JCDT Project Proposal for the UNDP/GEF SGP Community-Based Adaptation (CBA) Programme

PROPOSAL SUMMARY

Project Title: Reducing Climate Change-Driven Erosion and Landslide Risks through Sustainable Agriculture for Safer Slopes
Project Site: Woodford, St Andrew and Cascade, Portland.

Proponent: Jamaica Conservation and Development Trust (JCDT), 29 Dumbarton Avenue, Kingston 10.
The Jamaica Conservation and Development Trust (JCDT) is a non-government organization whose mission is to promote environmental conservation and sustainable development, with particular emphasis on the Blue and John Crow Mountains National Park (BJCMNP) for the benefit of Jamaica and our people. The organization was incorporated in 1988 as a company limited by guarantee, and registered as a charity in 1990.

Project Objective: To increase the capacity of the targeted farming communities on the slopes of the Blue Mountains to adapt to climate change.

The project will promote the implementation of sustainable agricultural practices that will reduce the vulnerability of the community(s) to climate change-driven increases in soil erosion, decrease climate-driven livelihood pressures that may lead farmers to clear/cultivate protected areas further upslope, and contribute to sustainable agro-ecosystem management in the face of climate change impacts.

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Cooperating Organizations:
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USAID/ JA FARMS Project (Greenhouse technology), Wes Moses, Chief of Party,
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Start-Up Date: September 01, 2008

Project Period: 18 months

Total Project Cost: US$126,817.38

Amount Requested: US$50,000.00

Brief Project Description:
The project will involve two communities, namely, Woodford and Cascade. Woodford is a hillside community of about 1,800 persons in northern St. Andrew, just below the Holywell Recreation Area in the Blue and John Crow Mountains National Park (BJCMNP). The majority of the community members are farmers growing mainly cash crops – primarily bananas and

Blue Mountain coffee. This community is located in the mid-reaches of the Wag-Water watershed which feeds the Hermitage Dam, an important water supply for Kingston. Cascade is a community of about 800 persons located in the upper Buff Bay Valley, just outside the BJCMNP. As in Woodford, the majority of the community members are farmers growing cash crops – again, primarily bananas and Blue Mountain Coffee. Cascade is located north of Holywell in the Buff Bay Valley. Both communities are very close to Holywell, the main recreation area of the National Park. These communities farm on steep slopes, often using unsustainable agricultural practices such as slash and burn. These communities are already at risk from soil degradation which is reducing the productivity of their farms, but as Jamaica's CBA Country Programme Strategy indicates, with climate change, there is likely to be an increase in soil erosion and landslides, as more rainfall of high intensity is expected to fall, increases in severe weather are projected, and longer and more intense periods of drought make soils more susceptible to these increasing erosion pressures. Increasing temperatures and reduced rainfall – driven by climate change and exacerbated locally by unsustainable land management practices that alter the local microclimate – are now, and are projected to continue to reduce the cool and moist microclimate that favors cool-adapted crops, particularly coffee.

Based on this threat JCDT is concerned that climate change may lead farmers (particularly coffee farmers) to move further up the mountains seeking the cool, misty conditions that favour Blue Mountain Coffee and other crops. Agricultural encroachment is an existing pressure on the park, and baseline measures are not likely to be sufficient in preventing further encroachment when additional climate change pressures are taken into account. As it is currently, farms border the Blue and John Crow Mountains National Park/Forest Reserve, and any upward movement of the farms will cause them to encroach on this protected area that is of international significance for its biological diversity. The project objective is to increase the capacity of the targeted farming communities on the slopes of the Blue Mountains to adapt to climate change. The above stated objective will be achieved with the following project outcomes:

(1) Agro-technical capacity for applying soil conservation techniques that will become necessary in steep slope environments increased
(2) Alternative livelihood practices promoted
(3) Forest and tree cover (with appropriate species) promoted on slopes that are vulnerable to climate-driven increases in erosion and landslide risks

RATIONALE

Community/Ecosystem Context:
Two communities will be a part of the project, namely, Woodford and Cascade. Woodford is a hillside community of about 1,800 persons in northern St. Andrew, just below the Holywell Recreation Area in the Blue and John Crow Mountains National Park (BJCMNP). The majority of the community members are farmers growing mainly cash crops, bananas and Blue Mountain coffee, whilst some have jobs in Kingston and others have small businesses (such as shops) in the community. This community is located in the mid-reaches of the Wag-Water watershed which feeds the Hermitage Dam, an important water supply for Kingston. Cascade is a community of about 800 persons located in the upper Buff Bay Valley, just outside the BJCMNP. The majority of the community members are farmers growing cash crops, bananas, and Blue Mountain Coffee. Most of the small farmers work seasonally on the large coffee farms e.g. harvesting the coffee berries. Both communities are very close to Holywell, the main recreation area of the National Park.

