PROJECT:	**SUSTAINABLE LAND MANAGEMENT IN THE COMMONWEALTH OF DOMINICA**
GEFSEC ID:	**9667**
REPORT /OUTPUT TITLE	**BATALI WATERSHED ACTION PLAN (2023- 2028)**
PROJECT COMPONENT/ACTIVITY:	**OUTPUT 2.1.4: DEGRADED WATERSHEDS IN AT LEAST 8 VILLAGES REHABILITATED WITH NATIVE VEGETATION BASED ON SITE SPECIFIC REHABILITATION PLANS DEVELOPED IN COLLABORATION WITH LOCAL COMMUNITIES** **OUTPUT 2.1.5: INCREASED PUBLIC UNDERSTANDING AND AWARENESS OF LD ISSUES AND ASSOCIATED SLM OPTIONS, AND INCREASED SUPPORT FOR LAND REGULATIONS**
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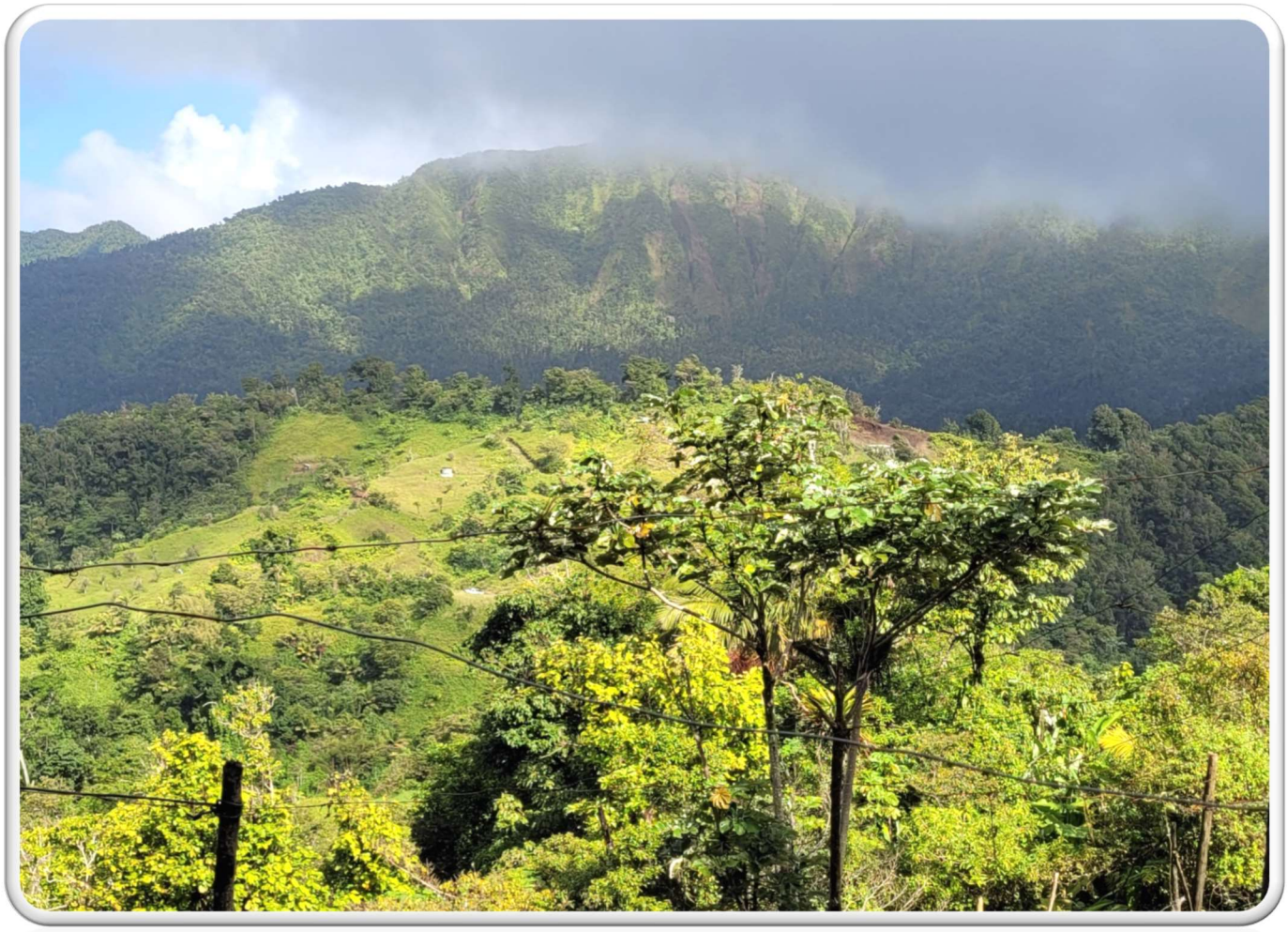
DATE:	**Submitted: MARCH 2023** **Revised: DECEMBER 2023**

