spent million of dollars recently on rehabilitation after natural disasters. The C&E Task Force is of the view that greater awareness of natural and man-made disasters should lead to minimizing the impact of these disasters when better land practices are observed.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
5.3.1	Partnership & coordination –formalize roles in NEPA, work with municipal police, support violation reporting at NEPA	TS	SH, MN	CRS
5.3.2	Watershed level environmental training and sensitization program – C&E officers, honorary game wardens, community leaders	TS	SH, LD	CRS, ENACT
5.3.3	Quarry Monitoring Committee – support formation, develop current inventory, disseminate results within government	TS	ST	MQD
5.3.4	Disaster mitigation	TS	SH, LD	PC

### Activity Benchmarks

A summary of benchmarks established for the Fourth year of this Component is presented below.

<p><b>Year Four</b></p> <ul style="list-style-type: none"> <li>✍ Seminar to educate lay magistrates and deputy clerks of the courts held</li> <li>✍ Curricula and training materials for training of enforcement personnel developed</li> <li>✍ Training seminar for community leaders in C &amp; E held</li> <li>✍ Pocketsize field guide finalized, distributed and in active usage</li> <li>✍ Portland Quarries Monitoring established and addressing mining issues</li> <li>✍ Baseline of environmental court cases established</li> </ul>
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ID	Name	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
255	<b>5 Enhancing Compliance and Enforcement</b>												
256	<b>5.1 Compliance and Enforcement - Nationally</b>												
257	5.1.1 Sensitization of magistrates, other court personnel & senior agencies personnel												
258	5.1.1.1 Conduct seminar for judges and other court personnel												
259	5.1.1.1.1 Complete preparation & distribution of CD of magistrates seminar												
260	5.1.1.1.2 Plan and conduct seminar for lay magistrates, deputy clerk of courts & attorneys												
261	5.1.2 Training of enforcement officers												
262	5.1.2.1 Develop training curricula & manuals with MIND, ENACT & NEPA on envir laws												
263	5.1.2.2 Training curricula & materials for course 'intro to envir & planning laws'												
264	5.1.2.3 Develop training curricula & materials for course targeted at community leaders												
265	5.1.2.4 Deliver training courses at the national level												
266	5.1.3 Identify baseline on environmental cases convicted in court												
267	5.1.4 Develop & distrib. pocket guide to envir laws in Ja												
268	5.1.4.1 Printing & distribution of 1000 additional copies												
269	5.1.4.2 Revise and complete 2nd edition of Pocket Guide												
270	5.1.4.3 Printing and distribution of 2nd edition												
271	5.1.5 Promote, develop and disseminate popular materials on C & E												
272	5.1.5.1 Continue distrib of C & E posters with NEPA Pub ED												
273	5.1.5.2 Dev & distribute a 2004 calendar using the C & E posters												
274	<b>5.2 Compliance and Enforcement in the Great River Watershed (GRW)</b>												
275	5.2.1 Partnership and Coordination												
276	5.2.1.2 Plan & implement strategic workshop on C&E with regional managers of agencies												
277	5.2.1.3 Formalize role of Compliance & Regional Services Div of NEPA in CETF												
278	5.2.2 Watershed level envir training and sensitization program												
279	5.2.2.1 Conduct training of C&E officers												
280	5.2.2.2 Conduct training of community leaders in envir & planning laws and advocacy												

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Task



Summary



Rolled Up Milestone



Milestone



Rolled Up Task



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ID	Name	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
281	5.2.3 Cleaning and greening of communities and 'hotspots'	[Task bar]											
282	5.2.3.1 Identify hotspots	[Task bar]											
283	5.2.3.2 Conduct community meetings to obtain support, buy-in & leadership	[Task bar]											
284	5.2.3.3 Implement community clean-up programs in 5 communities	[Task bar]											
285	5.2.4 Fostering community enforcement	[Task bar]											
286	5.2.4.1 Conduct training, compile & distrib info kits, visits to demo projects	[Task bar]											
287	5.2.4.2 Promote envir friendly land management practices	[Task bar]											
288	5.2.4.3 Encourage community leaders to monitor envir conditions in their areas	[Task bar]											
289	5.2.4.4 Encourage reporting of envir offenses by community members to authorities	[Task bar]											
290	<b>5.3 C&amp;E in the Rio Grande Watershed</b>	[Rolled Up Milestone bar]											
291	5.3.1 Partnership & coordination	[Task bar]											
292	5.3.1.1 Formalize role of Compliance & Regional Services Div of NEPA in CETF	[Task bar]											
293	5.3.1.2 Explore opportunities for enhancing C&E with new municipal police	[Task bar]											
294	5.3.1.3 Support NEPA to develop a mechanism for reporting envir breaches and actions taken	[Task bar]											
295	5.3.2 Watershed level envir training and sensitization program	[Task bar]											
296	5.3.2.1 Conduct training of C & E officers	[Task bar]											
297	5.3.2.2 Conduct training of community leaders in envir & planning laws and advocacy	[Task bar]											
298	5.3.3 Quarry Monitoring Committee	[Task bar]											
299	5.3.3.1 Provide TA & resources to establish a Quarry Monitoring Committee in Portland	[Task bar]											
300	5.3.3.2 Develop a database/inventory of current licenses and permits	[Task bar]											
301	5.3.3.3 Disseminate info on C & E procedures of all related agencies	[Task bar]											
302	5.3.4 Disaster mitigation	[Task bar]											
303	5.3.4.1 Liaise with ODPEM on disaster mitigation issues and strategies for Portland	[Task bar]											
304	5.3.4.2 Undertake inventory of existing equip & procure additional alert equip	[Task bar]											
305	5.3.4.3 Conduct training in disaster awareness and use of equipment	[Task bar]											
306	5.3.4.4 Undertake public awareness campaign on envir laws e.g. building codes	[Task bar]											



R2RW Fourth Annual Work Plan	Task	[Task bar]	Summary	[Rolled Up Milestone bar]	Rolled Up Milestone	◇
	Milestone	◆	Rolled Up Task	[Task bar]		

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ID	Name												
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
307	<b>Component 2 Benchmarks</b>												
308	Seminar to educate lay magistrates and deputy clerks of the courts held												
309	Curricula and training materials for training of enforcement personnel developed												
310	Training seminar for community leaders in C&E held												
311	Pocketsize field guide finalized, distributed and in active usage												
312	Portland Quarries Monitoring Committee established and addressing mining issues												
313	Baseline of environmental court cases established												

R2RW Fourth Annual Work Plan

Task  Summary  Rolled Up Milestone 

Milestone  Rolled Up Task 

## 6. Component 3: Institutional Strengthening

Institutional strengthening for watershed management is needed to build the capacity of communities, local watershed management committees, and national agencies to design, develop and implement effective programs for sustainable watershed management in Jamaica.

The Internal Review made five recommendations with respect to Component 3:

1. More attention should be given by the Project to building the knowledge capacity of the Sustainable Watersheds Branch (SWB). The Project is expected to work more closely with Branch staff to infuse lessons learned and skills developed during field activities into the agency more strongly than is currently being done.
2. The Project should continue and expand exchange visits, conversations, and meetings between the stakeholders in the two-targeted watersheds.
3. R2RW should continue its engagement with the NIWMC to ensure that its knowledge base expands to include the procedural and implementation successes of the GRWMC and the RGWMC.
4. Work with key stakeholders and staff of the SWB to initiate actions in watersheds outside of Great River and Rio Grande. Given that the two project WMCs are pilots to be adapted, the Project should actively work with its partner organizations to support replication in other places.
5. R2RW should ensure that lessons learned from earlier Projects are identified and considered in the development of strategies and approaches. In this way, previous mistakes or limited sustainable impacts will not be repeated, and the strengths from each will be part of the learning captured by R2RW.

The activities described in this section directly respond to the above concerns. During Year 3, R2RW established linkages to several key Divisions and Branches of NEPA including the Legal Services Division, the Compliance and Regional Services Division, the Public Education and Community Outreach Branch, and the Policies, Programs and Project Coordination Division, in addition to the Sustainable Watersheds Branch. These linkages will be continued and deepened in Year 4 through the implementation of joint activities, the building of capacity of key staff, and the transferring of approaches, methodologies and lessons learned to staff throughout NEPA. In addition, the activities herein represent a continuation of items where progress has been limited such as finalizing equipment specifications for Global Positioning Units, providing training to selected SWB Branch staff, and the establishment of monitoring protocols. For other activities where there has been considerable progress such as the development of LWMCs, work with the NIWMC, and public awareness activities, this FAWP builds on the achievements to date in networking of the experience of LWMC, supporting the working groups of the NIWMC, and disseminating and promoting public awareness messages.

## SO2 Linkages

Component 3 contributes to USAID's SO2 by reporting on indicators established for the following Intermediate Results.

IR 1	Increased adoption of environmentally sound practices
IR 1.1	Increased effectiveness of environmental NGOs
IR 2.2.1	Increased capacity of key GOJ agencies

## Year 4 Activities

The Component 3 activities for Year 4 are divided into eight major categories, namely:

- 6.1 Strengthening of the Watershed Management Capacity of NEPA
- 6.2 Training for Skill Development
- 6.3 LWMC Development
- 6.4 Policy and Legislation
- 6.5 NIWMC Activities
- 6.6 Improved Sanitation Management Practices – Anchor Project # 4
- 6.7 Transfer Approaches, Methodologies and Lessons to Key Partners and Stakeholders
- 6.8 Public Awareness

### 6.1 Strengthening of the Watershed Management Capacity of NEPA

The Sustainable Watersheds Branch (SWB) of NEPA is the principle day-to-day counterpart for R2RW activities. The aims and objectives of the SWB are to:

- ☞ Ensure retention of rainfall in watersheds to replenish water resources for domestic, irrigation, industrial and other social and economic needs;
- ☞ Achieve a pattern of land use that is balanced and environmentally sound;
- ☞ Reduce the destructive effects of rain due to soil erosion, tree cutting and other loss of vegetation;
- ☞ Integrate watershed management through participation in the National Integrated Watershed Management Council; and
- ☞ Promote public awareness of watersheds and watershed related issues.

The objective of these activities is to build the team spirit, effective working environment and knowledge capacity of the members of the SWB to implement programs in sustainable watershed management.

### Outputs

- ☞ The staff of the SWB is functioning as a cohesive team with a clear sense of their vision and mission;

- ✍ NEPA Staff are knowledgeable about successful methodologies and techniques for implementing watershed management programs; and
- ✍ The SWB is working closely with the Land Use Branch to use information on agricultural land use for watershed management.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
6.1.1	Team building in Branch - 2 retreats	MN	TE, TS, SH, LD	SWB
6.1.2	Finalize equipment specs and procurement	TE	MN	IT, SWB
6.1.3	Update SWB watershed database – include Land Use Branch and KAP data, update watershed ranking	TE	HG	SWB

## 6.2 Training for Skill Development

Training of the staff of the SWB and participants in LWMCs was a prominent feature of Year 2 and 3 of the Project. The need for expanding training opportunities beyond these two target groups has been identified by national stakeholder agencies so as to build the skills of staff of agencies responsible for programs that broadly contribute to watershed management. An internal needs analysis based upon stakeholder meetings has identified the need for training in meeting management, writing skills, appraisal techniques, facilitation and fund raising and proposal writing.

### Outputs

- ✍ Staff in the NEPA, FD, RADA, SDC, NWC and other agencies is trained in skills needed to assess, and develop programs in SWM.
- ✍ Staff is using these skills to implement effective programs of sustainable watershed management.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
6.2.1	Implement course in meeting management	LD	SH	NEPA, WMCs, FD, RADA,
6.2.2	Implement course in writing skills	SH	MN	NEPA, WMCs, FD, RADA
6.2.3	Implement course in rapid appraisal techniques for watershed status	HG	JS	NEPA, WMCs, FD, RADA
6.2.4	Implement course in facilitation skills	SH	TS	NEPA, WMCs, FD, RADA
6.2.5	Implement course in fund raising	LD	MN	NEPA, WMCs, FD, RADA

## 6.3 LWMC Development

Considerable progress was made during Year 3 on the development of LWMCs as effective mechanisms for the management of natural resources at the community and watershed levels.



The Internal Review noted that LWMCs are meant to serve two related objectives. First, they serve as an approach to meeting the need for a user-management mechanism where watershed users convene for collective decision-making. Second, they respond to GOJ policy as it is evolving. The Project's task therefore is to help define what useful function the LWMCs can serve as an advisory body that is supposed to be inclusive and participatory. There is agreement that a principle beneficial function of the LWMCs is the facilitation of coordination, collaboration, and sharing of information among community organizations and government agencies. R2RW has been instrumental in assisting LWMCs to serve this function well.

The Internal Review went on to describe the functions that LWMCs can potentially usefully serve independent of the work of the R2RW Project. Listed in descending order, these functions are as follows:

- ✍ Mobilizing and facilitating participation;
- ✍ Strengthening communication and collaboration (especially interagency collaboration);
- ✍ Raising awareness of environmental issues;
- ✍ Identifying issues and problems and suggesting interventions;
- ✍ Identifying and nurturing critical professionals and citizens toward future leadership positions;
- ✍ Advising government agencies (including informal lobbying and advocacy) around watershed issues;
- ✍ Supporting law enforcement and compliance;
- ✍ Identifying, obtaining and managing funding for implementation;
- ✍ Assisting with conflict resolution; and
- ✍ Collecting and analyzing data.