Climate Context:
The Woodford area has an average annual rainfall of 1500 – 2000 mm while Cascade average annual rainfall is between 2500 -3800mm. The mean annual rainfall in the Park is approximately 2700 mm with two rainy seasons per year in the months of May/June and October/November. In addition, there are two main dry seasons, namely, December to March and July to September, but rainfall is very variable throughout the year and between years.

These communities farm on steep slopes, often using unsustainable agricultural practices e.g. slash and burn. They are already at risk from soil degradation which is reducing the productivity of their farms, but as Jamaica's CBA Country Programme Strategy indicates, with climate change, there is likely to be an increase in soil erosion and landslides, as rainfall of high intensity falls during severe weather, after long periods of drought. Already, since Hurricane Ivan in 2004 and Hurricanes Emily and Dennis in 2005, which brought torrential rainfall, major landslides have occurred in these and neighbouring communities, often blocking and breaking away roads, thus cutting of communities from services and facilities, as well as damaging crops. As noted in the Jamaica CBA Country Programme Strategy, hurricanes are likely to increase in intensity as climate change progresses, increasing this risk and necessitating additional adaptation measures.

Impacts Context:
Increasing temperatures and reduced rainfall – driven by climate change and exacerbated at the microclimate scale by unsustainable land management practices – are now and are projected to continue to reduce the cool and moist microclimate that favors cool-adapted crops, particularly coffee. Based on this threat JCDT is concerned that climate change may lead farmers (particularly coffee farmers) to move further up the mountains to ensure the cool, misty conditions that favour Blue Mountain Coffee and other crops. As it is currently, farms border the Blue and John Crow Mountains National Park/Forest Reserve, and any upward movement of the farms will cause them to encroach on this protected area that is of international significance for its biological diversity.

Farmers moving higher up the steep mountain slopes to find better land or micro-climate will only worsen the problems of soil erosion and poor soil productivity, particularly in the face of projected increases in the intensity of hurricanes and other storms. Furthermore, this will have a negative impact on biological diversity, and will reduce the resilience of the forest ecosystem to climate change through fragmentation and as climate change potentially alters post-disturbance re-growth processes. If the ecosystems of the forests of the Blue Mountains are further degraded, the cool mists associated with the area are likely to be impacted – while maintaining the ecosystem will increase the ability of the ecosystem to maintain these mists in the face of climate-driven increases in temperature and evapotranspiration. Increases in erosion and decreases in forest cover will also increase the proportion of runoff to infiltration, reducing water supply quantity and quality for eastern Jamaica. In addition to the fact that soil erosion is likely to increase with climate change, it is already a problem that farmers and other community members in these two communities face. In fact, in the Cascade community, the main road is broken and impassable in several areas due to major landslides. This has negatively impacted on life in this community, and these threats are likely to increase in the face of climate change, necessitating additional measures beyond baseline land degradation control measures.

Project Approach:
Despite the fact that much of the land within the Blue Mountains is of poor agricultural quality, the area is important for the agricultural sector because of the high value of Blue Mountain Coffee, and in addition the cool, misty climate provides an unusual environment where other, exotic, high value crops may be grown. Project activities will include training, technical assistance on farms, implementation of pilot projects, reforestation and planting of trees on farms. These activities will reduce risks from climate change, by addressing the following climate change risks:

Climate Change Projection	Impact on Community and Ecosystem	Project activities to address climate change pressures
1. Increasingly intense storms and stronger rainfall	Increased erosion risks, leading to declining soil fertility	Agro-forestry activities, terracing, improved drainage, tree-planting on degraded land, greenhouse farming, and other soil conservation methods will increase vegetative cover, protecting the soil and preserving soil fertility. These activities will also reduce the pressures driving farmers towards protected areas upslope.
2. Increasing risks of drought during the dry season	Increasing evapo-transpiration, increasing stress on crops and vegetation, increasingly dry soils are more susceptible to erosion. Increased risk of bushfire.	Agro-forestry activities will help preserve the humid microclimate, while reducing soil water loss, and decreasing erosion risks faced by soils. Increased tree cover, fire management training, will prevent bush fires (as moist forests are less susceptible to fire than undergrowth with no tree cover).
3. Increasing temperatures	Decreasingly favorable microclimate for agricultural production	Agro-forestry activities will increase shade, and help to preserve the misty microclimate that favors cool-adapted crops, reducing the pressures driving farmers upslope.