EcoApp Inc.
An Ecosystems Approach

MARCH 21, 2023



BATALI WATERSHED ACTION PLAN

BATALI WATERSHED ACTION PLAN

DAVIDSON LLOYD AND CAMILLE DAVID

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LIST OF ACRONYMS

BW	Batali Watershed
BWAP	Batali Watershed Action Plan
BWMC	Batali Watershed Management Council
BWMP	Batali Watershed Management Plan
DBH	Diameter at Breast Height
DBOS	Dominica Bureau of Standards
DoA	Division of Agriculture
DOWASCO	Dominica Water and Sewerage Company
DSWMC	Dominica Solid Waste Management Corporation
FWPD	Forestry Wildlife and Parks Division
GoCD	Government of the Commonwealth of Dominica
GPS	Global Positioning System
LoA	Letter of Agreement
MOA	Ministry of Agriculture
MoU	Memorandum of Understanding
PISLM	Partnership Initiative for Sustainable Land Management
SALT	Sloping Agricultural Land Technology
SLM	Sustainable Land Management

1 INTRODUCTION

The watershed management approach for Batali typifies a process that brings together a broad spectrum of stakeholders and partners to identify, discuss, prioritize, and implement, goals, objectives, and actions. These are aimed at preserving, protecting, and restoring key watershed processes and ecosystem services within the Batali Watershed (BW). The Batali Watershed Action Plan (BWAP) reflects this cooperative effort of planning and prioritizing a unified and directed approach to managing the watershed. It also represents a tool by which these goals can be achieved.

The BWAP outlines various issues that need to be tackled and priority areas in the watershed where this will occur. With the input of all major stakeholders, it was created to chart a course of action for state agencies, watershed community partners and other decision makers within or related to the watershed. The BWAP is a long-term strategy, but it sets specific targets and measures in three phases of implementation. However, the proposed activities under phase were prioritized primarily based current budget limitations. This phase could be scaled-up as budget provisions permit. Overall, the action plan is a concise and action-focused document. It is a culmination of elements of the watershed protection approach, formed through collaboration and consensus, reflecting the interests and concerns of different stakeholders within the BW community. It is a flexible guide, in that the process may be modified to cater to the uniqueness of each microsite at the specific time of implementation.

2 PURPOSE OF THE BWAP

The BWAP creates an understanding of the watershed, identifies priority issues, and defines priority actions that are necessary to protect, improve, and restore watershed resources and processes. The BWAP is a derivative of the BWMP which provides an overview of the major watershed constraints and the approaches for remediation. This sets the stage for the implementation of key actions over a defined timeline. It is also designed to roll-out within multiple stages based on financial and other resource limitations.

The BWAP also acts as an information tool and directs actions within the watershed. By bringing together the knowledge, commitment, and resources of all the community partners, as well as state and developmental partners, the plan will ensure that all major issues in the watershed are adequately addressed through prioritized action strategies. The action plan is premised on local knowledge, scientific surveys with sound data analysis and integrates the main elements of the watershed approach: consultation, education, resource conservation and such like.

Finally, the BWAP and the process involved in its implementation improves communication and coordination among the various state, local government, community organizations. It is also instrumental to further expanding public involvement in watershed management activities. Figure 1 provides a schematic of how the plan can be executed to achieve the desired results.

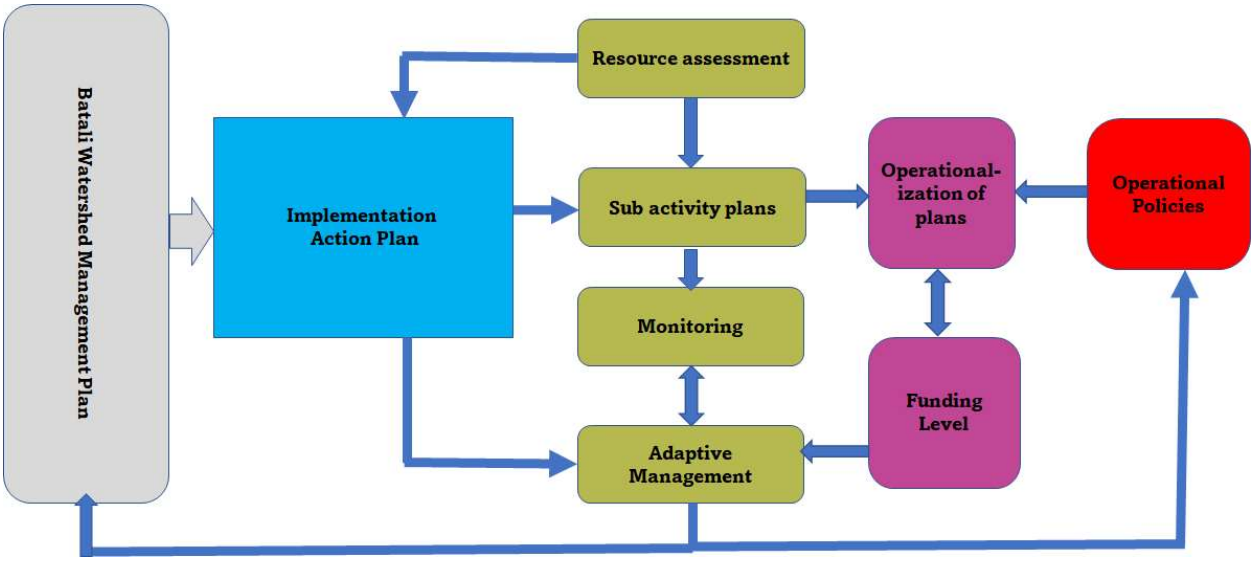

Figure 1 Schematic of the processes and key activities involved with the implementation of the Batali Watershed Management Plan