It is necessary for each LWMC to identify which of these potential roles it can realistically serve when R2RW support is removed. Specific activities have been identified in sections 3.1 and 4.1 to develop a plan in each of the two-targeted areas to phase out R2RW support presently provided to the GRWMC and RGWMC. Given this phase out, it is important to continue the focus on building the skills of individuals participating in LWMCs, the sharing of lessons learned and networking of individuals involved with LWMCs, articulating the relationship between LWMCs and local government arrangements including PDCs, and ensuring that local stakeholders have genuine standing with respect to state agencies to implement their priorities.

### **Outputs**

- ✍ Build the skills of individuals participating in LWMCs;
- ✍ Articulate the linkage between LWMCs and local government including PDCs;
- ✍ Share knowledge and lessons learned from the experience of LWMCs across Jamaica;
- ✍ Ensure that the new Watershed Protection Act to be developed recognizes the roles and provides for mandates to carry out programs;

- ✍ Articulate and promote incentives for individuals and groups participating in LWMCs; and
- ✍ Plans developed and action initiated to establish LWMCs with reduced R2RW support

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
6.3.1	Continue skill building training courses	LD	Team	SWB, WMCs
6.3.2	Study to develop linkage between LWMCs and PDC	TS	MN, SH, TE	SWB, WMCs
6.3.3	Continued networking of LWMCs - 2 workshops	MN	TS, SH, TE	SWB, WMCs
6.3.4	Exchange visits between and within watersheds	LD	MW	SWB, WMCs
6.3.5	Ensure the WPA revision clarifies role of LWMCs	TS	MN	SWB, LS
6.3.6	Articulate incentives for LWMC e.g. community competitions	TS	MN	SWB, WMCs

#### 6.4 Policy and Legislation

During Year 3, progress was made on the development and upgrading of the draft Watershed Policy. A focus group was established, and met regularly to review the draft policy, and make corrections to update it given recent developments particularly with LWMCs. Specifically the new draft has addressed the following:

1. The need for a clearer definition of Local Watershed Management Committees (LWMCs), and their roles and responsibilities;
2. The need to integrate any progress made on the National Integrated Watersheds Management Program, National Forest Management and Conservation Plan, the Draft Biodiversity Strategy and Action Plan, the Coastal Zone Policy, and the Framework for Local Sustainable Development Planning among others;
3. The omission of an implementation Plan;
4. The omission of any graphics in the Policy
5. The lack of an articulation of incentives in the Policy; and
6. The lack of a clear strategy for implementation

The new draft is now ready for presentation to the NRCA Board and the MLE for consideration for adoption. Once this is done, MLE will submit the new Watershed Policy to Cabinet for approval.

At the same time, the Legal Services Division of NEPA has put on its Corporate Plan the updating of the Watershed Protection Act of 1963. The new Act will provide a comprehensive framework for the implementation of actions that will serve to conserve and protect the management of Jamaica's watersheds for the provision of water, soil and healthy environments to pursue sustainable livelihoods. A process has been laid out that will establish a focus group consisting of the principal stakeholders, identify a suitable consultant to lead the process of drafting the new WPA and implementing regulations.

**Outputs**

- ✍ New Watershed Policy drafted, approved by the NRCA Board and the MLE, and submitted to Cabinet for adoption; and
- ✍ Updated Watershed Protection Act (using Regulatory Impact Assessment Study) drafted and submitted.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
6.4.1	Watershed Policy – finalize, endorsement from NEPA Board, submission to cabinet	TS	MN, TE	SWB, MLE
6.4.2	Watershed Protection Act – consultation, technical assistance, draft regulations	TS	MN, TE	SWB, LS

**6.5 NIWMC Activities**

R2RW has played a pivotal role in enhancing coordination among and between GOJ agencies, NGOs and CBOs. Enhancing coordination involves changing the manner in which business is done and how organizations and citizens interact with each other. In a real sense, enhancing coordination is about enhancing participation and involvement by a diverse group of stakeholders. This involves engaging partners in impacting the environmental issues faced by Jamaica, and empowering people to take action. Enhancing coordination is also about assuming responsibility for the quality of the programs implemented and implementation of follow-up actions that arise out of such deliberations.

The NIWMC was established by Cabinet as a mechanism to coordinate the design and implementation of programs among the state agencies and principal NGOs. The objective of the activities outlined below is to expand the knowledge of successful achievements that contribute to sustainable watershed management, and actively promote these achievements through the NIWMC.

**Outputs**

- ✍ Highlight successful watershed management interventions through tours of the GRW and RGW;
- ✍ Develop an effective two way communication mechanism that transmits issues encountered by the LIWMCs to the NIWMC, and reports on NIWMC deliberations to LWMCs;
- ✍ Develop a consensus within the NIWMC members on the vision, mandate and operational strategy for the NIWMC;
- ✍ Development of a website that efficiently shares information on the NIWMC and programs in watershed management.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
6.5.1	Tours of GRW & RGW to highlight interventions under anchor projects	MN	LD, JE, HG	NIWMC, SWB
6.5.2	Develop mechanism to incorporate LWMC input into the NIWMC	MN	TE	NIWMC, SWB
6.5.3	Retreat (based on Council consensus) to determine focus next 2-3 yrs	MN	TE, TS, SH	NIWMC, SWB
6.5.4	Participate in NIWMC working groups (including Incentives Working Group)	MN	SH, HG,	NIWMC, SWB
6.5.5	Develop Website for the NIWMC	MN	VB, TE	NIWMC, SWB

## 6.6 Dissemination of Improved Sanitation Technology: Anchor Project # 4

### **Output**

This Anchor Project will document, promote and mainstream low-cost solutions for liquid waste disposal in rural communities. This will be done by working with Government agencies, local authorities, and builders to encourage adoption of constructed wetland and other appropriate technologies to safely dispose of household sewage. In addition, the project will include the design and implementation of materials, seminars and workshops to disseminate information.

### **Objectives**

The objective of this project is to reduce the adverse effects of bad sanitation practices in the upper and middle watershed on the marine environment by:

- ✍ Demonstrating the cost-effectiveness and environmental friendliness of selected sanitation technologies;
- ✍ Increasing awareness, acceptance, and utilization of demonstrated technologies by residents, businesses, and establishments in the Watershed; and
- ✍ Mainstreaming the selected technologies into governmental practice.

### **Key Implementation Partners**

CBOs, NWC, NEPA, MOH, PCs.

### **Beneficiaries**

Residents (private & commercial) of GR, Visitor (local & foreign).

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
6.6.1	Review and document cost effectiveness of sanitation technologies	JE	NW	PH
6.6.2	Setup and monitor simulated systems at CASE	JE	HG	CASE
6.6.3	Documentation of effluent standards of constructed wetlands	JE	HG	STTA
6.6.4	Mainstreaming of constructed wetland technology – design criteria, presentations to developers, host workshops, and provide information to responsible agencies	JE	HG, SH	PH, NWC, PC, PECO
6.6.5	Public Awareness to support anchor project – technical workshops, link with Green Villages, participatory action planning, link with River Action campaign, promote technologies through various media	SH	LD, TS, JE, MS	WPM, SDC, NWC, MBMP, PECO

## 6.7 Transfer Approaches, Methodologies and Lessons to Key Partners and Stakeholders

The sustainability and replicability of initiatives begun under the R2RW is a primary concern as the Project enters its 4<sup>th</sup> year. There is a need to professionally document Project-related successes, as well as the methods and processes employed to achieve these outputs so that they can be used widely by NEPA, LWMCs and the members of the NIWMC. The objectives of the activities presented in this section is to document in writing and through seminars and workshops the lessons learned during Project implementation and to infuse these lessons widely to the State Agencies, NGOs, community groups and concerned individuals participating in watershed management.

R2RW will continue to support special studies that support programs in watershed management. Possible studies to be supported in Year 4 include the following

- ✍ Study of wood borer in important timber crops
- ✍ Study of tourism potential in watershed areas
- ✍ Sediment budget of the Rio Grande Watershed
- ✍ Incentives for Watershed Management
- ✍ Strategic interventions in the bamboo industry

### Outputs

- ✍ R2RW achievements and successes are professionally documented through case studies.
- ✍ Lessons learned from the Project are presented at a public seminar and widely disseminated; and
- ✍ Lessons learned from Project implementation are infused into the on-going programs of agencies engaged in watershed management.
- ✍ Special Studies supporting project objectives are implemented

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
6.7.1	Document successes and achievements through case studies (including grant activities)	MN	TS, SH, LD, HG, JS, JE	NEPA
6.7.2	Showcase achievements & transfer lessons learned (seminar)	MN	TS, LD, SH, HG, JS, JE	NEPA
6.7.3	NEPA and other government agencies are encouraged to incorporate lessons from WM case studies into corporate plans.	MN	TS, LD, SH, HG, JS, JE	NEPA, NIWMC
6.7.4	Implement Special Studies that support R2RW objectives in watershed management	MN	R2RW Team	UWI, FD, STTA

## 6.8 Public Awareness Activities

During Year 3, R2RW participated in a number of public awareness activities including regular publishing of a quarterly newsletter, issuing of press releases, and participating on radio talk shows. The objective of the activities presented in this section is to communicate information on R2RW activities and events to the wider Jamaican public in an informative and compelling manner.

### Outputs

- ✍ Share current activities with the wider R2RW stakeholders through a quarterly newsletter;
- ✍ Finalize the distribution of C&E posters to all target groups;
- ✍ Inform the general public of project activities through press releases and regular appearance in Jamaican news media;
- ✍ Actively promote Project successes at professional seminars and events;
- ✍ Make current information on environmental issues available to educators and community leaders through enviro kits; and
- ✍ Disseminate information on constructed wetlands to a national audience.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
6.7.1	Publish quarterly newsletter	SH	MS	PECO
6.7.2	Complete distribution of posters	SH	MW	PECO
6.7.3	Issue regular press releases	SH	MS, LD	PECO
6.7.4	Expand media opportunities (Radio, TV, Print)	SH	MS	PECO
6.7.5	Presentations at public events e.g. JIEP Speakers Forum	SH	MS, Team	PECO
6.7.6	Finalization of public education kits	SH	MS	PECO

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
6.7.7	Develop & disseminate information on constructed wetland technologies at the national level	SH	JE, MS	PECO

**Activity Benchmarks**

A summary of proposed activity benchmarks established for the Third project year for this Component is presented below. These benchmarks are projections. Flexibility in project implementation must be exercised to maximize opportunities and confront constraints.

<p><b>Year Four</b></p> <ul style="list-style-type: none"> <li>✍ GPS Units procured for SWB</li> <li>✍ PubEd kit developed, produced &amp; distributed</li> <li>✍ Three training courses held</li> <li>✍ Watershed policy finalized</li> <li>✍ Two LWMC networking workshops held</li> <li>✍ Four newsletters published</li> </ul>
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R2RW 4th Annual Workplan  
October 1, 2003 - September 30, 2004

ID	Name	Month											
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
314	<b>6 Institutional Strengthening and Capacity Building for Watershed Management</b>												
315	<b>6.1 Strengthening of the SWB</b>												
316	6.1.1. Team building in Branch (2 Retreats)												
317	6.1.1.1 Retreat 1												
318	6.1.1.2 Retreat 2												
319	6.1.2 Finalize equipment specs and procurement												
320	6.1.3 Update SWB watershed database												
321	6.1.3.1 Explore use of LDUC info for SWB Database												
322	6.1.3.2 Incorporate data from KAP survey												
323	6.1.3.3 Update Watershed ranking												
324	<b>6.2 Training for Skill Development</b>												
325	6.2.1 Design and implement course in meeting management												
326	6.2.2 Design and implement course in writing skills												
327	6.2.3 Design and implement course in rapid appraisal techniques for watershed status												
328	6.2.4 Design and implement course in facilitation skills												
329	6.2.5 Design and implement course in fund raising												
330	<b>6.3 LWMC Development</b>												
331	6.3.1 Continue skill building training courses												
332	6.3.2 Study to develop linkage between LWMCs and PDC												
333	6.3.3 Continued networking of LWMCs - 2 workshops												
334	6.3.4 Exchange visits between and within watersheds												
335	6.3.5 Ensure the WPA revision clarifies role of LWMCs												
336	6.3.6 Articulate incentives for LWMC e.g. community competitions												
337	<b>6.4 Policy and Legislation</b>												
338	6.4.1 Watershed policy												
339	6.4.1.1 Finalize content of policy												