The community will benefit from more sustainable agricultural practices through improved productivity as well as reduced vulnerability to climate change impacts, particularly increased soil erosion. Furthermore, more sustainable agricultural practices will help to preserve the coffee-growing micro-climates at the lower slopes that are currently farmed, reducing the pressure on the higher protected areas. In addition, best practices identified will be highlighted for replication in surrounding communities, nationally, and through global adaptation knowledge platforms.

COMMUNITY OWNERSHIP

Project Formulation:

JCDT‘s Education and Community Outreach Programme goal is to raise public support and improve natural resource management, particularly in the buffer zone communities. In achieving the fore-mentioned goal this is expected to lead to conservation of the Park’s ecosystem and to sustainable livelihoods for community people. This project was conceptualized based on community feedback to the Education and Community Outreach Officer, through the National Park’s Education and Public Involvement Programme. This Officer has been involved in community education and capacity building activities in these communities for over a year, working with farmers and youth in particular. Earlier this year, this Officer facilitated a meeting in which students from the University of Michigan working through JCDT, presented results of their research conducted the previous year to the Cascade community. Whilst the research and discussions were general – about forest conservation and the relationship between the National Park management and the community, this provides an example of a meeting in which the Education and Community Outreach Officer would have received feedback from the community members regarding their concerns. During the planning stage of this project, both communities have participated in sensitization meetings and are aware of the importance of the forest for protection against the impacts of climate change, and for biodiversity, water and soil conservation. They are also aware of some soil conservation practices, but have not received adequate training and guidance to be able to implement them on their farms. During the planning stage the communities were also involved in formulating the project activities.

Project Implementation:
Community project meetings will be held quarterly to review the implementation plans (planned project activities), tasks completed and challenges encountered. The holding of these project meetings with the communities will not only ensure continuity of project impacts after project conclusion but will also foster transparency and increase social capital among members.

Phase-Out Mechanism, Sustainability:
JCDT will continue to seek project funds to expand the work started under this project. It should be noted that one of the goals of JCDT is to build the capacity of community members and making livelihood practices more sustainable through the promotion of activities such as water, soil, and biodiversity conservation. This goal is stated explicitly under the Park's Education & Public Involvement Programme (BJCMNP Management Plan 2005 - 2010, p. 98).

PROPONENT DESCRIPTION

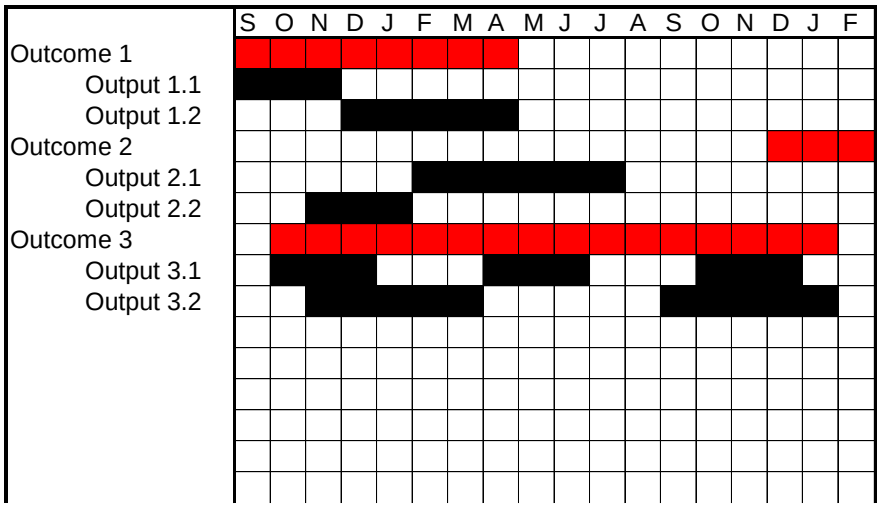
The Jamaica Conservation and Development Trust (JCDT) is a non-government organization whose mission is to promote environmental conservation and sustainable development, with particular emphasis on the Blue and John Crow Mountains National Park (BJCMNP) for the benefit of Jamaica and our people. The organization was incorporated in 1988 as a company limited by guarantee, and registered as a charity in 1990. Whilst the membership on roll is about 150 persons, a core group of about 30 meets annually to select the Board of Directors, and provide direction. In addition to members, the organization has at least another 50 persons who volunteer their assistance with various activities. JCDT's main activity is managing the BJCMNP under a delegation agreement with the Natural Resources Conservation Authority, and in collaboration with both the National Environment and Planning Agency and the Forestry Department. Management of the National Park involves implementation of six programmes, as guided by the Park's 2005 – 2010 Management Plan. These are:- Conservation, Enforcement & Compliance, Education & Public Involvement, Recreation & Tourism, Monitoring & Evaluation, Governance & Administration. For over five years, the JCDT has been monitoring and evaluating its implementation of these programmes, and achievement of annual targets. There have been numerous successes including an increased uniformed presence to deter against, and identify illegal activities for action, reforestation and invasive species control within the National Park. With respect to community outreach, under the Park's Education & Public Involvement Programme, JCDT seeks to build the capacity of local community groups for sustainable natural resources management and livelihoods. Capacity building includes raising awareness, increasing skills and generally empowering community members. Our greatest success has been in the community of Millbank, where the Bowden Pen Farmers Association formed, partly due to the interventions of the National Park over fifteen years. Over the last two and a half years, the JCDT has been strengthening its relationship with the communities of Woodford and Cascade. As the BPFA is standing more and more on its own, and influencing other groups within the Upper Rio Grande Valley, the JCDT is seeking to address other communities around the National Park which have not had as much on-going attention. Much of the work with community members has been focused on farmers with respect to increasing the sustainability of their practices e.g. through agro-forestry, in order to improve watershed management. JCDT's total budget is about JA$30 million per annum and its main sources of funding are donor- funded projects (65 – 75%), government subvention for managing the BJCMNP (6 – 15%), income from the Park's recreation areas (10 – 12%), income from membership fees, administrative fees, fundraising events, sale of products and miscellaneous (25%).