Summary of Key Issues

The BW is categorized as the most disturbed watersheds of the three systems studied as a consequence of both human action and natural climate-related events. A summary of the core issues include:

- Indiscriminate and inefficient use of weedicides, pesticides, and inorganic fertilizers
- Continuance of solid waste disposal in mid sections of watershed
- Natural water flow in streams/rivers disturbed, siltation of river and stream beds
- Lack of proper drainage within farms or along farm roads
- Monocropping of short-term crops on hillside resulting in heavy soil disturbance
- Deforestation
- Uncontrolled burning/slash and burn practice
- Absentee land ownership challenges promote unsupervised land use/land management
- Intensive cultivation of selected short-term crops on slopes, using high tillage, and without soil conservation measures
- Encroachment of farming in headwater regions and protected areas of watershed
- Perception of weak enforcement and lack of human resources to address issues
- Limited access to information for farmers
- Lack of training opportunities
- Weak advocacy from groups/champions in the local community

3 GOALS AND OBJECTIVES OF THE BWAP

The broad goals are to develop:

- ✓ A strategy for restoring critical ecosystem functions and processes within the BW
- ✓ A road map to guide decision makers at the community and national levels on prioritizing key actions for restoring degraded watersheds
- ✓ A blueprint for effective watershed restoration that will support efforts to restore and sustainably manage watersheds in Dominica.

The specific objectives are to:

- Identify and revegetate highly degraded areas in the upper reaches of the BW
- Promote the uptake of SLM practices (e.g. stream bank stabilization, contour farming, sloping agricultural land technology (SALT) and agroforestry) among farmers and landowners
- Design and implement a community-wide campaign to promote knowledge and awareness on Watershed Management
- Build local capacity for the establishment and functioning of the Batali Watershed Management Council
- Establish a community-based watershed monitoring program
- Increase the participation and support of key state agencies for the implementation of the BWAP

4 GENERAL APPROACH

- Prioritization and selection of activities included in the action plan are based on the core recommendations of the Batali Watershed Management Plan
- Priority attention is given to the upper watershed given its overarching regulatory function and influence on other sub-sections.
- Other priority areas of the plan include buffer restoration in riparian zones, erosion hotspots on sloping agricultural land, poor water quality and declining volumes
- Facilitation of community mobilization and action to effectively address key watershed constraints.
- Secure commitment of stakeholders to specific actions and responsibilities
- Validation of actions – through presentations to key stakeholders (community groups and state agencies) and inclusion of their recommendations/feedback

5 IDENTIFICATION OF KEY STAKEHOLDERS AND THEIR RESPONSIBILITIES

Thematic area(s)	Key Stakeholders	Main Responsibility
Revegetation	DOWASCO	Primary custodians of water catchments with responsibilities for maintaining their natural functions
	FWPD	Identify, design & implement appropriate watershed restoration measures including community education, plant propagation, monitoring & enforcement of applicable legislation
	MoA	Promote SLM uptake, support farmers to implement SLM best practice
SLM practice	Nursery owners,	Propagate required plant species
	Farmers/Landowners	Support & promote restoration activities & best practice
	Village Council & other Community-based groups	Support & promote restoration activities & best practice
	Development agencies	Provide technical and financial resources to support restoration
	MoA	Promote SLM uptake, support farmers to implement SLM best practice
	Farmers/landowners	
	Farmers	Knowledge exchange, participate in training sessions
	Community residents	See above re Community-based Groups
	BWMC	Coordinate implementation of the WS management plan
	Technical experts & related technical cooperation agencies	Technical backstopping, research, capacity building
	Educational institutions	Capacity building, preparation of knowledge products
	DOWASCO	Raise awareness and provide requisite training on streamflow measurement, sampling and analysis;
	DBOS	Sampling and water quality analyses
	Volunteers	Sampling and data collection on various watershed parameters
	Data entry support	Design and maintain system for data management
	FWPD	Monitoring, oversight & enforcement

Thematic area(s)	Key Stakeholders	Main Responsibility
	DSWMC	Support community-based waste management programs
	Env Health Dept	Support community-based waste management programs
	Legal/law enforcement	Enforce applicable laws and regulations
Knowledge promotion		
	Media houses	facilitate knowledge transfer & awareness programs on sustainable WS management
	Audio/visual service providers	
	Campaigners, community activists	
	Min. of Education	
	Communications specialists	