R2RW Fourth Annual Work Plan

Task



Summary



Rolled Up Milestone



Milestone



Rolled Up Task





R2RW 4th Annual Workplan  
October 1, 2003 - September 30, 2004

ID	Name	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
340	6.4.1.2 Presentations to NIWMC and NRCA Board		■										
341	6.4.1.3 MLE Submission to cabinet			▼									
342	6.4.1.4 Launch policy												
343	6.4.2 Watershed Protection Act	■											
344	6.4.2.1 Monthly series of focus group consultations	■											
345	6.4.2.2 Conduct Regulatory Impact Assessment Study (RIAS)		■										
346	6.4.2.3 Retain consultant (retired judge) to lead process												
347	6.4.2.4 Preparation of draft regulations under new Act												
348	<b>6.5 NIWMC Activities</b>	■											
349	6.5.1 Tours of GRW & RGW to highlight interventions under anchor projects												
350	6.5.2 Develop mechanism to incorporate LWMC input into the NIWMC												
351	6.5.3 Retreat (based on Council consensus) to determine focus next 2-3 yrs												
352	6.5.4 Participate in NIWMC working groups	■											
353	6.5.5 Develop website for NIWMC	■											
354	<b>6.6. "Improved Sanitation Management Practices" - Anchor Project #4</b>	■											
355	6.6.1 Review and document cost effectiveness of sanitation technologies	■											
356	6.6.2 Setup and monitor simulated systems at CASE	■											
357	6.6.3 Establish linkages with anchor project 'Cleaning and Greening Cambridge'												
358	6.6.4 Mainstreaming of constructed wetland technology	■											
359	6.6.4.1 Formulate local design criteria for constructed wetland systems												
360	6.6.4.2 Make presentations to special interest groups (architects, engineers, contractors)												
361	6.6.4.3 Make presentation on constructed wetland technologies to National Sanitation Task Force												
362	6.6.4.4 Plan & host workshops for MOH, MOE, and Parish Councils on constructed wetland technology												
363	6.6.4.5 Make submission for NEPA approvals on demo wetland systems & hand over to beneficiaries												
364	6.6.4.6 Provide info to agencies responsible for developers manual, builders code, etc												
365	6.6.5 Public Awareness to support anchor project #4	■											

R2RW Fourth Annual Work Plan

Task



Summary



Rolled Up Milestone



Milestone



Rolled Up Task



R2RW 4th Annual Workplan  
October 1, 2003 - September 30, 2004

ID	Name												
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
366	6.6.5.1 Plan and host technical workshops on sanitation technologies												
373	6.6.5.2 Link anchor project to Green Village Award Program												
374	6.6.5.3 Assist communities with sanitation components of Action Plans (e.g. Green Village)												
375	6.6.5.4 Continue River Action campaign incorporating sanitation technologies												
376	6.6.5.5 Disseminate info on sanitation technologies through mass media												
377	<b>6.7 Transfer Approaches, Methodologies and Lessons to Key Partners and Stakeholders</b>	[Thick black bar]											
378	6.7.1 Document successes and achievements through case studies (including grant activities)												
379	6.7.2 Showcase achievements & transfer lessons learned (seminar)												
380	6.7.3 Infuse lessons learned into relevant partners and stakeholders												
381	6.7.4 Implement special studies												
382	<b>6.8 Public Awareness</b>	[Thick black bar]											
383	6.8.1 Publish quarterly newsletter												
384	6.8.2 Complete distribution of posters												
385	6.8.3 Issue regular press releases												
386	6.8.4 Expand media opportunities (Radio, TV, Print)												
387	6.8.5 Presentations at public events e.g. JIEP Speakers Forum												
388	6.8.6 Finalization of public education kits												
389	6.8.7 Develop & disseminate information on constructed wetland technologies at the national level												
390	<b>Component 3 (Institutional Strengthening) Benchmarks</b>	[Thick black bar]											
391	Constructed wetland technology promoted and adopted for use												
392	GPS Units procured for SWB												
393	PubEd kit developed, produced & distributed												
394	Three training courses held												
395	Watershed policy finalized												
396	Two LWMC networking workshops held												
397	Four newsletters published												

R2RW Fourth Annual Work Plan	Task		Summary		Rolled Up Milestone	
	Milestone		Rolled Up Task			

## 7. Project Management

### 7.1 Grant Fund Management

The R2RW Project has taken a comprehensive approach to grant management. The Watershed Grants Program is a “hands on” program that aims to foster the implementation of demand driven, priority initiatives that foster environmental protection directly by community groups. Project activities in the watersheds not only are seen as a way to address an immediate community felt environmental problem, but also as an opportunity create effective linkages between community and GOJ State Agencies. In addition, the R2RW Team serves to support or “buttress” grant proposals from communities with targeted technical assistance. A Project initiative could include a grant, a STTA contract, direct procurement of equipment, TA directly from the team, or the staff time of our strategic partners. A Project initiative could also include a proposal to an external donor such as the EFJ or the JSIF to directly address an initiative of one of the task forces or sub-committees. Grant administration could take place either directly from the R2RW and ASC – or could take place through a strategic partner.

#### Outputs

- ✍ Grants are supporting the Anchor Project Initiatives of Year 4;
- ✍ Grant applications are carefully reviewed for viability, feasibility and impact by the relevant WMCs prior to recommendation for approval;
- ✍ Eight new grants are approved, and implementation begun; and
- ✍ All grants are being monitored by technical and administrative staff to ensure compliance with planned activities and governing regulations

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
7.1.1	Refine grant criteria for anchor projects	MN	HG, JE, SH	SWB
7.1.2	Continued screening of grant applications by WMCs	MN	HG, JE, JS,	SWB
7.1.3	Implementation of 8 new grants	HG, JE	JS, MN,	SWB
7.1.3	Regular monitoring of grant activities	HG, JE	JS, MN, SH	SWB

### 7.2 Staffing

During Year 3, the joint Administrative Support Center established to service both the R2RW and the CWIP Project was closed after the end of the CWIP Project in June 2003. At that point, administrative staffing requirements were evaluated, and 5 of the 7 administrative staff were incorporated into the Staffing Organizational Structure of R2RW. With the start-up of CWIP II in September, 2003, it was decided that a modified staffing pattern would be established wherein certain key administrative positions such as the Financial Management Specialist would be shared, while other positions such as Administrative Assistants would be employed by each Project.

In addition, the Internal Review conducted in May-June of 2003 made several recommendations to upgrade the organization of staffing relationships and to enhance the precision of scopes of work for contracted consultants.

Staff coordination is accomplished through weekly administrative staff meetings as well as monthly technical team meetings:

### **Outputs**

- ✍ A new organizational structure that incorporated recommendations on administrative and technical delegation is operational;
- ✍ Scopes of Work for short-term technical assistance are comprehensive and reflect input from relevant stakeholders; and
- ✍ Staff is working together as a cohesive and responsive team to address the priorities of the clients and stakeholders.

<b>Activity Number</b>	<b>Activity Name</b>	<b>R2RW Leader(s)</b>	<b>Participants</b>	<b>Partner Organizations</b>
7.2.1	Implement new organizational structure from Internal Review	MN	Team	NEPA, USAID
7.2.2	Enhance precision of Scopes of Work for STTA	MN	HG, TS, SH,	NEPA, USAID
7.2.3	Staff Team building and information sharing	MN	Team	NEPA, USAID

### **7.3 Management Arrangements**

The Internal Review found that there was a need to ensure that equitable attention is given directly to meeting the information and communication needs of the USAID CTO; the NEPA Director of the Division of Policy, Programs, and Projects (or her designee); the head of the NEPA Sustainable Watersheds Branch, and the community members where R2RW is working in order to improve collaboration and collective decision-making. Further, efforts should be made to initiate and complete efforts to clarify the specific information and communication needs of the three key clients representatives and provide the identified information and communication in the formats, styles, and schedules, which meet the agreed-upon needs. A schedule has been developed to implement the recommendations arising out of the Internal Review. The schedule is broken out by quarters, and all activities planned for August 2003 were achieved.

R2RW is working to foster coordination and communication among persons involved in project management and implementation. This is achieved through a series of meetings including the following:

#### **✍ NEPA Senior Management Meeting**

This group meets bi-weekly under the direction of the NEPA Chief Executive Officer, and consists of Division Heads, and project managers.

#### **✍ Project Implementation Committee**

The Project Implementation Committee was restructured in August 2003 to incorporate the other USAID SO2 initiatives of the CWIP II Project and the EAST Projects. The new PIC meets monthly to update the clients on project progress, address issues that need approval or resolution, incorporate client concerns into project implementation and to provide overall project management guidance.

✍ **Interagency Steering Committee**

The ISC consists of a broad membership of the wider GOJ agencies impacting on watershed management including NEPA, Forestry Department, Ministry of Agriculture, Ministry of Health, National Water Commission, Ministry of Health and Ministry of Tourism, among others. The ISC meets semi-annually to review Semi-Annual Reports, Performance Monitoring Plans, and Annual Work Plans.

✍ **Portland Coordination Meetings**

This group is being formed to foster coordination among donor projects operating in the Parish of Portland. The first meeting is planned for October 2003.

Activity Number	Activity Name	R2RW Leader(s)	Participants	Partner Organizations
7.3.1	Implement Recommendations from the Internal Review	MN	Team	NEPA, USAID
7.3.2	Project Coordination Meetings	MN	Team	NEPA, USAID, Partners
7.3.3	Refine indicators in Performance Monitoring Plan	MN	HG	ARD, NEPA, USAID
7.3.4	4th Annual Work Plan published	MN	HG, TS, LD, NH	ARD
7.3.5	Semi Annual and Annual Reports published	MN	HG, TS, LD, SH, JE, JS	ARD

**Activity Benchmarks**

A summary of proposed activity benchmarks established for the Third project year for this Component is presented below.

<p><b>Year Four</b></p> <ul style="list-style-type: none"> <li>✍ All grants monitored twice per year</li> <li>✍ Eight new grants implemented</li> <li>✍ New staffing structure implemented and functional</li> <li>✍ Eight Project Implementation Committee meetings held</li> <li>✍ On time submission of work plan and semi annual reports</li> </ul>
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R2RW 4th Annual Workplan  
 October 1, 2003 - September 30, 2004

ID	Name	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
398	<b>7 R2RW Project Management</b>												
399	<b>7.1 Grant Management</b>	[Summary bar]											
400	7.1.1 Refine grant criteria for anchor projects			[Task]									
401	7.1.2 Continued screening of grant applications by WMCs	[Task bar]											
402	7.1.3 Implementation of eight new grants	[Task bar]											
403	7.1.4 Regular monitoring of grant activities	[Task bar]											
404	<b>7.2 Staffing</b>	[Summary bar]											
405	7.2.1 Implement new organizational structure from internal review	[Task]											
406	7.2.2 Enhance precision of Scopes of Work for STTA	[Task]											
407	7.2.3 Staff Team building and information sharing	[Summary bar]											
408	7.2.3.1 Weekly admin meetings	[Task bar]											
461	7.2.3.2 Monthly technical team meetings	[Task bar]											
474	<b>7.3 Management Arrangements</b>	[Summary bar]											
475	7.3.1 Implement Recommendations from the Internal Review	[Task bar]											
476	7.3.2 Project coordination meetings	[Summary bar]											
477	7.3.2.1 NEPA Senior Management Meetings	[Task bar]											
504	7.3.2.2 Project Implementation Committee Meetings	[Task bar]											
517	7.3.2.3 Interagency Steering Committee Meeting		[Task]										
520	7.3.2.4 Portland Coordination Meetings				[Task]			[Task]				[Task]	
525	7.3.3 Refine indicators in Performance Monitoring Plan		[Task]										
526	7.3.4 Fourth Annual Work Plan published		[Task]										
527	7.3.5 Semi Annual and Annual Reports published	[Summary bar]											
530	<b>Project Management Benchmarks</b>	[Summary bar]											
531	All grants monitored twice per year	[Task bar]											
532	Eight new grants implemented	[Task bar]											
533	New staffing structure implemented and functional	[Task bar]											




R2RW Fourth Annual Work Plan	Task	[Task bar]	Summary	[Summary bar]	Rolled Up Milestone	[Diamond]
	Milestone	[Diamond]	Rolled Up Task	[Task bar]		



R2RW 4th Annual Workplan  
 October 1, 2003 - September 30, 2004

ID	Name												
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
534	Eight Project Implementation Committee meetings held												
535	On time submission of work plan and semi annual reports												



R2RW Fourth Annual Work Plan

Task  Summary  Rolled Up Milestone 

Milestone  Rolled Up Task 

## 8. Financial Plan

The table below shows the estimated financial plan for the period October 2003 to September 2004. This table is broken down by contract CLINs that are equivalent to the Contracts discussed in this document.