PROJECT DESCRIPTION

Objective, Outcomes, Planned Outputs:

Outcome 1.0: Agro-technical capacity for applying soil conservation techniques that will become necessary in steep slope environments increased	
	Output 1.1: Training in cost-effective soil conservation methods
	Output 1.2: Demonstration projects of soil conservation practices on farms
Outcome 2.0: Alternative livelihood practices promoted	
	Output 2.1: Demonstration projects of greenhouse farming
	Output 2.2: Training in organic farming for higher value produce
Outcome 3.0: Forest and tree cover (with appropriate species) promoted on slopes that are vulnerable to climate-driven increases in erosion and landslide risks	
	Output 3.1: Tree planting on degraded land within & outside Park
	Output 3.2: Farmers practicing agro-forestry

Timetable



Note: There is a time lag associated with the results of outputs 2.1 and 2.2 leading to the achievement of outcome 2

Risks and Barriers:

The only significant barrier to the implementation of the project measures is that community members may not participate actively in the project activities. This barrier will be overcome by mobilizing the communities through their local organizations and getting the community leaders to buy into the project. In addition, the project manager will attend CBO meetings during the planning phase and early at the start of the project to have discussions with the communities on the project, expounding on the opportunities the project offers.

Risks to the implementation of the project measures are as follows:

(1) Bad weather such as hurricanes, heavy rains, and drought could impact project activities

(2) The demonstration projects on soil conservation and greenhouse technology may perform at a low level.

To overcome the first risk, the project is spread across three growing seasons and therefore, the timeframe allows for these setbacks. The second risk will be overcome by engaging facilitators

that are experienced and knowledgeable in soil conservation practices and greenhouse technology.

Monitoring and Evaluation Plan:

ADAPTIVE CAPACITY:

The Vulnerability Reduction Assessment (VRA) will be measured at the planning stage of the project, at the mid-point, and at the end of project. Given that the VRA is qualitative and is based on the community perceptions we conducted a pre- project assessment be done to establish a baseline (Project planning phase). A second VRA will be done at mid project (at 9 months into the project) after all the project activities to build the capacity for soil conservation has been completed (Outcome 1. 0). A final VRA will be done at the end of the project to ascertain the overall impact of the project on the community adaptive capacity.

The VRA questions that will be used are as follows:-

1. Rate the impact of soil erosion on your livelihood
2. Rate your ability to cope with the negative impacts of soil erosion e.g. land slides
3. Rate the impact on your livelihood if soil erosion doubles e.g. due to heavier, longer rainfall
4. Rate how effectively you would be able to cope with the doubling of soil erosion
5. Rate how effective you think this project will be in reducing your risks from increasing soil erosion.
6. Rate your confidence that the project will continue to reduce soil erosion risks after the project period.
7. Rate your own ability to cope with increasing soil erosion and other climate changes after this project is over

GLOBAL ENVIRONMENTAL BENEFITS (GEB):