6 SPATIAL DISTRIBUTION OF PROPOSED RESTORATION SITES

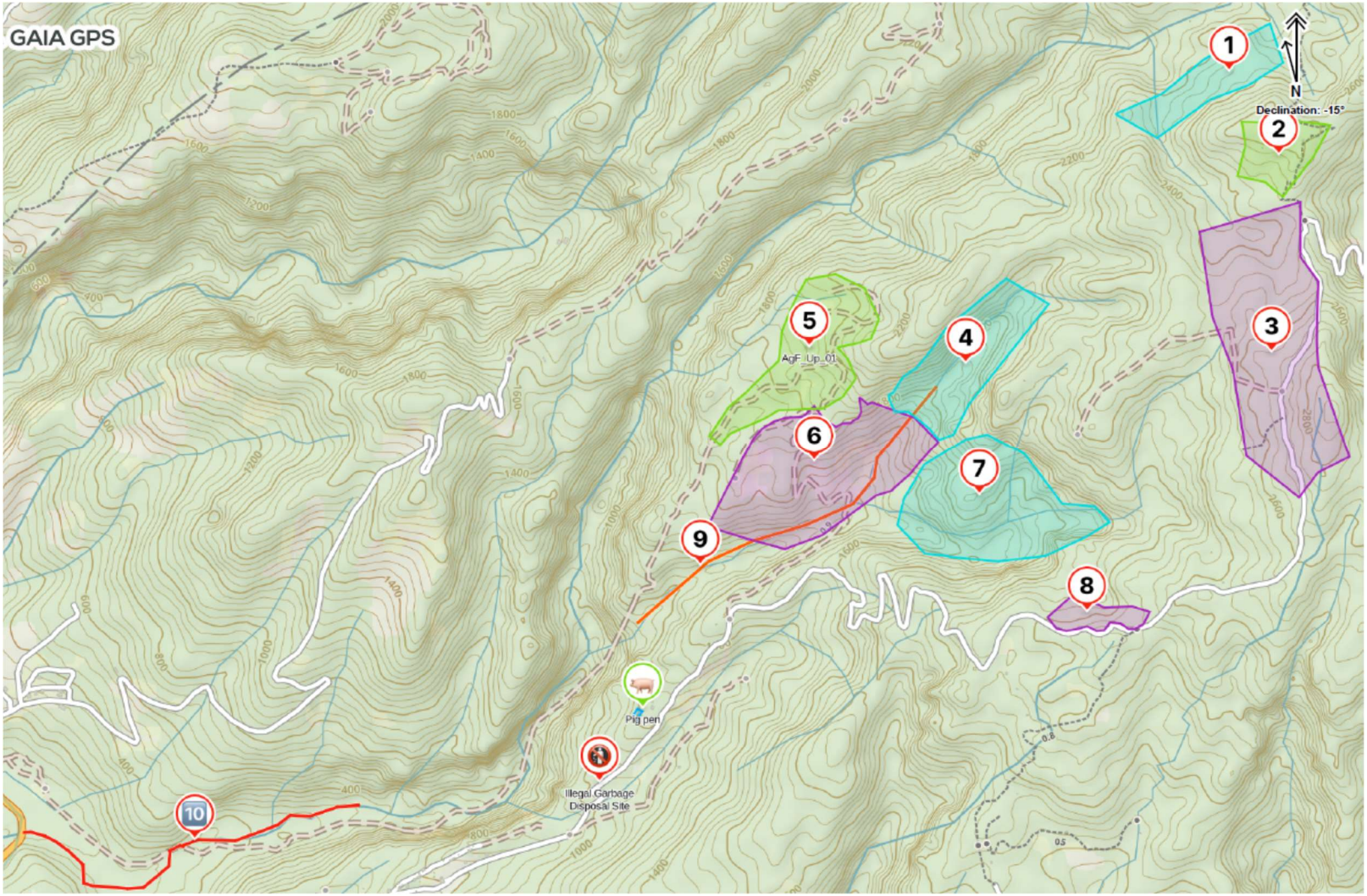

Figure 2 Shows the recommended restoration interventions in the BW. The interventions at the sites are coded as follows and described further in Table 1 below: ***(1.)*** *EnR_Up_02;* ***(2.)*** *AgF_Up_02;* ***(3.)*** *SLM_Up_01;* ***(4.)*** *EnR_Up_01;* ***(5.)*** *AgF_up_01;* ***(6.)*** *SLM_Mi_01;* ***(7.)*** *EnR_Mi_01;* ***(8.)*** *SLM_Mi_02;* ***(9.)*** *Buf_Mi_01;* ***(10.)*** *Buf_Lo_01*

Table 1: Description of proposed restorative interventions in the Batali Watershed