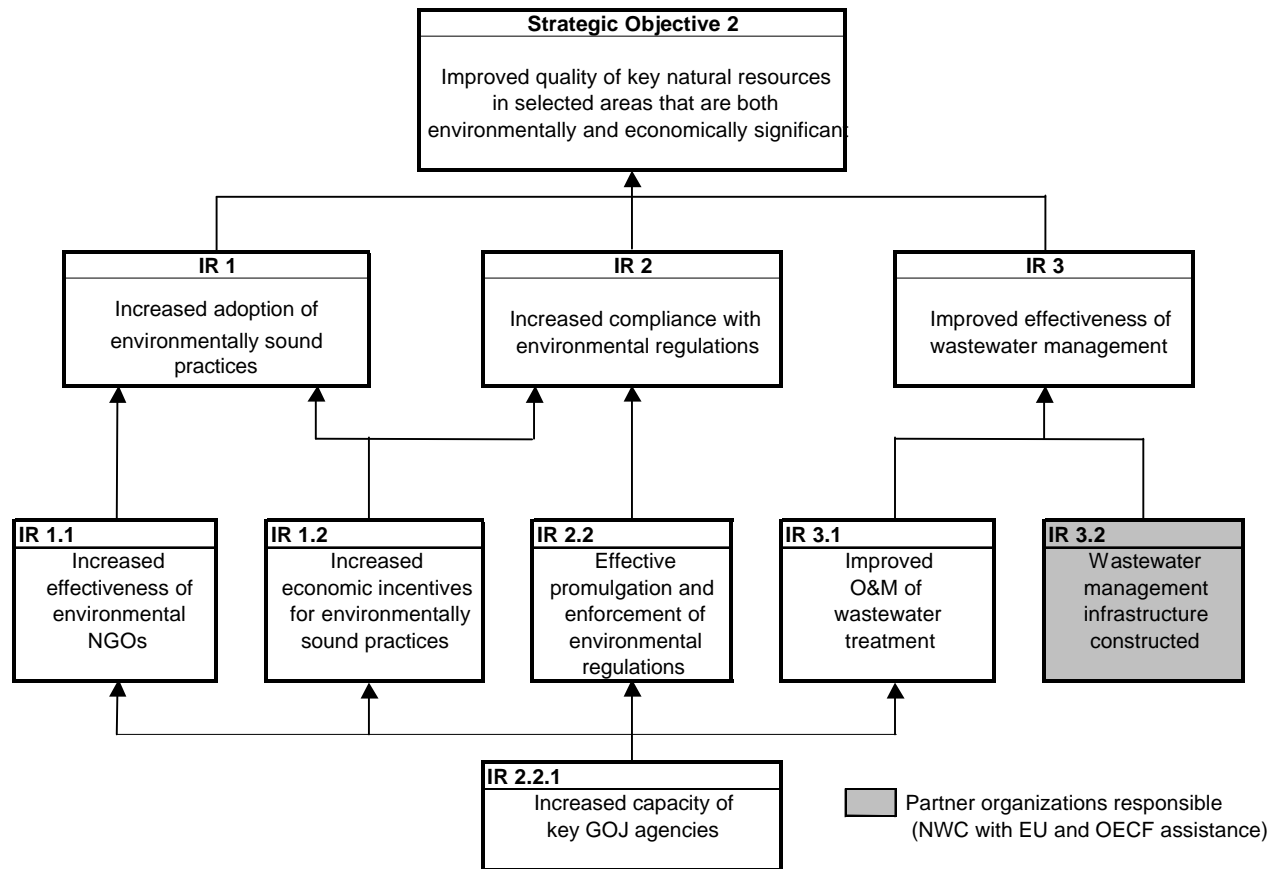
Contract No. 532-C-00-00-00235-00

### ARD, Inc. Ridge to Reef Watershed Project Work Plan Budget for Year Four

	CLIN 1	CLIN 2	CLIN 3	CLIN 4	CLIN 5	CLIN 6	TOTALS
Project Management & Admin	346,145	277,957	74,187	25,558	33,514	31,658	789,020
Consultants							
- International	25,201	20,161	5,040	0	2,653	0	53,055
- Local	75,604	6,483	15,121	0	7,958	0	159,166
Travel, Transportation & Per Diem	60,100	48,080	12,020	0	6,327	5,947	132,474
Equipment & Supplies	0	0	25,000	0	0	0	25,000
Operating Costs	37,950	30,359	7,590	0	3,995	105	80,000
Subcontracts & Tech Assistance	50,403	40,322	10,081	0	5,305	0	106,111
Grants	0	0	0	150,000	0	0	150,000
Training							
- Study Tours	7,500	5,000	2,500	0	0	0	15,000
- In-Country	7,500	5,000	2,500	0	0	0	15,000
<b>TOTALS</b>	<b>610,403</b>	<b>487,363</b>	<b>154,039</b>	<b>175,558</b>	<b>59,753</b>	<b>37,711</b>	<b>1,524,825</b>



## USAID/Jamaica SO2 Result Framework



## Anchor Project No. 1 Ridge to Reef Watershed Project

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### 1. Executive Summary

#### ***Title***

Improved production of pineapple for sustainable livelihoods.

#### ***Location***

Great River Watershed including the border areas of Westmoreland, St. Elizabeth, St. James and Hanover

#### ***Statement of Problem***

Unemployment and underemployment of residents inhibit acceptable and sustainable participation in environmental improvement practices and encourage alternate survival strategies that may be harmful to the environment. Lack of income generating opportunities fosters rural to urban migration especially among young persons.

#### ***Project Goal***

To improve the income of residents in targeted areas of the GRW and surrounding areas in ways that is environmentally friendly, sustainable and economical.

#### ***Linkage to Goals of R2RW***

Improved income will encourage the sustainability of good agricultural practices and provide time and resources for other good environmental practices e.g. solid waste disposal, river protection and wild life conservation.

#### ***Project Objectives***

To establish an agricultural production system for pineapple that will not only meet the goal of improved income and be environmentally friendly but will also be affordable, practicable by the farmers, sustainable and may be replicated in other watersheds and have desirable multiplier effects.

#### ***Key Implementation Partners***

The Rural Agricultural Development Authority (RADA) has the national mandate for agricultural development. NEPA has responsibility for enforcing environmental protection legislation and assists in ameliorating problems leading to pollution etc. The Jamaica Agricultural Society (JAS) has responsibility to marshal resources for farmers and to organize group activities etc. The Jamaica 4-H Clubs and local schools are important for the involvement of young persons in good agricultural practices. The Forestry Department will be supported in establishing timber plants in forests or other Ad Hoc areas. The Community Based Organization (CBOs)

## ***Beneficiaries***

The farmers and their families will be the direct beneficiaries. Other beneficiaries will be the marketers (including higglers and exporters), processors, truckers, small businesses in the area and businesses external to the project area e.g. tour operators.

## ***Period of Project***

October 2003 to April 2005.

## **2. Problem Analysis**

### ***a) Background***

A valid assumption is that poverty or the lack of opportunity to earn a decent livelihood from gainful occupations has led many, especially in the rural areas, to practice non-sustainable environmental farming methods. This has also prevented them from contributing to the protection of the environment. The main occupation in the Great River Watershed is farming, and this comprises the major contributor to pollution through improper or in-appropriate agricultural practices. Fortunately many of these deleterious practices can be prevented or corrected. This provides an opportunity for the Ridge to Reef Watershed Project to make a valuable intervention. There exists a fair amount of knowledge of how to deal with many of the problems. Several farmers have expressed a willingness to change their practices and adopt new and improved ones. Other persons have expressed the desire to assist in practical and affordable interventions.

The demand for improved income through sustained livelihoods is great and immediate and persons usually expect a Project to solve many of their problems. But it is not practical for the Ridge to Reef Watershed Project, given the limited time and resources, to meet all the requests. It can best use the knowledge and resources available to develop a few interventions that will have widespread, sustainable and affordable effects and that can be applied by the participants. In addition, these interventions may be replicated in other watersheds. The activities of this Anchor Project presents a combination of past experience, good income generation potential, satisfaction of immediate demands, will allow for improvement of income, introduce new resources, involve preventive as well as corrective systems and will provide valuable lessons for subsequent projects.

### ***b) Statement of the Problem***

Unemployment or under-employment by residents in the Great River Watershed inhibits participation in environmental improvement practices and encourages alternate survival strategies that may be harmful to the environment. Opportunities for employment in agriculture are limited and sporadic, as most farmers and their families provide the necessary labour. Hireage is done mostly for land preparation or at harvesting. In some areas farm labour is expensive and farmers tend to invest in less labour-requiring enterprises. The pineapple growers in the Great River Watershed experience all these issues.

Pineapple has been growing in the Great River Watershed for nearly 30 years for agro industry and the fruit trade. Recently because of low production and unacceptable small size and poor quality, the demand for processing ended. Some of the fruits are now sold on the fresh fruits market, but at a low price.

Concentration on a single-crop allows for easier application of various strategies to attain a specific goal, and allows for greater ease in evaluating their effects.

### **c) Causes of the Problem**

The problem of low-income generation in the Great River Watershed as it concerns agriculture, is caused by many factors. These include:

#### Physical

The topography of the area is mainly of slopes varying steepness, and deep valleys. There are several soil types, most of which are very fragile. The temperature is fairly constant at about 32 °C, but the moisture pattern varies from heavy rainfall to seasonal and unseasonal droughts.

#### Social

The farms vary in size from large tracts to small plots. The small land space forces many persons into undesirable agricultural practices such as over-cropping and clean cultivation. Lack of land tenure e.g. rental and illegal acquisition of land, discourages good agricultural practices (GAP) such as proper soil conservation and the establishment of perennial crops.

#### Cultural

Poor cultural practices are usually derived from lack of proper knowledge or from bad traditions. Many farmers grow a vast number of crops each of which has its own requirements of space, plant nutrition, pest control and marketing. Ratooning of pineapple is widely practiced and results in low yields. The lack of GAP results in deforestation, clean cultivation, over-tillage, contamination of rivers with agricultural chemicals and poor storm water control.

#### Economic

Marketing of the crops becomes difficult because of small and unsure supplies, sometimes poor quality and unsure demand and prices. Many of these problems are unavoidable but can be managed. Steep hillsides are denuded and can be planted with forests or perennial fruit trees to increase income. Fragile soils can also be planted with perennial crops or treated with proper soil conservation measures. The growing of too many crops at one time should be avoided; hence the planting of pineapple is being encouraged by the Project. Some existing crops like fruit trees may be better managed e.g. by cutting them back to manageable heights. Improved cultural practices not only increase production, but also decrease the incidence of pests, diseases and weeds.

### **d) Local Capacities**

The farmers have persisted with pineapple cultivation and have expressed a willingness to adopt improved production practices. Many have volunteered their land and some labour for the establishment of demonstration plots. There are local services for training and monitoring from organizations such as RADA and the JAS.

### **e) Area for Intervention**

The Great River Watershed covers an estimated 34,000 acres of land spread over four parishes of St. James, Hanover, Westmoreland and St. Elizabeth. The largest part being in St. James. The land is divided into various sized parcels, from large farms to very small plots. The vegetation consists of natural forests, small woodlands developed and scrub pastures and rinate. The land is cropped in perennial fruit trees such as banana, plantain; pineapple, sugarcane, some root crops and some vegetables are also cultivated.

#### **f) Population Profile**

The population of the Great River Watershed is estimated at 85,000 persons spread over four townships and over 40 rural villages. It consists of primarily farming communities. The majority of the persons are mainly of school age. Most of the middle class either migrated or commute to the urban areas for employment. Apart from agriculture other occupations are provided in eco-tourism activities, mining, wood working and trading.

#### **g) Related Activities or Partners**

In order to ensure success and sustainability, it is essential that existing activities complement those of the project, and that the partners have long tenure and involvement in them. The partners include:

- ✍ Rural Agricultural Development Authority who will be responsible for the agricultural implementation of the project.
- ✍ NEPA is responsible to enforce environmental protection laws and also to assist in preventing or ameliorating activities that can lead to damage of the environment.
- ✍ Forestry Department who will assist in the tree planting programme
- ✍ Pest Control Authority who will provide guidance on the appropriate use of and type of chemicals utilized for cultivation of the pineapples.
- ✍ Jamaica Agricultural Society is already organizing farmers into groups to receive agricultural benefits such as from the pineapple development project.
- ✍ Jamaica 4-H Clubs is desirous of activities that will usefully engage young persons.
- ✍ Several other local organizations with interests in agro-processing and marketing etc.

#### **h) Lessons Learned From Similar Activities**

There has not been any recent or developmental activity on pineapple or a similar crop in Jamaica in recent years. However, the experience from cocoa, another environment friendly crop, could be useful. In recent years many cocoa farms were neglected due to low economic returns. Recently the Cocoa Industry Board supported by the Ministry of Agriculture began a cocoa resuscitation drive. The development strategy entails firstly intense sensitization and training of cocoa farmers, followed by the establishment of demonstration plots. Provisions have been made to supply seedlings of improved cocoa cultivars to under plant low yielding ones, or to bud improved cultivars on existing rootstocks. Already there has been a significant increase in production from treated fields and many farmers are improving their cultural practices. These strategies and lessons may be transferred to the resuscitating the pineapple industry in the GRW.

#### **i) Critical Assumptions**

Some critical assumptions necessary for the success of an anchor project dedicated to income generation for sustainable livelihoods include:

- ✍ People will adopt and sustain improved practices if they are affordable, can be easily applied, are sustainable and will provide improved income.

- ✍ That the existing national agencies and partners of this project, like RADA, have adequate capacity and the necessary inputs and technology, in order to perpetuate the good practices developed.
- ✍ That the acceptable practices can be applied for many years without drastic changes in requirements or effects.
- ✍ That planting material will be available to the farmers in the new and improved varieties.
- ✍ That there will be provisions for continued efforts to identify and multiply improved species of the pineapple like the Smooth Cayenne.
- ✍ That the processing and marketing linkages will be developed.