The Impact Assessment System (IAS) indicator will be measured at the end of the project using the following components:

(1) The number of hectares of land sustainably managed by project
(2) The number of innovations/new technologies developed/applied under the project
(3) The number of policies influenced in the land degradation focal area
(4) The number of hectares of degraded land restored

The targets for the above are as follows:

(1) Forty hectares (100 acres) will be sustainable managed by the project (working with 40 farmers)
(2) The project will apply 3 technologies (namely, greenhouse farming, organic farming, and soil conservation techniques)
(3) Two policies will be influenced in the land degradation focal area
(4) Ten hectares (25 acres) of degraded land will be restored

UNDP ADAPTATION INDICATORS:

The project will contribute to the UNDP adaptation indicators adopted by the Jamaica CBA country programme strategy, namely:

1. The number of measures that address the additional risks posed by climate change deployed as part of sustainable resource management activities;
2. Percentage of area concern in which climate change risk management activities, in the context of sustainable resource management are implemented; and
3. Number of local and national level policies adjusted as a result of lessons from CBA projects

The targets for the UNDP Adaptation indicators are outlined below:

(1) Three measures will be deployed as part of the activities for sustainable farming in the project area.
(2) Ten percent of project area will be engaged in climate-resilient farming activities.

(3) Two policies influenced/adjusted as a result of lessons from the project.

Initial VRA Analysis:

Vulnerability Reduction Assessment Reporting Form	
Indicator 1	8.79
Indicator 2	8.60
Indicator 3	5.75
Indicator 4	6.00
Indicator 5	7.42
Indicator 6	8.17
Indicator 7	8.30
VRA Score	**7.60**

Cascade & Woodford Sites:

At Cascade thirty-two (32) persons were present for the project planning phase for the CBA programme.

Nine of the participants were females and twenty-three were males. Ten persons were farmers; 7 males and 3 females. While at the Woodford meeting, eighteen (18) persons were present Seven of the participants were females and eleven were males. It should be noted that six of the participants did farming as a part-time occupation and twelve were full time farmers. Most of the participants were in the age group 40 – 60 years old. At both meetings prior to the VRA questions, a short documentary on unsustainable farming practices was shown and a brief introductory power point presentation on climate change was conducted by grantee (project coordinator). This was followed by reviewing the project's objectives, outcomes and outputs. All the participants were given the opportunity to ask questions and to make comments at any point in the meetings.

The following were the key points that came out of the VRA process:

(i) Community members were not forthcoming with their perspectives on the rationales behind the scores they gave for the VRA questions.

(ii) In responding to VRA questions 2 and 4 that dealt with their ability to cope in the face of soil erosion/increase soil erosion it was found that participants did not look at coping purely in the context of their current means to react to climate change impacts. Rather, they expressed confidence and determination that they would find means of meeting climate change-induced challenges.

(iii) Many of the participants were hesitant to comment on VRA questions 5 and 6 - those relating to the potential impacts of the project on their capacity to deal with climate induced risks and the success of the project. It is believed that the communities may be reserving judgment until they see tangible results.

Project Management:

Management Structures:

Mr. Courtland Grant, Education and Community Outreach will be responsible for executing project activities. Mr. Grant has an educational background and work experience in agriculture and agricultural extension, and is currently pursuing studies at the post-graduate level, in adult education. He is therefore qualified and able to conduct these activities (please find resume attached). Further, Mr. Grant has been meeting with the citizens' organizations and farmers in the two targeted communities over the last year and a half and has developed a relationship with the communities. In addition, he implemented the VRA workshops and conducted planning activities with the two communities during the project planning phase. Mr. Grant will be assisted by Mr. Wellington Taylor, Assistant Education Officer, particularly in terms of logistics and organization of community meetings. The Ranger Corps for the National Park will also play a role in assisting Mr. Grant, particularly two of the Rangers who live in one of the

communities – Cascade. Mr. Grant will report to the Executive Director at monthly Programme Managers meetings, thus allowing for monitoring and evaluation of the project on a regular basis.

Relationship and Responsibilities of Proponent and Project Partners:

Mr. Grant will work closely with members of the two targeted communities, particularly farmers directly, and also through the existing community-based organizations. He will liaise with persons from other organizations to obtain their technical and other assistance e.g. Mr. Wes Moses, from the USAID/JA FARMS Project on greenhouse technology. As relevant, persons from government agencies such as the National Environment and Planning Agency, Forestry Department, Rural Agricultural Development Authority and the Coffee Industry Board, will be involved because these agencies work with different communities groups and individuals. Meetings will be held with these agencies to obtain their support of the sustainable agricultural practices being promoted within the communities. Whilst these organizations already have policies which promote these practices, the major challenge is that this information is not reaching communities in many of the rural, mountain communities due to the difficulties in accessing these communities. It should be recognized that farmers within these communities are members of the private sector, even if they are not large scale farmers. The two field trips will involve the private sector as these visits will be to privately owned farms.