Watershed Section	Map Ref. No.	Targeted Sites	Description	Area (ac)	Recommended species	Plant Estimate (Count)
Upper	1	EnR-Up_02	Enrichment planting – Plot 2	23	Bwa dyab, gonmyé, chatannyé	2,300
	2	AgF-Up_02	Agroforestry Plot 2	16	Forest and various tree crops: citrus, avocado, mango, cocoa	2,400
	3	SLM-Up-01	SLM -demo-plot	93	Various tree crops including: citrus, avocado, mango, cocoa	1,600
	4	EnR-Up_01	Enrichment planting- Plot 1	39	Bwa dyab, gonmyé, chatannyé	3,900
	5	AgF-Up_01	Agroforestry Plot 1	43	Forest and various tree crops: citrus, avocado, mango, cocoa	6,450
Mid	6	SLM-Mi_01	SLM -demo-plot 1	8	Various tree crops: citrus, avocado, mango, cocoa	140
	7	EnR-Mi_01	Enrichment planting – Plot 2	61	Bwa dyab, gonmyé, chatannyé, bwa wivyè	6100
	8	SLM-Mi_02	SLM -demo-plot 2	72	Various tree crops: citrus, avocado, mango, cocoa	1,260
	9	BuF-Mi	Riparian buffer restoration	13	Sandbox tree, mango, bwa wivyè, chantanyé	650
Lower	10	BuF-Lo	Riparian buffer restoration	37	Sandbox, red cedar, cashew, mango, citrus, cocoa, tamarind, samaan, bwa d'orm	1,850
Total				**405**		**26,650**

Table 2 Total proposed area per restoration intervention and summary cost for each implementation phase

Restoration Intervention	Specific area of intervention						Total Area Impacted (Acres)
	Phase 1		Phase 2		Phase 3		
	Acreage	Budget US$	Acreage	Budget US$	Acreage	Budget US$	
Enrichment plantings (EnR)	6	$10,620.00	82	$152,397.00	35	$ 68,145.00	123
Agroforestry (AgF)	1	$ 8,687.00	41	$ 373,975.00	17	$ 162,446.90	59
SLM-Demo Plots (SLM)	2	$15,464.00	10	$ 81,186.00	0	$	12
Riparian Buffer (BuF)	5	$ 4,490.00	32	$ 30,173.00	13	$ 12,841.40	50
Development of Capacity building programs	-	$ 4,500.00	-	$ 10,000.00	-	$ 8,000.00	-
Watershed monitoring program	-		-	$ 5,000.00	-	$ 7,000.00	-
Community Engagement & Knowledge Promotion Plan/Process	-	$ 6,300.00	-	$ 10,000.00	-	$ 6,000.00	-
Total	**14**	**$50,061.00**	**165**	**$ 662,731.00**	**65**	**$264,433.30**	**244**

7 KEY ACTIVITIES TO BE UNDERTAKEN

Activities and sub-activities:

Enrichment of degraded sites: Enrichment planting with selected tree species aims to restore critical ecosystem functions and watershed hydrology. Five sites within the watershed were identified for enrichment planting, including forest (3) and riparian buffer (2). The priority sites identified for restoration are shown in Figure 2.			
Sub-activities	**Responsible party**	**Collaborating partners**	**Indicators of accomplishment**
Prepare TOR for an out-planting coordinator	EcoApp Inc.	PISLM	Draft TOR
Identify and recruit an out-planting coordinator	EcoApp Inc.	FWPD	Signed contract
Conduct site reconnaissance	Coordinator	EcoApp Inc/FWPD	Site visit report
Develop site-specific enrichment plans	EcoApp Inc	FWPD/DOWASCO	Draft plans
Source and procure planting material	Coordinator	FWPD/Private Nurseries	Signed agreements with nursery(ies)
Conduct out planting activity	Coordinator	FWPD/NEP/Community groups	Photographic and written reports
Prepare progress reports on planting activities	Coordinator	EcoApp Inc.	Weekly reports
Introduction of SLM Practice: SLM interventions are critical to the long-term recovery of the watershed ecosystem. Site-specific SLM package to include the establishment of demo-plots and trainings targeting farmers and landowners Uin the watershed			
Sub-activities	**Responsible party**	**Collaborating partners**	**Indicators of accomplishment**
Identify suitable locations for establishing demo-plots	EcoApp Inc	Farmers/land owners/DoA	Written report
Design site-appropriate demo-plots and determine establishment cost	EcoApp Inc		Report with designs and bill of quantities
Develop appropriate training package targeting farmers/land users			Approved training modules presented
Execute planned training activities for farmers/landowners in relevant SLM Practice			Training report
Prepare progress report on SLM adoption	EcoApp Inc		Activity progress reports

Development of Capacity building programs: Empowerment of the community is an essential prerequisite for effective watershed management. Based on community consultations and the findings of the BW study several critical knowledge gaps emerged. These will be addressed by the development and execution of x training sessions			
Sub-activities	**Responsible party**	**Collaborating partners**	**Indicators of accomplishment**
Assess & prioritize capacity development needs	EcoApp Inc	Community groups, DoA, FWPD	Needs assessment report
Develop training packages		DOWASCO, DBOS, FWPD, DoA, Environmental Health. DSWMC	Report on approved trainings
Identify resource personnel to execute trainings			Shortlist of personnel
Execute planned trainings			Training report
Report on training activities			Progress report
Development of watershed monitoring program: Watershed monitoring is required to assess the effectiveness of any implemented corrective actions. A systematic program yields many benefits but relies strongly on effective coordination, required technical and financial support. This will be achieved through the establishment of the BWMC and a highly effective watershed monitoring program that will generate the required data needed for decision making.			
Sub-activities	**Responsible party**	**Collaborating partners**	**Indicators of accomplishment**
Initiate meeting to determine scope based on priorities and available human and financial resources	EcoApp Inc.	Community groups, DOWASCO, FWPD,	Meeting report
Establish watershed monitoring team (s)	EcoApp Inc. to coordinate		Approved TOR/Team(s) formally organized
Develop MoU/LoA for engagement of key partnering agencies	EcoApp Inc.	DOWASCO, FWPD, DoA, DBOS,	Draft MoU/LoA
Prepare relevant progress reports			Progress reports