### 3. Goals and Objectives

#### a) Project Goal

To improve the income of residents in targeted areas of the GRW and surrounding areas in ways that is environmentally friendly, sustainable and economical.

#### b) Objectives and Expected Results and Beneficiaries

The objectives and expected results are:

- ✍ To establish or ameliorate pineapple crops in an environmentally sustainable production system.
- ✍ To introduce new marketable varieties that will allow for agro-processing and the fresh fruit market.
- ✍ To improve income generation from new and developmental strategies of cultivating pineapple for farmers, marketers and processors.
- ✍ To use training workshops, an information booklet (*"How to Grow Pineapple in Jamaica"*) and a video towards increasing the awareness and providing continuing education for pineapple growers.

### 4. Implementation Plan

Objective	Project Activities	Organization, Procedures and Modalities	Starting Time of Activities	Estimated Completion Time
To establish or ameliorate pineapple crops in an environmentally sustainable production system	Conduct soil & water analyses at the beginning & end of the project.	R2RW, RRPPU, WRA	Oct. 2003 & April 2005	Oct.2003 & April 2005
	Use of improved cultural practices of contour planting on hillsides, use of new planting materials, proper planting time, etc.	R2RW, RADA, JAS, 4-H Clubs, NEPA	Nov. 2003	April 2005
	Use of small hand tools for mechanical & weed control.			

Objective	Project Activities	Organization, Procedures and Modalities	Starting Time of Activities	Estimated Completion Time
To introduce new marketable varieties that will allow for processing & the fresh fruit market	Procure & plant new marketable varieties i.e. Smooth Cayenne, Ripley & Sugar Loaf.	R2RW, RADA, NEPA, Hotels, JMA, JAMPRO		
	Establish plant nurseries to propagate new varieties & provide planting material ongoing.			
To improve income generation from new & developmental strategies of cultivating pineapples.	To conduct a market analysis to determine the optimum method marketing & pricing.	R2RW, RADA, JAS, Consultant	Nov. 2003	April 2005
	To organize the market in order to obtain optimum & equitable prices from processors & fresh fruit market.			
	To implement a quality control system for pineapples.			
	To supply fruit according to demand consistently.			
To use training workshops, an information booklet & a video to increase the awareness of pineapple growers	To determine training needs & conduct workshops.	R2RW, RADA, JAS	Nov. 2003	April 2005
	To use the information booklet as a training tool.			
	To produce a video for use as a training tool.			

**N.B.**

***Organization Procedures and Modalities***

Management of the anchor Project concentrating on the development of pineapple as a means of improving the income and sustainable livelihood of some persons in the Great River Watershed, will be the responsibility of the Watershed Management Specialist assisted by the Agronomic Specialist and RADA field agents. The pineapple farmers and other interested persons will be involved in the establishment of the demonstration plot in their community or nearby. A programme of development will be structured with their inputs and they will also be asked to monitor and evaluate it from time to time. R2RW will provide all the planting materials and other inputs needed to establish and maintain each demonstration plot. RADA will assist the farmers in developing their own plots in ways such as lining out for proper plant spacing, and soil conservation methods. The farmers will provide planting materials of the pineapple varieties available to them. The JAS will use the demonstration plots etc. to train other farmers in the proper methods of pineapple production

## **5. Viability and Sustainability**

### **a) *Appropriate Technologies***

The planting of pineapples offers opportunities to introduce appropriate production practices for this crop that will improve income generation as well as protect the environment. These include:

- ✍ Minimum tillage to reduce soil loss by erosion.
- ✍ Optimum plant spacing: to increase production per land surface area, obtain the benefit of weed control ease in other cultural practices and reduction of pests like the pineapple weevil borer.
- ✍ Regular replanting of crops to rejuvenate fields to allow for the changing of varieties for improved production or to suit market preferences.
- ✍ Use of appropriate hand tools for weed control.
- ✍ Timing of plantings to benefit from better markets and prices.
- ✍ The introduction of new varieties.
- ✍ Planting on the contour provides the spin-off benefits of soil and water conservation.

### **b) *Protection of the Environment***

Many proper pineapple production practices have environmental protection benefits. Covering the land surface with an economic crop reduces the chance for the development of noxious weeds, as well as dangerous diseases and pests. The roots of pineapples planted in bands along the contour on hillsides serve as some protection against soil erosion. Mechanical, weed control lessens the use of undesirable pesticides and the cut weeds provide a valuable source of organic matter.

### **c) *Economic and Financial Aspects***

This is an income generating project which is expected to raise the economic and financial base of the communities involved.

### **d) *Replicability***

The cultural practices to be used in an effort to improve the production of pineapple in the Great River Watershed are not entirely new, but may be used in improved ways. These practices are manageable by the average farmer and the inputs are affordable. In most cases the results from using them are highly visible. Since pineapple does not cross-pollinate easily, it is not difficult to maintain the purity of a variety, hence good planting materials will be easy to propagate for other similar projects in Jamaica. The handbook of "*How to Grow Pineapple*" recently published, and a video to be produced, will also assist the process of replicability of this project in other parts of the island.



## 6. Monitoring and Evaluation

The performance indicators for project and their means of verification will be as outlined in the table below:

Objective	Performance Indicators	Means of Verification
To establish or ameliorate pineapple crops in an environmentally sustainable production system	Increased production;	Number of plants distributed versus those planted, number of soil conservation barriers, water quality measurements, weight of pineapples - records and reports
	Increased numbers of farmers participating;	
	Increased area of new acreages of pineapple planted or replanted versus total acreage existing;	
	Improved quality of the fruit.	
	Improved water quality;	
	More visible soil conservation barriers.	
To introduce new marketable varieties that will allow for processing & the fresh fruit market	Increased number of plants of new varieties planted on	Number of new varieties distributed versus those planted – records and reports
	Increased area of acreage.	
To improve income generation from new & developmental strategies of cultivating pineapples.	Increased production from a unit of pineapple planted;	More economic activity in the project area.
	Identifiable market for pineapple.	Number of farmers replanting without assistance.
	Increased income from pineapple sold;	
	Competitive prices being offered for pineapple.	
To use training workshops, an information booklet & a video to increase the awareness of pineapple growers	Farmers demonstrate improved understanding of the environmentally sustainable methods of cultivating pineapple	Number of workshops.
	Improved cooperation with implementing environmentally sustainable methods of cultivating pineapple	Registration of participants at workshops
		Post-course assessment.
		Number of requests for and usage of training materials

## Anchor Project No. 2 Ridge to Reef Watershed Project

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### 1. Executive Summary

#### ***Title***

Cleaning and Greening of Cambridge

#### ***Project Location***

Cambridge and its environs, St. James in the GRW

#### ***Statement of the Problem***

With Montego Bay having city status, Cambridge with a population of some 9,000 persons is the main town of St. James. However, Cambridge was recently declared by the Compliance and Enforcement Task Force of the GRWMC as one of the environmental hotspots in the GRW.

This is mainly due to the unsanitary conditions now prevailing in the Town Square, making it a public health hazard to residents and visitors alike. These unsanitary conditions include:

- ✍ The open disposal of un-containerized garbage that stays for days before being collected results in an eye-sore as well as a potential public health issue;
- ✍ There is also the slaughtering of animals in unsanitary conditions;
- ✍ The raising of chickens and pigs in the town in less than hygienic situation;
- ✍ The private use of the public sanitary conditions for other purposes;
- ✍ Inadequate drainage and sewage disposal leading to major run-off and flooding in the town;
- ✍ The growing informal settlements on railway lands in and around the town, adds to the sanitation issues, as well as increasing soil erosion;
- ✍ Many recent land slippages may be observed and
- ✍ More recent housing solutions are compounding the problem as soak-away sanitary solutions are being placed very close to the river.

Some of the Community Groups are very aware of the problems, but feel inadequate to deal with the challenges, especially where some influential persons are involved. The community frustrations have led to considerations for inappropriate solutions.

#### ***Project Goal***

The goal of this anchor project is the “Cleaning and Greening of Cambridge” through the re-development of the Community Development Committee (CDC) for Cambridge in order to provide a local governance mechanism for the community to be involved in the management of its natural

resources; and to implement activities of the CDC and its constituents who are likely to contribute to improved watershed management practices.

### ***Linkage to Goals of Ridge-to-Reef Watershed Project***

This anchor project is expected to contribute to the overall goal of the R2RW Project of “*natural resources under improved and sustainable management*”, through:

1. Implementing targeted activities of the CDC and its constituents that are likely to contribute to improved watershed management practices. These are expected to include improved solid waste collection, alternate sanitation solutions and soil conservation practices;
2. Conducting public awareness activities in order to make residents more aware of the environmental and planning regulations, with the hope of achieving greater compliance with, and community involvement in the enforcement of these regulations;
3. Strengthening the CDC as a local governance mechanism to obtain greater community participation in the management of natural resources; and
4. Building the capacity of partner agencies (central and local governments, and CBOs to more efficiently undertake their mandates.

This is expected to be directly supportive of the USAID Strategic Objective 2 (SO2) – “improved quality of key natural resources in selected areas that are both environmentally and economically significant”

### ***Project Objectives***

The objectives of this project are:

1. Develop the Cambridge CDC as a local governance mechanism that is expected to include in its mandate participation in the management of natural resources;
2. Implement activities (solid waste disposal, alternate sanitation solutions, soil conservation etc) of the CDC and its constituents that are likely to contribute to improve watershed management practices and
3. Conduct public awareness activities that are geared towards increasing the awareness of the residents on environmental and planning regulations.

### **2. Key Implementation Partners**

The Social Development Commission (SDC), who through its role under the “Integrated Community Development Programme” (ICDP) and the Local Government Reform Program has special responsibilities for development of CDCs and their integration into the Parish Development Committee (PDC). The SDC is currently taking the lead role in this intervention. A number of other partners are expected to be involved, including PC, JCF, NSWMA, PHD, RADA, GRWMC and its Task Forces, and the CBOs in and around Cambridge.

### ***Beneficiaries***

The main beneficiary of this project will be the population of Cambridge, its associated groups, the St. James Parish Council, key central government agencies and other communities in the watershed.

### ***Period of Anchor Project***

This project is expected to commence as an anchor project in October 2003, and continue until April 2005.

### **3. Problem Analysis**

#### ***a) Background***

The Great River Watershed is located in northwestern Jamaica, and is of major importance as it supplies water for domestic, agricultural and industrial purposes. The Great River is the major source of potable water to Montego Bay, a major tourist resort area. Some 10 million gallons are drawn off daily. Human settlements are spread throughout the watershed in a number of rural villages and towns. The towns of Anchovy and Cambridge are growing rapidly in response to pressure from an expanding Montego Bay. Many of these communities serve as dormitory communities, housing a large growing number of people working in the tourism and industrial sectors. With Montego Bay having city status, Cambridge with a population of some 9,000 persons (estimated to include a growing squatter community) is the main town of St. James.

#### ***b) Statement of the Problem***

Cambridge was recently declared by the Compliance and Enforcement Task Force of the GRWMC as the number one environmental hotspot in the GRW.

There is a tendency for squatting on marginal hillsides, riverbanks, and even gullies. Cambridge was an attractive station stop when the railway was operating. All those lands are now being occupied with informal settlements along and on the rail-lines. Infra-structural support and social services are considered inadequate and costly for small rural townships. Yet Cambridge informally share these services with other communities, for example the nearby community of Retrieve draws on Cambridge for police services, although part of that community is in the parish of Westmoreland.

#### ***c) Causes of the Problem***

This is mainly due to the unsanitary conditions now prevailing in the Town Square, making it a public health hazard to residents and visitors alike. The open disposal of un-containerized garbage that stays for days before being collected is both an eyesore as well as a potential public health issue. In addition, there is the slaughtering of animals in unsanitary conditions, the raising of chickens and pigs in the town in less than hygienic situation, the private use of the public sanitary conditions for other purposes, inadequate drainage and sewage disposal leading to major run-off and flooding in the town, and growing informal settlements on railway lands in and around the town, adding to the sanitation issues, as well as increasing soil erosion. Many recent land slippages may be observed. More recent housing solutions are compounding the problem as soak-away sanitary solutions are being placed very close to the river.

#### ***d) Local Capacities***

Some of the Community Groups are very aware of the problems, but feel inadequate to deal with the challenges, especially where some influential persons are involved. The community frustrations have led to considerations of in-appropriate solutions. Both the Women's Group and the Police Youth Club have been actively advocating for improvement in these areas. The SDC and the St. James Parish Council are actively involved in re-developing the Community Development Committee (CDC) for Cambridge in order to provide a local governance mechanism for the community to be involved in the decision-making process, including the management of its natural resources.

### **e) Area of Intervention**

This anchor project is expected to contribute to the overall goal of the R2RW Project of “*natural resources under improved and sustainable management*”, through:

1. Implementing targeted activities of the CDC and its constituents that are likely to contribute to improved watershed management practices. These are expected to include garbage disposal, the placing of signs at dumps and other spots, implementation of improved sanitation solutions and soil conservation practices;
2. Conducting public awareness activities to make residents more aware of the environmental and planning regulations, with the hope of achieving greater compliance with, and community involvement in the enforcement of these regulations;
3. Developing the CDC as a local governance mechanism to obtain greater community participation in the management of natural resources; and
4. Building the capacity of partner agencies (central and local governments, and CBOs to more efficiently undertake their mandates.