JCDT will provide project management support through contribution of time of the Executive Director and other members of staff. Funding from a four year reforestation project funded by the Forest Conservation Fund will contribute to the baseline reforestation component of the project while CBA funding will address the additional, climate driven component of the project.

PROJECT COSTS AND OTHER SOURCES OF FUNDING (US$ 1:72.36)

Total Project Cost and Amount Requested:

Total Project Cost: US$127,996

Amount Requested: US$48,566 (Note: Planning grant of US$1,430 was received)

		Budget Item (Description)	Amount from CBA	Amount from Proponent - JCDT		Amount from other partners – FCF, JA-FARMS, Community		Total
			In Cash	In Cash	In kind	In Cash	In Kind	
Outcome 1	Output 1.1	Soil Conservation work-shops (2) &	$1,147.04				$55.28	$1,202.32
		Technical support services for output 1.1	$407.75					$407.75
	Output 1.2	Demonstration projects on farms (4) &	$7,050.00			$550.00	$691.88	$8,291.88
		Technical support services for output 1.2	$2,365.00					$2,365.00
Outcome 2	Output 2.1	Greenhouse workshops (2)	$511.34				$690.98	$1,202.32
		Greenhouse Technology Field Trip	$1,119.41					$1,119.41
		Greenhouse projects (2)	$8,100.00				$2,955.84	$11,055.84
		Technical support services for output 2.1	$3,996.00					$3,996.00
	Output 2.2	Organic farming Workshops (2)	$462.32		$700.00		$40.00	$1,202.32
		Organic Farming Field Trip	$1,036.48					$1,036.48
		Technical support services for output 2.2	$978.60					$978.60
Outcome 3	Output 3.1	Tree planting on degraded land in and around Park				$59,988.99		$59,988.99
		Technical support services for output 3.1	$2,006.16					$2,006.16

	Output 3.2	Agro-forestry practices on farms (contour planting, border planting, etc)	$6,186.29			$1,000.00		$7,186.29
		Technical support services for output 3.2	$3,310.96					$3,310.96
		Project Management Activities	$5,643.37	$6,006.06				$11,649.43
		Monitoring & Evaluation	$973.04					$973.04
		Transportation	$2,346.00	$678.00				$3,024.00
		Stationery & Supplies	$527.00	$26.00				$553.00
		Communications	$359.31	$55.28				$414.59
		SUB-TOTAL	$48,526.07	$6,765.34	$700.00	$61,538.99	$4,433.98	$121,964.38
		Admin/Overhead@ 10% of CBA Request Subtotal		$4,853.00				$4,853.00
	Total		**$48,526.07**	**$11,618.34**	**$700.00**	**$61,538.99**	**$4,433.98**	**$126,817.38**

NOTES TO BUDGET (in USD converted from $JA at 72.36:1):

OUTCOME 1: Agro-technical capacity for applying soil conservation techniques that will become necessary in steep slope environments increased

Output 1.1: Training in cost-effective soil conservation methods: Activities: -

(i) Soil conservation workshop (2) US$1,202.32: 30 participants per workshop; Consultant: US$690.98 (@ JA$25,000.00 (US$345.49) per workshop); transportation cost for participants US$82.92(JA$6,000); Lunch & refreshment: US$276.40 (JA$20,000); stationery and materials: US$69.10 (JA$ 5,000); Venues: US$82.92(JA$ 6,000)

Output 1.2: Demonstration projects of soil conservation practices on farms: Activities:-

(i) Demonstration projects on farms (4): US$8,291.88 (@ JA$150,000 (US$2,072.97) each)

OUTCOME 2: Alternative livelihood practices promoted

Output 2.1: Training & Demonstration projects of greenhouse farming: Activities:-

(i) Greenhouse technology workshops (2) US$1,202.32: 30 participants per workshop; Consultant: US$690.98 (@ JA$25,000 (US$345.49) each (Wes Moses, JA FARMS); transportation cost for participants US$82.92(JA$$ $6,000); Lunch & refreshment: US$276.40 (JA$-$20,000); stationery and materials: US$69.10 (JA$-5,000; Venues: US$82.92 (JA$6,000)