Develop a Community Engagement & Knowledge Promotion Plan/Process: Community support is crucial to the successful implementation of the BWMP. In that regard a community mobilization drive will be undertaken to garner support and secure stakeholder participation in the various activities. Importantly, changes in perceptions and attitudes of resident about land use and waste disposal will be prioritized.			
Sub-activities	**Responsible party**	**Collaborating partners**	**Indicators of accomplishment**
Obtain community /stakeholder feedback & approval	EcoApp Inc/	Community groups, other key stakeholders	Meeting report
Develop TOR for a communications strategist			Draft TOR
Develop draft content -Community-wide awareness campaign: -Radio programs 2 -townhall meeting -School's poster competition - Radio jingle -Promotional videos	Communication strategist		Approved community engagement/knowledge promotion plan
Finalize & validate plan	EcoApp Inc.	Community Groups, Key stakeholder representatives	Finalized plan

8 BUDGET

Activity	Unit Cost (US$)	Quantity	Total Expense (US$)
Enrichment planting of degraded sites			
Prepare TOR for an out-planting coordinator	-	1	-
Identify and recruit an out-planting coordinator	-	1	-
Conduct site reconnaissance	$ 200.00	4	$ 800.00
Develop site-specific enrichment plans	-	1	-
Establishment of enrichment sites per acre*	$ 1,770.00	123	$ 217,710.00
Restoration of riparian buffer*	$ 898.00	50	$ 44,900.00
Prepare progress reports on planting activities	-	-	-
Sub-total			**$ 263,410.00**
Introduction of SLM Practice			
Identify suitable locations for establishing demo-plots	-	-	-
Design site-appropriate demo-plots	-	-	-
Establish SLM demo-plots*	$ 7,732.00	12	$92,784.00
Establish or enhance existing Agroforestry plots*	$ 8,687.00	59	$512,533.00
Develop appropriate training package targeting farmers/land users	-	-	-
Execute planned training activities for farmers/landowners in relevant SLM Practice	-	-	-
Prepare progress report on SLM adoption			-
Sub-total			**$ 605,317.00**
Development of Capacity building programs			
Assess & prioritize capacity development needs	-	1	-
Develop training packages (Watershed monitoring, SLM, organic production systems)	-	3	-
Identify resource personnel to execute trainings	-	1	-
Execute and report on planned trainings	$ 1,500.00	3	$ 4,500.00
Sub-total			**$ 4,500.00**
Development of watershed monitoring program			
Determine scope of monitoring program	-	1	-
Facilitate establish watershed monitoring team	-	1	-
Develop draft MoU/LoA for engagement of key partnering agencies	-	5	-
Prepare relevant progress reports	-	1	-
Sub-total			**-**

Activity	Unit Cost (US$)	Quantity	Total Expense (US$)
* *See appendices for a detailed breakdown of these costs*			
Develop a Community Engagement & Knowledge Promotion Plan/Process			
Obtain community /stakeholder feedback & approval	-	1	-
Develop TOR for a communications strategist	-	1	-
Communications strategist	$300.00	12	$ 3,600.00
Radio programs	$250.00	2	$ 500.00
Townhall meeting	$300.00	1	$ 300.00
School's poster competition	$500.00	1	$ 500.00
Radio jingle (Kwéyòl & English)	$200.00	2	$ 400.00
Promotional videos (Kwéyòl & English)	$500.00	2	$1,000.00
Sub-total			**$6,300.00**
Total			**$879,527.00**

9 REQUIRED SUSTAINABILITY ACTIONS FOR SUCCESSFUL RESTORATION

To guarantee project success, sustainability considerations must be integrated into the various project activities. This will ensure that adequate capacity is developed for the efficient and timely delivery of the required outputs at every phase of the project. Table 3 provides a summary of the required capacities, how they can be provided and the expected outcomes to be derived. This can also serve as a guide to gauge the progress and success of restoration efforts within the watershed.