This is expected to be directly supportive of the USAID Strategic Objective 2 (SO2) – “*improved quality of key natural resources in selected areas that are both environmentally and economically significant*”

### **f) Population Profile**

The Rapid Rural Appraisal undertaken by R2RW indicates:

- ✍ A growing population in the Cambridge community (9,000 approximately) that is rapidly becoming a dormitory for Montego Bay, with tourism and industry being major sources of income for younger people. Older people are mainly involved in agriculture;
- ✍ Average household of 3.9 persons with over 50% being headed by women; and
- ✍ A growing informal settlement that lacks tenure and therefore “ownership interest in the town’s development.

### **g) Related Activities or Partners**

The key-implementing partners will include:

- ✍ The Cambridge CDC and its constituents. These are expected to include the Police Youth Club, and the Women’s Group;
- ✍ The Social Development Commission (SDC), who through its role under the “Integrated Community Development Programme” (ICDP) and the Local Government Reform Programme has special responsibilities for development of CDCs and their integration into the Parish Development Committee (PDC). The SDC is currently taking the lead role in this intervention;
- ✍ The St. James Parish Council whose mandate includes the monitoring of solid waste management, and who are the Local Planning Authority;
- ✍ The National Solid Waste Management Authority (NSWMA) – already committed to provide skips and to collect the garbage;

- ✍ The Rural Agricultural Development Authority (RADA), Ministry of Agriculture;
- ✍ The Forestry Department, Ministry of Agriculture;
- ✍ The Public Health Department – who has commenced investigating of the breeches under the Public Health Act;
- ✍ The JCF, including the Cambridge Police Station and the ISCF; and
- ✍ The GRWMC and its relevant Task Forces.

#### ***h) Lessons Learned from Similar Activities***

The experiences and lessons of R2RW Project and other projects are:

- ✍ Changes in attitude of community leaders and residents are crucial for acceptance and buy-in to community activities;
- ✍ Community members must take the lead in activities for ownership and sustainability of these activities to be assured; and
- ✍ Community involvement is vital for the management of natural resources.

#### ***i) Critical Assumptions***

This project assumes that:

- ✍ There will be a continuation of GOJ policies towards greater local involvement in natural resources management, and that policies such as the ICDP, Local Government Reform Programme, PDCs, and support for LWMCs will continue;
- ✍ That SDC and the PC will support the development of the Cambridge CDC;
- ✍ The residents of Cambridge – individually and through their CBOs will continue to support this project; and
- ✍ Key state agencies will continue to provide resources to this initiative

### **4. Goal and Objectives**

#### ***a) Project Goal***

The goal of this anchor project is to “Clean and Green Cambridge” and to obtain greater community involvement in the management of its natural resources which is likely to contribute to improved watershed management practices.

#### ***b) Project Objectives and Expected Results***

The objectives of this project are:

- ✍ Develop the Cambridge CDC as a local governance mechanism that is expected to include in its mandate participation in the management of natural resources;

- ✍ Implement activities (garbage disposal, alternate sanitation solutions, soil conservation etc) of the CDC and its constituents that are likely to contribute to improved watershed management practices; and
- ✍ Conduct public awareness activities that are geared towards making residents more aware of the environmental and planning regulations

The projected is expected to result in:

- ✍ A functioning partnership in Cambridge by way of the CDC, that includes involvement in local resources management;
- ✍ A cleaner and greener Cambridge and its environs; and
- ✍ Greater awareness of environmental issues by the residents of Cambridge, including greater compliance with environmental and planning laws, and more vigorous prosecution where violations occur.

## 5. Implementation Plan

The table listed below provides the implementation plan for this project:

Objective	Project Activities	Organization, Procedures and Modalities	Starting Time of Activities	Estimated Completion Time
Develop the Cambridge CDC	Develop TOR and hire a Project Manager	R2RW, SDC, NEPA, Task Forces	October 03	June 05
	Develop Community Profile and "Before Status"	SDC, R2RW	October 03	October 03
	Conduct multi-stakeholders Workshop/s to develop an Environmental Action Plan, and establish the Executive of CDC	SDC, GRWMC	October 03	November 03
	Conduct Community Training	SDC, R2RW, MIND, Consultant	November 03	March 05
	Develop and implement reporting and monitoring procedures	CDC Executive, SDC, GRWMC	November 03	June 05
	Launch the CDC	SDC and all	November 03	November 03
Implement garbage disposal, placement of signs, alternate sanitation and soil conservation activities that are likely to contribute to improved watershed management practices	Procure receptacles, tools and other equipment for conducting clean-up and proper disposal of garbage	CPYC, W&STF, NSWMA, R2R	October 03	December 03

Objective	Project Activities	Organization, Procedures and Modalities	Starting Time of Activities	Estimated Completion Time
	Implement the Clean-up and the Greening of Cambridge Campaign	CPYC, W&STF, NSWMA, R2R	October 03	March 05
	Erect signs	PC, NSWMA	December 03	November 04
	Implement alternate sanitation and waste disposal solutions	PC, W&STF, NSWMA, R2RW	December 03	March 05
	Conduct demonstrations of soil conservation best practices	RADA, FD, Task Forces	December 03	March 05
	Conduct field days, workshops & seminars to share best practices	RADA, FD, NSWMA, 4H, NEPA	December 03	March 05
	Conduct special study to review squatting issues in the town	NEPA, MLE, MOH, R2R, Consultant	November 03	February 04
Conduct public awareness and C&E activities that are geared towards making residents more aware of the environmental and planning regulations	Strengthen and/or establish Club/s that includes an environmental mandate	SDC, 4H, JET, MBMP, Y&E Group	October 03	March 05
	Conduct competitions and special activities– mural, quiz, debating geared to creating more environmental awareness	PATF, Consultants	February 04	March 05
	Develop and distribute Enviro-Kits	PATF/GRWMC Consultants	February 04	March 05

## 6. Viability and Sustainability

### ***Appropriate Technologies***

The Cambridge Project will support best practices in garbage disposal, alternate sanitation solutions, soil conservation, and local governance

### ***Protection of the Environment***

This project is geared towards protecting the environment and will contribute to the overall goal of the R2RW Project of “*natural resources under improved and sustainable management*”, through improving watershed management practices. The project is expected to include improved sanitation and soil conservation practices; and achieve greater awareness of the environmental and planning regulations, with the objective of attaining greater compliance with and community involvement in the enforcement of these regulations;

### ***Socio-Cultural Aspects/Gender Awareness***

Public Health issues usually affect men, women, children, and the elderly in different ways. Men and women have different roles and responsibilities which affect sanitation practices and health conditions.

More than 50% of the households are headed by female.



## ***Capacity Building***

This project is expected to improve local capacity (CBOs, and CDCs) to be more involved in local decision making activities, and to strengthen the PC, and Central Government Agencies to have more effective intervention strategies at the community level

## ***Economic and Financial Aspects***

This is not an income generating project. It is however expected that community members will benefit from project activities and that the private sector and residents will benefit from improved sanitary environs. For example, project staff in the field is currently reluctant to purchase meals from restaurants in the town and some community members will not buy the animals butchered in the existing slaughterhouse. Initial financial resources are expected to come from R2RW, with technical assistance from state agencies. It is, however, expected that private sector, state agencies and local government will assign resources to the initiative.

## ***Replicability***

The Cambridge partnership is expected to transform, clean up, and green the existing town. This partnership should provide lessons in community intervention that could be replicated in other communities in Jamaica.

## **7. Monitoring and Evaluation**

### ***a) Monitoring and Evaluation Plan***

The project participants will meet to develop a participatory evaluation plan. This plan will include indicators to measure the three objectives / components of the project. These indicators for the project would be:

**Objective 1:** Development of the Cambridge CDC

- ✍ **Indicator No. 1** – A fully operational CDC with trained officers that meets regularly and effectively to monitor development and environmental plans for Cambridge.

**Objective 2:** Implement activities (solid waste disposal, sanitation, soil conservation etc) of the CDC and its constituents that are likely to contribute to improved watershed management practices.

- ✍ **Indicator No. 2** – A cleaner and more environmentally friendly Town Square.
- ✍ **Indicator No. 3** – Decrease in the number of public health and other breeches of planning and environmental regulations.

**Objective 3:** Conduct public awareness and compliance and enforcement activities that are geared to make residents more aware of the environmental and planning regulations.

- ✍ **Indicator No. 4** – An Enviro-Kit for Cambridge developed and being used.
- ✍ **Indicator No. 5** – An annual Green Day established in Cambridge.

## 8. Integrating Project Resources around the Anchor

The environmental awareness programme in Cambridge is based on a geographical intervention, rather than thematic, and is therefore expected to integrate project resources around all the major components of the project, namely:

- ✍ **Sustainable Environmental Practices:** especially those related to solid waste management and soil conservation;
- ✍ **Enhanced Compliance and Enforcement:** community being more involved in compliance with and enforcement of environmental and planning laws;
- ✍ **Enhanced Capacity to Implement Effective Watershed Management Programs:** it is expected that capacity will be built at the local and parish levels to participate in the management of natural resources as well as at the national level to undertake better community interventions;
- ✍ **Improved Governance:** community members, through the CDC should be better able to participate in decisions that affect them from day to day;
- ✍ **Enhanced Public Awareness:** the project is geared to increase public understanding of environmental and planning laws, as well as to provide greater advocacy and lobbying skills; and
- ✍ **Addressing Gender Considerations:** Most of the households in Cambridge are headed by women, and they along with men, children and the elderly impact differently on resources in the watershed. The project will attempt to understand this more and to implement its strategies to influence positively the cultural, gender and special group interest.

## Anchor Project No. 3 Ridge to Reef Watershed Project

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### 1. Executive Summary

#### ***Title***

Improves Land Management in the Rio Grande Watershed

#### ***Project Location***

Rio Grande Watershed (RGW)

#### ***Statement of the Problem***

The RGW is characterized by the following:

- ✍ Steep slopes, 75% of which exceed 20 degrees.
- ✍ Soil types with high erosion potential. It is recommended that these soils should not be cultivated but be left to natural vegetation due to the erosion hazard.
- ✍ Most rivers in the watershed have a high flow rate, hence the risk of flooding.
- ✍ Poor water quality – based on an analysis carried out in 1997 that showed elevated levels of phosphates, nitrates and fecal Coliform.

The problem is focused on deteriorating watershed health resulting from unfavorable land use practices including farming in unsuitable areas and inappropriate farming practices. There is an urgent need to influence change in the attitude of watershed residents through well-planned interventions to improve land management.

#### ***Project Goal***

To support sustainable land management practices that will mitigate soil erosion and flooding and consequential damage to property and infrastructure.

#### ***Linkage to Goals of R2RW***

The project contributes to the completion of Contract Result 1 of the R2RW project – Through targeted organizations, sustainable environmental management practices by resource users identified and promoted.

The project also contributes to the achievement of USAID Strategic Objective 2 for Jamaica – improved quality of key natural resources in areas that are both environmentally and economically significant.

## ***Project Objectives***

The objectives of this project are:

- ✍ To support sustainable land management practices that will mitigate soil erosion and flooding and consequential damage to property and infrastructure.
- ✍ To improve ground cover (and land permeability) thereby contributing to improved water quality and quantity, protection of soil, maintenance and improvement of biodiversity, disaster mitigation and creation of sustainable livelihood opportunities.
- ✍ To increase the understanding of natural resource issues and conflicts in the RGW with a view to mitigation of potential hazards

## ***Key Implementation Partners***

- ✍ Rio Grande Watershed Management Committee (RGWMC)
- ✍ Forestry Department (FD)
- ✍ Rural Agricultural Development Authority (RADA)
- ✍ Social Development Commission (SDC)
- ✍ Jamaica Agricultural Society (JAS)

## ***Beneficiaries***

Watershed residents

## ***Period of Anchor Project***

18 months (November 2003 – April 2005)

## **2. Problem Analysis**

### ***a) Background***

The RGW is located in the northwest section of Portland and St. Thomas and spans about 30,970 hectares. The Blue and John Crow Mountains form its southern, western, and eastern extremities respectively. Port Antonio (capital of Portland), adjoining towns and coastline form the northern boundary.

The Rio Grande Watershed Management Unit is located on the northeastern coast of Jamaica and is home of some of the most spectacular landscapes in the country. These landscapes result from the interplay of hills and valleys and many rivers, the largest of which is the Rio Grande after which the watershed is named. Like many other parts of the world, the Rio Grande Watershed is being affected by global climate changes such as global warming, and there are already reports of droughts and associated shortage of domestic water supplies in what is regarded as a wet area with high, well-distributed rainfall. Environmental degradation is characterized by soil erosion, landslides and land occupation by invasive plants such as bamboo that has reduced the area of land available for farming.