(ii) Greenhouse technology field trip (Christiana, Manchester): US$1,119.41:-One 30-seater bus – Transportation :US$690.99 (JA$50,000.00; Lunch & refreshment: US$276.40 (JA$20,000); Facilitator: US$345.49 (JA$ 25,000); stationery and materials: US$69.10 (JA$5,000)

(iii) Greenhouse Demonstration projects: US$11,055.84:- 2 – 100 ft x 30ft High tunnel houses @ US$4,145.94 (JA$ 300,000) each; equipment & materials: US$2,763.96 (JA $200,000)

Output 2.2: Training in organic farming for higher value produce: Activities:-

(i) Organic Farming workshops (2): Cost (calculated as per Soil Conservation workshops) – US$1,202.32 (JA$87,000 - C. Grant will do workshops)

(ii) Organic field Trip (Donna Noble Farm, Woodford): US$1,036.48:- One 15-seater bus - Transportation – US$345.49 ($25,000); Lunch & refreshment: US$276.40 (JA$20,000); Facilitator: US$345.49 (JA $25,000); stationery and materials: US$69.10 (JA$5,000) N.B. one workshop with Cascade farmers transported over to Woodford, hence lunch/refreshment as per 2 workshops)

OUTCOME 3: Forest and tree cover (with appropriate species) promoted on slopes that are vulnerable to climate-driven increases in erosion and landslide risks

Output 3.1: Tree planting on degraded land within & outside Park: Activities:-

(i) Establishing and maintaining 25 acres (10 hectares): US$59,988.99 (JA$4,340,804 for Science Officer's time, Ranger's time, seedling production, transportation, etc. – funding from Forest Conservation Fund project in 18mth period)

Output 3.2: Farmers practicing agro-forestry: Activities:-

(i) On farm planting of trees (contour planting, border planting, etc) US$7,186.29 (2, 000 seedlings – cost of seedlings, transportation, establishment & maintenance -JA$520,000)

Total costs for Technical Support Services related to Outputs = US$13,064.47:-

Output 1.1 – 5dys - US$407.75 (5dy @ US$81.55)

Output 1.2 – 28dys – US$2,365.00 (18dy in Yr 1 @ US$81.55 = US$1,467.90 and 10dy in Yr2 @ US$89.71 = US$897.10) in JA$: $171,138 (18dy in Yr 1 @ $5,901.30 and 10 dy in Yr 2 @ $6,491.43)

Output 2.1 – 48dys – US$3,996.00 (38dy in Yr1 @ US$81.55 = US$3,098.90 and 10dy in Yr 2 @ US$89.71 = US$897.10) in JA$289,163.70(38dy in Yr 1 @ $5,901.30 and 10 dy in Yr 2 @ $6,491.43)

Output 2.2 – 12dy – US$978.60 (12dy in Yr 1 @ US$81.55) in JA$70,816 (12 dy in Yr 1 @ $5,901.30)

Output 3.1 – 24dys – US$2,006.16 (18dy in Yr1 @ US$81.55 = US$1,467.90 and 6dy in Yr 2 @ US$89.71 = US$538.26) in JA$145,172 (18dy in Yr1 @ $5,901.30 and 6dy in Yr 2 @ $6,491.43)

Output 3.2 – 40dys – US$3,310.96 (34dy in Yr1 @ US$81.55 = US$2,772.70 and 6dy in Yr 2 @ US$89.71 = US$538.26) in JA$239,593 (34dy in Yr 1 @ $5,901.30 and 6dy in Yr 2 @ $$6,491.43)

Project Management Activities:-

(i) Project Record keeping & Reporting:US$3,033.72 (24dy @ US$81.55 = US$1,957.20 and 12dy @ $89.71 = US$1,076.52) in JA$219,528.36 (24dy in Yr1 @ $5,901.30 & 12dy in Yr2 @ $6,491.43)

(ii) Project Institutional Liaison &Networking: US$750.27 (7dy @ US$81.55 = US$570.85 and 2dy @ US$89.71 = US$179.42) in JA$54,291.96 (7dy in Yr1@ $5,901.30 & 2dy in Yr2 @ $6,491.43)

(iii) Quarterly Community Project Meetings: US$1,011.24 (8dy @ US$81.55 = US$652.40 and 4dy @ US$89.71 = US$358.84) in JA$73,176.12 (8dy in Yr 1 @ $5,901.30 & 4dy in Yr 2 @ $6,491.43)