Table 3 Key sustainability actions and how they can be achieved for successful watershed restoration

Pre-Project	**How this will be accomplished**	**Expected Outcome**
Secure the commitment and participation of key stakeholders	Hold consultations, Signed MoU/LoA	Key stakeholders maintain a high level of interest and meaningful participation during and post-project. The profile of watershed management elevated at the national level
Actively Support Community Knowledge and awareness	Consultations with farmers, community leaders individually, through focus groups. PISLM national radio outreach programmes. Ongoing advocacy of FWPD and the DoA	Greater acceptance of environmental stewardship responsibility at individual and community levels
Map available technical resources/skill sets of the community	Engagement of residents and community leaders	Key resource persons informed and committed to support project initiatives & decision-making
During-project		
Develop local capacity	Several training opportunities and access to watershed monitoring tools	An effective and functional watershed monitoring unit established; Community involvement in watershed management is enhanced
Establish Watershed Management Council	Work with key stakeholders to establish the BWMC, Develop ToR for BWMC, support capacity development activities targeted at prospective	The BWMC becomes sufficiently empowered and capacitated to

Pre-Project	How this will be accomplished	Expected Outcome
	councilors, Central Government agrees to roll out the national land use policy and action plan using the BW as a pilot.	undertake watershed management responsibilities. The BWMC becomes a model for the implementation of national watershed management programs
Increase access to grant funding and technical support opportunities	Train community stakeholders on grant proposal preparation; Compile a database of potential funders and technical resources	Greater pool of financial and technical resources are available to support watershed management activities. At least of 80% of the operational budget of the BWMC is derived from grant assistance.
Post-Project		
Maintain plants established under the various project interventions	Provide requisite, training, guidance, inputs, tools and equipment for the maintenance of established plants; develop a field monitoring program	Well-maintained restoration sites that have the desired impact and appeal
Promote and support sustainable livelihood initiatives	Develop an ecotourism strategy for the area that will seek to create employment as tour operators, tour guides, watershed stewards, and such like	Increased employment opportunity and greater awareness and understanding of the wider community about the importance of its natural resources
Build capacity to effectively communicate results	Provide training on data collection, management, analysis, reporting and communication and presentation skills	Periodic reports on watershed status and outcomes of management activities are presented and disseminated within and outside the community
Build capacity to exploit emerging opportunities related to carbon offset credits and meeting land degradation neutrality targets	Provide training on how to conduct assessments and determine carbon offset values of rehabilitated forest ecosystems	A simplified model developed for carbon accounting of rehabilitated forest in Dominica. Dominica participates and generates revenues from carbon offset programs

10 IMPLEMENTATION SCHEDULE PHASE 1

#	Activities	M1				M2				M3			
		W1	W2	W3	W4	W1	W2	W3	W4	W5	W6	W7	W8
1.0	**Summary activities to be completed in Phase 1 of the Batali Watershed Action Plan**												
1.1	Complete enrichment planting of targeted degraded sites												
1.2	Establish SLM demo-plots with various site-specific interventions												
1.3	Establish agroforestry plots												
1.4	Establishment of riparian buffers												
1.5	Develop and implement capacity building programs												
1.6	Develop and implement a watershed monitoring program												
1.7	Develop and implement a community engagement & knowledge program												
2.0	**Other activities to be completed by the consultant in Phase 1**												
2.1	Complete and update baseline assessment for Batali of the state of water quality parameters such as sediment load, etc.												
2.2	Report of consultations with communities and national stakeholders regarding Batali Watershed												
2.2	Develop site-specific guidelines, training aids and monitoring templates for the Batali Watershed												

Note: *The implementation of activities 1.1 to 1.4 and 2.1 are highly dependent on the onset of the rainy season (this is important for out-planting and reliable streamflow measurements). The past 8 weeks has been severely dry and this has precluded completion of the required water sampling.*

11 APPENDICES

A. Bill of Quantities

Schedule of Prices (per acre) for Enrichment Planting of Forest					
Bill No. 1	**Establishment Inputs and equipment**				
Item No.	**Description**	**Unit**	**Quantity**	**Unit Rate US$**	**Amount US$**
1.1	Tree diameter measuring tape DBH	-	2	$ 80.00	$ 160.00
1.2	clinometer/compass	-	1	$ 350.00	$ 350.00
1.3	Write in the rain Record books	-	3	$ 50.00	$ 150.00
1.4	GPS handheld and protective case (etrex 22x)		1	$ 300.00	$ 300.00
1.5	Collection, site preparation and planting of wildings	days	5	$ 100.00	$ 500.00
1.6	Husbandry/maintenance	days	2	$ 80.00	$ 160.00
	To Summary				**1,620.00**
Bill No. 2	**Management, supervision and monitoring**				
Item No.	**Description**	**Unit**	**Quantity**	**Unit Rate US$**	**Amount US$**
5.1	Management, supervision and monitoring	days/yr	1	150	$ 150.00
	To Summary				**150.00**
	TOTAL COST				**1,770.00**