The area is rich in natural and cultural resources. Its very high rainfall and extremely mountainous topography provide spectacular scenery, salubrious climate, and rich biodiversity of global significance. Historically the RGW has been a focal point of pre-Columbian (Tainos), Spanish and English cultures. Together these cultures form the backdrop against which is set 300 hundred years of “occupation and continuing presence” by the Windward Maroons. These cultures and

their traditions are important if not decisive factors to be taken into account in developing management strategies for the RGW.

Elevations in the watershed range from zero meters at the coast to 2,246 meters in the Blue Mountains. The southwest sections of the watershed have the steepest terrain. Throughout the watershed, slopes are generally steep. More than 75% of the slopes exceed 20 degrees, thus making the area prone to geomorphic change due to gravity and steep slopes. The unique characteristics of the RGW while offering significant development opportunities, is constrained by the fragile biophysical system.

**b) *Statement of the Problem***

Deteriorating watershed health has resulted from unfavorable land use practices including farming in unsuitable areas and inappropriate farming practices. There is an urgent need to influence change in the attitude of watershed residents through well-planned interventions to improve land management.

**c) *Causes of the Problem***

Due to the steepness of most of the slopes and the associated soil types and shallow profiles, most areas of the watershed are prone to soil erosion. It has been recommended that these soils not be cultivated, but left under natural vegetation due to high erosion potential.

The establishment of coffee farms on steep slopes, illegal occupation of lands designated as forest reserves and inappropriate land use practices are the principal causes of land degradation and river contamination.

**d) *Local Capacities***

There are small groups in many communities of the watershed that function as JAS branches, church groups, citizens' organizations and Community Development Organizations (organized by the SDC). Institutional capacity among these groups is low and there is a history of extended periods of dormancy. Low levels of literacy and limited number of persons who are willing and capable of providing leadership in communities are constraints to the community development process.

One very active community group is the Moore Town Maroons that functions as a "self-governing" and autonomous district occupying lands obtained in 1740 under the treaty with the British Government. This treaty gave them rights to the lands they now occupy and the authority to manage their own affairs. A council headed by an elected colonel manages the affairs of the Maroon community.

Several agencies of government and NGOs are active within the Rio Grande Watershed. Local government is the main responsibility of the elected Parish Council that acts as a liaison between central government and the citizens. There are currently four Parish Council Divisions within the watershed. Some progress is being made to revitalize the local government and community participation through Parish Development Committees and special interest groups.

The levels of literacy at the community level in the RGW require that public awareness messages be appropriately tailored. Infrastructure is very poor and very bad road conditions, in most areas of the watershed, restrict many services to communities.

#### **e) Area of Intervention**

The project area is the RGW with efforts concentrated in the NW section of the watershed (including the communities of Rock Hall, Industry, Chatsworth, Maidstone, and Coopers Hill) and along the SE corridor (including the communities of Fellowship, Windsor, Bellevue, Moore Town, Cornwall Barracks, Ginger House, Comfort Castle and Millbank).

#### **f) Population Profile**

The Rapid Rural Appraisal undertaken by R2RW indicates:

- ✍ A population of approximately 23,000 persons.
- ✍ Agriculture dominates the economic activities in the project area, followed by trading and then tourism.
- ✍ All the key areas of livelihood are heavily dependent on the natural and cultural resources of the areas. Rafting, for example which is the main tourism activity in the watershed, mainly depends on the availability and conditions of the waters of the Rio Grande; the flood plain of Rio Grande provides rich agricultural lands for the cultivation of banana, the main plantation crop in the watershed. Sustaining the values of these resources is decisive to the maintaining the quality of life of the communities in the area. This task is made difficult by the exceptionally high rainfall and frequent landslides and flooding, which occasions the watershed.

#### **g) Related Activities or Partners**

The key-implementing partners will include:

- ✍ National Environment and Planning Agency (NEPA)
- ✍ Rio Grande Watershed Management Committee (RGWMC) and its Task Forces
- ✍ Forestry Department (FD)
- ✍ Rural Agricultural Development Authority (RADA)
- ✍ Social Development Commission (SDC)
- ✍ Jamaica Agricultural Society (JAS)
- ✍ Water Resources Authority (WRA)

#### **h) Lessons Learned from Similar Activities**

The experiences and lessons of R2RW and other projects are:

- ✍ Changes in the attitude of community leaders and residents are crucial for acceptance and buy-in to community activities.
- ✍ Stakeholders and community members must take ownership of projects for successful outcomes and replication of activities.
- ✍ Livelihoods issues are over-riding factors in the adoption of technology and attitude change.
- ✍ Substantial technical support must be incorporated into project implementation to propel activities, ensure correct applications and to promote sustainable environmental practices and activities as high priority.

### ***i) Critical Assumptions***

This project assumes that:

- ✍ Government agencies will support the anchor project and have capacity to devote resources to implementation.
- ✍ Anchor project receives support and buy-in from partners of NEPA and USAID.
- ✍ Crosscutting activities will be strongly advocated i.e. gender equity, compliance and enforcement, environmental public awareness and grant program administration.
- ✍ Technical assistance will be available and obtained.
- ✍ Key government agencies, NGOs, and stakeholders will commit human resources to implementation of sub-projects.
- ✍ Beneficiary groups will accept and implement interventions.
- ✍ Concerted efforts will be made by key government agencies to improve land tenure arrangements and mitigate actions of squatters.

### **3. Anchor Project Goals and Objectives**

#### ***a) Project Goal***

To support sustainable land management practices that will mitigate soil erosion and flooding and consequential damage to property and infrastructure.

#### ***b) Project Objectives and Expected Results***

The objectives of this project are:

- ✍ To support sustainable land management practices that will mitigate soil erosion and flooding and consequential damage to property and infrastructure.
- ✍ To improve ground cover (and land permeability) thereby contributing to improved water quality and quantity, protection of soil, maintenance and improvement of biodiversity, and creation of sustainable livelihood opportunities.
- ✍ To increase understanding of natural resource issues and conflicts in the RGW with a view to mitigation of potential hazards.

#### ***c) Project Expected Results***

The project is expected to result in:

- ✍ Six (6) community agro-forestry sub-projects implemented.
- ✍ 35,000 trees planted.
- ✍ 200 hectares improved through the adoption of sustainable agricultural practices such as alley cropping.

- ✍ Land stabilization structures established and promoted where necessary e.g. gully plugs, drainage channels.
- ✍ Five (5) goat stud stations established.
- ✍ Strategies identified with stakeholders to reduce damage by stray animals to public and private forest plantations.
- ✍ Three special studies related to land management completed.
- ✍ Compliance, enforcement, public awareness and extension activities conducted to enhance demonstration effect and promote mainstreaming of targeted appropriate practices.

#### 4. Implementation Plan

The table below summarizes the implementation plan for this project:

Objective	Project Activities	Organization, Procedures and Modalities	Timeframe
<p>To support sustainable land management practices that will mitigate soil erosion and flooding and consequential damage to property and infrastructure</p> <p>And</p> <p>To improve ground cover (and land permeability) thereby contributing to improved water quality and quantity, protection of soil, maintenance and improvement of biodiversity, and creation of sustainable livelihood opportunities.</p>	<p>i) Community agro-forestry projects</p> <p>ii) Tree planting (timber, fruit trees and ornamentals)</p> <p>iii) Alley cropping</p> <p>iv) Other land stabilization structures</p> <p>v) Promotional field days to maximize demonstration effect improve public awareness and advocate compliance and enforcement.</p>	<p>NEPA</p> <p>RGWMC</p> <p>FD</p> <p>RADA</p> <p>SDC</p> <p>JAS</p> <p>WRA</p>	November 2003
To deepen understanding of natural resource issues and conflicts in the RGW with a view to mitigation of potential hazards.	<p>Special Study:</p> <p>Rio Grande River - Sediment type, volumes and transport</p>	STTA	January 2004
	<p>Special Study:</p> <p>RGW - Water Quality Testing/ Monitoring</p>	STTA	January 2004
	<p>Special Study:</p> <p>Determine extent and hazard of land slippage and faulting in Dumphries area</p>	STTA	January 2004



**N.B.** Project activities (I) – (v) support Objectives 1 and 2

## **5. Viability and Sustainability**

### ***Appropriate Technologies***

The project will promote and support best practices in land management, soil conservation and watershed protection through the application of agro-forestry principles, tree planting, improved farming practices and land stabilization structures.

### ***Protection of the Environment***

This project is geared towards protecting the environment and will contribute to the overall goal of the R2RW Project of “*natural resources under improved and sustainable management*”, through improving watershed management practices. These are expected to include improved awareness of the environmental and planning regulations, with the hope of achieving greater compliance with and community involvement in the enforcement of these regulations;

### ***Socio-Cultural Aspects/Gender Awareness***

Efforts will be made to maximize project outcomes through the incorporation of gender equity principles in the allocation of project benefits.

### ***Capacity Building***

This project is expected to improve local capacity (NGOs, CBOs, and CDOs) and parish government to have more effective intervention strategies at the community level. The capacity of central government agencies will also be enhanced to more effectively carry out their mandates.

### ***Economic and Financial Aspects***

Financial resources are expected to come from R2RW with in-kind contribution from state agencies and community organizations.

### ***Replicability***

Promotional field days, public awareness and advocacy activities will seek to promote the replication of activities across the watershed. NEPA should be actively engaged in the process to benefit from lessons learned as a strategy to promote adoption in other watersheds.

## 6. Monitoring and Evaluation

The performance indicators for the project and their means of verification will be as outlined in the table below:

Objective	Performance Indicators	Means of Verification
To support sustainable land management practices that will mitigate soil erosion and flooding and consequential damage to property and infrastructure	<ul style="list-style-type: none"> <li>✍ Improved practices;</li> <li>✍ Reduced soil erosion and land slippage;</li> <li>✍ Hazards of flooding reduced.</li> </ul>	Before (Baseline) and After (Rapid Reconnaissance) Assessment
To improve ground cover (and land permeability) thereby contributing to improved water quality and quantity, protection of soil, maintenance and improvement of biodiversity, and creation of sustainable livelihood opportunities.	Improved ground cover (vegetative cover)	Before (Baseline) and After (Rapid Reconnaissance) Assessment
To deepen understanding of natural resource issues and conflicts in the RGW with a view to mitigation of potential hazards	Persons demonstrate improved understanding	Before (Baseline) and After (Rapid Reconnaissance) Assessment

## 7. Integrating Project Resources Around the Anchor

The anchor project is expected to integrate resources around all the major components of the project, namely:

- ✍ **Sustainable Environmental Practices:** especially those related to land use practices and soil conservation.
- ✍ **Enhanced Compliance and Enforcement:** community being more involved in compliance with and enforcement of environmental and planning laws.
- ✍ **Enhanced Capacity to Implement Effective Watershed Management Programs:** it is expected that capacity will be built at the local and parish levels to participate in the management of natural resources, as well as at the national level to undertake better community interventions.
- ✍ **Improved Governance:** community members should be better able to participate in decisions that affect them from day to day.
- ✍ **Enhanced Public Awareness:** the project is geared to increase public awareness with a view to changing behavior.
- ✍ **Addressing Gender Considerations:** The project will acknowledge the different roles of men, women and children and age cohorts with a view to maximizing involvement and project impact.

## Anchor Project No. 4 Ridge to Reef Watershed Project

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### 1. Executive Summary

#### ***Title***

Improved Sanitation Management Practices

#### ***Location***

Great River and Rio Grande Watersheds

#### ***Statement of Problem***

Poor sanitation was identified as the top priority in the GRW and RGW due to inadequate disposal and/or management of solid and liquid waste primarily from households and small business complexes (shop and stores). Water quality monitoring of the GR has documented high levels faecal Coliform in surface waters.

#### ***Project Goal***

To improve the management of sewage generated in the project watersheds<sup>1</sup> through the forging of partnership among CBOs, private sector and Government Organizations (NEPA, MOH, PC, NSWMA, etc.), which will result in an overall improvement of the health of these watersheds.

#### ***Linkage to Goals of Ridge to Reef Project***

This project will begin to reduce the adverse effects of bad sanitation practices in the upper and middle watershed (Ridge) on the marine environments (Reef), by demonstrating the sustainable environmentally friendly sanitation practices and disseminating the information.

#### ***Project Objectives***

- ✍ To demonstrate the cost effectiveness and environmental friendliness of sanitation technologies.
- ✍ To increase awareness, acceptance, and utilization of demonstrated technologies by the residents (private & commercial) in the Great River and Rio Grande Watersheds.
- ✍ To mainstream the technologies demonstrated in the permit systems of NEPA, MOH and PC's.

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<sup>1</sup> Project Watersheds refer to both the Great River and Rio Grande Watersheds.

### ***Key Implementation Partners***

CBO's, NWC, NEPA, MOH, PC's.

### ***Beneficiaries***

Residents (private & commercial) of GR, Visitor (local & foreign).

### ***Period of Anchor Project***

October 03 – April 05.

## **2. Problem Analysis**

### ***a) Background***

The two watersheds involved in the project include those of the Great River and the Rio Grande, both the focal points of the R2RW project.

The Great River Watershed is located in northwestern Jamaica and is of major importance as it supplies water for domestic, agricultural and industrial purposes. The Great River is the major source of potable water to Montego Bay, a major tourist resort area. Some 10 million gallons are drawn off daily. Human and farming settlements are spread throughout the watershed in a number of rural villages and towns and disposal of liquid waste is not formalized.