(iv) Community Liaison: US$848.14 (6dy @ $81.55 = US$489.30 and 4dy @ US$89.71 = US$358.84) in JA$61,373.52 (6dy in Yr1 @ $5,901.30 & 4dy in Yr2 @ $6,491.43)
(v) Project Oversight: US$6,006.06 – Executive Director 10% time over 18 mths: JA$434,598.48
Total Project Management Activities (i – iv) = US$5,643.37 (JA$408,370) + (v) US$6,006.06 (JA$434,598) = US$11,649.43 (JA$842,953)

Monitoring & Evaluation – (as per Monitoring & Evaluation Plan) US$973.04 comprised of:- Technical Support Services: US$685.04:- (4dy in Yr 1 @ US$81.55 = US$326.20 & 4 dy in Yr 2 @ US$89.71 = US$358.84), Transportation: US$168:- (600km @ US$0.28/km) and Refreshment: US$120:- (4 meetings @ US$30 each)

Transportation (Fuel & Maintenance): US$3,024150 km per week x 72weeks x US$0.28/km . US$2,346 requested from UNDP CBA and US$678 from JCDT

Stationery & supplies – US$553 (estimated at JA$40,000 for the period)

Communication – US$414.59 (JA$30,000)

JCDT UNDP CBA PROJECT Implementation and Management

PROJECT MANAGER: Courtland Grant, Education & Community Outreach Officer
Terms of Reference

Daily Rate in US$ 81.55 for months 1 – 12 (Yr. 1) and US$89.71 for months 13 - 18

Technical Support Services (related to each project outcome and output)

Outcome 1: Agro-technical capacity for applying soil conservation techniques that will become necessary in steep slope environments increased

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Output 1.1: Trainings held in cost-effective soil conservation methods (5 working days)
Tasks: (1) Contracting and briefing resource person (facilitator)
(2) Pre-workshops (2) preparation and planning including communicating with participants (mobilization), arranging refreshment, packaging workshop materials.
(3) Coordination of activities at workshops

Output 1.2: Demonstration projects of soil conservation practices on farms executed (28 working days)
Tasks: (1) Sites visits and selection
(2) Coordinating and supervising the acquisition & transporting of materials to demonstration sites
(3) Monitoring of on-site work
(4) Monitoring and maintenance of demo project (weekly visit for the 1st month and monthly for 6 months)

Outcome 2: Alternative livelihood practices promoted

Output 2.1: Training & demonstration projects of greenhouse farming implemented (48 working days)
Tasks: (1) Pre-workshops (2) preparation and planning including communicating with participants (mobilization), arranging refreshment, packaging workshop materials

(2) Coordination of activities at workshops
(3) Organising greenhouse field trip – planning/preparation (logistics)- Transportation, refreshment, handout information/materials,
(4) Construction of greenhouses (2): coordinating the sourcing & transportation of building materials and supplies, monitoring of on-site work
(5) Growing of crops – monitoring/supervising of farming practices, sourcing farm supplies (weekly visits for 1st 3 months)
(6) Marketing of produce – market research, monitoring of sales receipts

Output 2.2: Training in organic farming for higher value produce implemented (12 working days)

Tasks: (1) Pre-workshops (2) preparation and planning including communicating with participants (mobilization), preparing/packaging workshop materials, arranging for refreshment.
(2) Organising organic field trip – contracting resource person, planning/preparation (logistics) transportation, refreshment, handouts, information/materials

Outcome 3: Forest and tree cover (with appropriate species) promoted on slopes that are vulnerable to increasing erosion and landslide risks

Output 3.1: Tree planting activities on degraded land within & outside Park implemented (24 working days)

Tasks: (1) Site visits and selection
(2) Site (land) preparation
(3) Transportation of seedlings
(4) Monitoring and plot maintenance (monthly visits)

Output 3.2: Farmer agro-forestry practices facilitated (40 working days)

Tasks: (1) Transporting of seedling from nursery and distribute to farmers
(2) GPS of farms
(3) Assist with work-days on farms to plant trees, showing farmers best locations and planting techniques
(4) Monitoring of trees (monthly)

Associated Activities (Project Management):

- Project Record-keeping & Reporting – 2dy/mth (36 dys)
- Project Liaison & Networking e.g. attending and organizing relevant meetings e.g. to coordinate with RADA, FD (9 working days)
- Quarterly Community Project Meetings (12 dys)
- Community Liaison & Outreach e.g. attending Citizen's Association meetings (held on weekends) to update and involve wider community (10dys)
- Monitoring & Evaluation (Organisation of VRA Analysis meetings at mid and end-point for both communities (8dys)

TOTAL WORKING DAYS ON PROJECT: 232

Map showing Blue and John Crow Mountains National Park and location in eastern Jamaica and proposed JCDT UNDP CBA targeted communities