Schedule of Prices (per acre) for SLM-Demo Plots					
Bill No. 1. Establishment of Storm drains and vetiver strips					
Item No.	**Description**	**Unit**	**Quantity**	**Unit Rate US$**	**Amount US$**
1.1	Excavation of storm drains 160 ft long (with a trapezoid dimension (32 in x 24 in x 24 in) and placement and shaping of spoils along the downslope section of storm drain	cu ft	720	3	$ 2,160.00
1.2	Installation of secondary drains 320 ft long 24 in x 12 in x 12 in)	cu ft	320	3	$ 960.00
	Sourcing vetiver plants	plant	960	1	$ 960.00
1.3	Planting of vetiver strips on upper side of drains	ft	480	2	$ 960.00
	To Summary				**$ 5,040.00**
Bill No. 2	**Establishment Inputs**				
Item No.	**Description**	**Unit**	**Quantity**	**Unit Rate US$**	**Amount US$**
2.1	High value forest and crop trees	Plants	150	$ 8.00	$ 1,200.00
2.2	compost/organic fertilizer	18 Kg bags	2	$ 26.00	$ 52.00
2.4	Orange flagging tape	12 pk	1	$75 00	$ 75.00
2.6	Jab planter	Sum	1	$ 200.00	$ 200.00
2.7	Planting trees and cover crops	days	3	$ 85.00	$ 255.00
2.8	Husbandry/maintenance	days	2	$ 80.00	$ 160.00
	To Summary				**$ 1,942.00**
Bill No. 3	**Management, supervision and monitoring**				
Item No.	**Description**	**Unit**	**Quantity**	**Unit Rate US$**	**Amount US$**
31	Management, supervision and monitoring	days/yr	5	150	$ 750.00
	To Summary				**$ 750.00**
	TOTAL COST				**7,732.00**

Schedule of Prices (per acre) for Land Restoration with Agroforestry					
Bill No. 1. Installation of farm drains and vetiver strips					
Item No.	**Description**	**Unit**	**Quantity**	**Unit Rate US$**	**Amount US$**
1.2	Establish storm drains 160 ft long (with a trapezoid dimension (32 in x 24 in x 24 in) and placement and shaping of spoils along the downslope section of storm drain	cu ft	720	3	$ 2,160.00
1.3	Contour drains 320 ft long 24 in x 12 in x 12 in)	cu ft	480	3	$ 1,440.00
	Sourcing vetiver plants	plant	960	1	$ 960.00
1.4	Planting of vetiver strips on upper side of drains	ft	480	2	$ 960.00
	To Summary				**$ 5,520.00**
Bill No.2	**Field establishment and maintenance**				
Item No.	**Description**	**Unit**	**Quantity**	**Unit Rate US$**	**Amount US$**
2.1	High value forest and crop trees	Plants	150	$ 8.00	$ 1,200.00
2.2	compost/organic fertilizer	18 Kg bags	2	$ 26.00	$ 52.00
2.3	Signage	Signs	5	$ 150.00	$ 750.00
2.4	Planting trees and cover crops	days	3	$ 85.00	$ 255.00
2.5	Husbandry/maintenance	days	2	$ 80.00	$ 160.00
	To Summary				**$ 2,417.00**
Bill No.3	**Management, supervision and monitoring**				
Item No.	**Description**	**Unit**	**Quantity**	**Unit Rate US$**	**Amount US$**
3.1	Management, supervision and monitoring	days/yr	5	150	$ 750.00
	To Summary				**$ 750.00**
	TOTAL COST				**8,687.00**

Batali Watershed Restoration Action Plan

Schedule of Prices (per acre) for Restoration Riparian Buffer					
Bill No. 1	**Establishment Inputs**				
Item No.	**Description**	**Unit**	**Quantity**	**Unit Rate US$**	**Amount US$**
1.1	Sourcing of forest and crop trees	plant	50	$ 8.00	$400.00
1.2	Clearing forest tacks and planting wildings	days	4	$ 83.00	$332.00
1.3	Husbandry/maintenance	days	2	$ 83.00	$166.00
	To Summary				**898.00**
	TOTAL COST				**898.00**

B. Description of the major restoration interventions in the Batali Watershed

Restoration Intervention	Description
Enrichment plantings (EnR)	These areas encompass the catchment area that feeds the Tapis Vert tributary which supplies domestic and irrigation water to Salisbury. By law, these should be designated protected forest. Where accessible enrichment planting will be implemented with local spp. to maintain/improve the general hydrological functions. Inaccessible area will be allowed to restore naturally.
Agroforestry (AgF)	Located in the mid- and upper-watershed sections. Restoration is targeted at supporting the expansion of tree crop establishment and installation of soil conservation measures e.g. Storm and contour drains, slope stabilization measures, vetiver strips, ground cover, intercropping
SLM-Demo Plots (SLM)	Targeted locations in the mid and upper watershed that are actively farmed under various tenancy agreements with landowners. The dominant slope in the area exceeds 20^{o} and intensive farming of root crops has proceeded without effective soil conservation measures. There is a high risk of contamination from surface runoff of soil, applied pesticides and fertilizers into the water course. The area is targeted for the installation of various SLM demonstrations including SALT, grass barriers, drainage and other integrated cropping systems.
Riparian Buffer (BuF)	Buffer restoration will focus on a 50 m width on either side of the targeted sections of the Batali River and the Tapis Vert Stream. This will be a total of 50. Selection of tree spp. will be based on their suitability and function and consultations with farmers and landowners