The Rio Grande Watershed located in the northwest section of Portland and St. Thomas and spans about 30,970 hectares. The capital of Portland, Port Antonio, adjoining towns and coastline form the northern boundary.

The Rio Grande Watershed Management Unit consists of landscapes which result from the interplay of hills and valleys and many rivers, the largest of which is the Rio Grande after which the watershed is named. Like many other parts of the world, the Rio Grande Watershed is being affected by global climate changes such as global warming, and there are occurrences of droughts and floods and associated shortage of domestic water supplies which affects the formalization of sanitation disposal systems. Environmental degradation is characterized by soil erosion and landslides.

Poor sanitation has been identified as the top priority in the GRW and RGW due to inadequate disposal and/or management of solid and liquid waste primarily from farms, households and small business complexes (shop and stores).

### ***b) Statement of Problem***

Poor sanitation was identified as the top priority in the project watersheds due to inadequate disposal and/or management of sewage primarily from households, schools and small business complexes (shop and stores). Livestock and farming practices also contribute to the problem. Water quality monitoring of the project watersheds has documented high levels faecal Coliform and nutrients in surface waters, notably in the GR.

### ***c) Causes of the Problem***

✍ The cumulative effect of using pit latrines, and absorption pit in areas that are not appropriate (i.e. near underground water sources, streams, or rivers) has contributed to the poor quality detected in the rivers. There has been little or no affordable alternatives offered to the residents as a result most do what that are accustomed to doing.

- ✍ Poor livestock and farming practices also contribute to the problem.
- ✍ The lack of awareness of the residents that the current sanitation practices can be detrimental to the environment (i.e. pollute the underground water sources, streams and rivers).
- ✍ Inability of the regulatory agencies to manage the scope of the problem.

**d) Local Capacities**

With the formation of the WMCs and by extension the Water and Sanitation Task force of the WMCs it is possible to coordinate the efforts of the Government Agents, CBO's, and private sector to maximize the affect of the individual efforts.

Potential partners on the project are the MBMP, NWC, NEPA, Ministry of Health, Parish Councils, CASE, JCDT and PDC.

**e) Areas of Intervention**

This project is expected to contribute to the overall goal of the R2RW Project of *“natural resources under improved and sustainable management”* through:

- ✍ The demonstration of improved sanitation management practices in both watersheds.
- ✍ The continuation of a public awareness programme currently running and the addition of some new strategies to intensify the programme.
- ✍ The mainstreaming of the technologies demonstrated.

**f) Population Profile**

The Rapid Rural Appraisal undertaken by R2RW indicates:

Great River Watershed	Rio Grande Watershed
<ul style="list-style-type: none"> <li>✍ Approx. Population of 85,000 persons</li> <li>✍ The elderly are mainly involved in agriculture; the middle-aged have either migrated or commute to urban areas for employment and a large portion of the population are school age.</li> <li>✍ The occupations in the urban areas tended to be tourism, mining and trading.</li> <li>✍ Most of these livelihoods are heavily dependent on the natural and cultural resources of the area</li> </ul>	<ul style="list-style-type: none"> <li>✍ Approx. Population of 23,000 persons</li> <li>✍ Agriculture accounts for the largest portion of the economic activities, followed by trading, tourism and mining.</li> <li>✍ Most of these livelihoods are heavily dependent on the natural and cultural resources of the area.</li> </ul>

**g) Related Activities**

This project will build-on and support the work being done in the Cambridge Anchor Project and the existing R2RW Public Awareness Program (i.e. The Green Village Program, River Action Program, JCDT Community Education Program).

#### ***h) Lessons Learned from Similar Activities***

The lessons learned from the activities that are being built on are:

- ✍ The Environmental Friendliness of a practice is not the main motivator for most of the community members.
- ✍ If the cost effectiveness is shown alongside the environmental friendliness, adaptation improves.
- ✍ Method of selection of participants can impact on the project outcome.
- ✍ Communities who work together achieve effective results.
- ✍ Technology serves as an entry point to the other sanitation practices e.g. personal hygiene.

#### ***l) Critical Assumptions***

The project assumes that:

- ✍ The costs used to assess the cost effectiveness of the sanitation systems are complete and not subsidized.
- ✍ Both the Green Village Program and the River Action Program will be continued in Year 4 of the Work Plan.
- ✍ Key state agencies will be a part of the sustainability of the project.

### ***3. Goals and Objectives***

#### ***a) Project Goal***

To improve the management of sewage generated in the project watersheds<sup>2</sup> through the forging of partnership among CBOs, private sector and Government Organizations (NEPA, MOH, PC, NSWMA, etc.), which will result in an overall improvement of the health of these watersheds.

#### ***b) Project Objectives***

- ✍ To illustrate the cost effectiveness and environmental friendliness of sanitation technologies.
- ✍ To increase awareness, acceptance, and utilization of demonstrated technologies by the residents (private & commercial) in the Great River and Rio Grande Watersheds.
- ✍ To mainstream the technologies demonstrated in the permit systems of NEPA, MOH and PC's.

#### ***c) Project Expected Results***

- ✍ Improved management of the natural resources.
- ✍ The sanitation technologies will be accepted and utilized by the communities.

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<sup>2</sup> Project Watersheds refer to both the Great River and Rio Grande Watersheds.

- ✍ Public Health Department offices, Parish Councils and NEPA will recommend and approve the use of the sanitation technologies when applicable, if the design criteria are followed.
- ✍ This project will help to focus the activities of the W & S task force and build their capacity through the implementation of the project.
- ✍ This project will also help to build the capacity of CASE through implementation of the grant project that supports the anchor project.

#### **4. Implementation Plan**

##### **a) Project Activities**

The project will involve:

- ✍ Demonstration of technologies and systems in defined areas. This will be achieved through grant projects, investigative studies and technical assistance through Task forces.
- ✍ Public awareness campaign (NEPA & Task forces).
- ✍ Mainstreaming of technologies.

##### **b) List of Existing Activities that the Project will Build on**

###### **i) Technology Demonstrations**

- ✍ Retrieve sanitation system demonstrations.
- ✍ Retrieve All Age School water harvesting and sanitation demonstration.
- ✍ Pisgah All age School water harvesting and sanitation demonstration.
- ✍ Content Community Center water harvesting and sanitation demonstration.
- ✍ Mafoota car wash and laundry demonstration.

###### **ii) Public Awareness Activities**

- ✍ River Action campaign with the Action Boyz.
- ✍ Green Village Award Program.
- ✍ Instructional video, and information flyers on sanitation technologies using constructed wetland technology).

###### **iii) Investigative Studies and Simulations**

- ✍ Water Quality Monitoring Program of Great River by UWI.
- ✍ CASE Grant - Household wetland system performance analysis and revisions of design criteria for new system based on local.

The following table provides the Implementation Plan for this project

Objective	Project Activities	Organization, Procedures and Modalities	Timeframe
Demonstrations of Technologies	To review and document the cost related to the sanitation grant projects to show cost effectiveness.	R2RW, W & S Task Force	October 31
	To setup and monitor simulated systems at CASE, to attain local performance data and design criteria, showing environmental friendliness.	NEPA (ECD), CASE	Oct 1 '03 – Sept. 30 '04
Public Awareness Campaign	Four (4) technical workshops to disseminate information on technology to tradesmen, contractors, enforcement officers (MOH, PC's, NEPA).	NEPA, (EC & PE dept's), W & S, PE Task Forces	Jan – May
	Link the anchor project more formally to Green Village Award Program.	NEPA (PE dept.), PE Task Force	Oct. (mid) -Nov. 30.
	Assist communities participating in the Green Village program to develop the sanitation component of their action plans.	SDC's, Task Forces	Nov. 1, '03 – Sept. 30, '04.
	Continue River Action Campaign, and incorporate dissemination of technologies into presentation following Action Boyz performances.	MBMP, PE Task Force.	Oct 1, '03 – Mar. 31, '04
	Promote further dissemination of the technologies through active mass media links (radio and TV).	R2RW Team	Jan 1, '04 – Sept. 30, '04
Mainstreaming Technologies	Formulate local design criteria for constructed wetland systems.	NEPA (ECD, & LAB), CASE, R2RW Team	Jun 1, '04 – Aug. 30, '04, July '04
	Obtain NEPA approvals for demonstrations before handing over to parties responsible for systems.	NEPA (ECD)	Mid Sept. '04
	Make Presentation special interest groups on findings (Architects, Engineers, Contractors....).	GRWMC, & RGWMC through there task forces	End Sept. '04
	Have workshops for MOH, MOE, and Parish Councils about the technologies to gain their formal approval, and transfer knowledge.	R2RW Team	End Sept. '04
	Provide information to agencies responsible for the developers' manual and builder's code, in a format that is compatibles to their documents.	R2RW Team	End Sept. '04
	Make presentation to National Sanitation Task Force to further disseminate appropriate technologies.		



## 5. Viability and Sustainability

- a. **Appropriate Technologies** – The project will promote and mainstream the best sanitation practices through demonstrations, verification of performance of systems and a public awareness program.
- b. **Protection of the Environment** – This project is geared to protect the environment and contribute to the overall goal of the R2RW Project of “*natural resources under improved and sustainable management*”, through improved watershed management. These are expected to include improved sanitation practices and achieve greater awareness of the effect of poor sanitation practices on the health of the watershed.
- c. **Socio-cultural aspects/gender awareness** – The Public Health issues usually affect men, women, children and the elderly in different ways. Men and women have different roles and responsibilities which affect sanitation practices and health conditions. The dependency syndrome, which has been become a part of the cultural behaviour, has been observed to impact on the project process.
- d. **Capacity Building** – This project is expected to improve local capacity of technical people in the field, enforcement officers (NEPA, PC, & MOH) to improve the local watershed management practices related to sanitation.
- e. **Economic and Financial Aspects** – Financial resources are expected to be sourced from R2RW, with in-kind contributions from state agencies and local community organizations. Though this is not an income-generating project, the project will work with the local CBO's to find and develop innovative ways to generate income from the installation and maintenance of sanitation systems.
- f. **Replicability** – Through the demonstrations of both the cost effectiveness and the environmental friendliness of the wetland technologies, and with the active public awareness campaign it is expected that other communities will replicate the technologies.

### Monitoring and Evaluation

Objective	Project Activities	Performance Indicators	Means of Verification
Demonstrations of Technologies	To review and document the cost related to the sanitation grant projects to show cost effectiveness.	Cost effectiveness doc. generated	Document produced.
	To setup and monitor simulated systems at CASE, to attain local performance data, and design criteria, showing environmental friendliness.	Environmental friendliness doc. generated.	Document produced.
Public Awareness Campaign	Technical workshops to disseminate information on technology to tradesmen, contractors, enforcement officers (MOH, PC's, NEPA).	4 Workshops held	Registration of participants.
	Link the anchor project more formally to Green Village Award Program.		

Objective	Project Activities	Performance Indicators	Means of Verification
	Help communities participating in the Green Village program to develop the sanitation component of their action plans.	Sanitation compon. added to program. Sanitation compon. included in action plan	No. of awards given for sanitation. Linked to No. .2
	Continue River Action Campaign, and incorporate dissemination of technologies into presentation following Action Boyz.	Presentation added to River Action campaign.	Record of No. & type of technologies dissem.
Mainstreaming Technologies	Formulate local design criteria for constructed wetland systems	Local design criteria developed	Document produced
	Make Presentation special interest groups on findings (Architects, Engineers, Contracts....).	Presentation given	Activities completed satisfactorily.
	Have workshops for MOH, MOE, and Parish Councils about the technologies to gain their formal approval, and transfer knowledge.	4 Workshops held	Registration of participants.
	Obtain NEPA approvals for demonstrations before handing over to parties responsible for systems.	Approvals granted	Record of approvals.
	Provide information to agencies responsible for the developers' manual, and builders' code, in a format that is compatibles to their documents.	Information provided	Document with information
	Make presentation to National Sanitation Task Force to further disseminate appropriate technologies.	Presentation given	Presentation report, registration of participants

## 6. Integrating Project Resources Around the Anchor Project

This project is expected to integrate resources around all the major components of the project, namely:

- ✍ **Sustainable Environmental Practices:** especially those related to household wastewater treatment and sanitation;
- ✍ **Enhanced Compliance and Enforcement:** at a community level by forging partnerships between local enforcement offices and local environmental organizations like the GRWMC;
- ✍ **Enhanced Capacity to Implement Effective Watershed Management Programs:** it is expected that capacity will be built at the local and parish levels to participate in the management of the natural resources, as well the national level to undertake better community interventions;
- ✍ **Improved Governance:** community members, through the W & S task forces should be better able to participate in decisions that affect them day to day;

- ✍ **Enhanced Public Awareness:** one of the major components of this project is to increase public awareness with a view to changing bad sanitation practices;
- ✍ **Addressing Gender Consideration:** this project recognizes the differences in the roles of men, women, children and the elderly and the different impacts each group may have on the watersheds. The project will attempt to implement strategies that will maximize the involvement of these special interest groups.



