ENHANCED CAPACITIES FOR DISASTER RISK MANAGEMENT IN AGRICULTURE, FISHERIES AND FORESTRY

– PROJECT TCP/SLT/3202

INCEPTION AND TECHNICAL REPORTS

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October 2010

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INCEPTION AND TECHNICAL REPORT

1.0 INTRODUCTION

1.1 Background

The Government of St. Lucia through the Ministry of Agriculture, Lands Forestry and Fisheries is implementing a project "Enhanced Capacities for Disaster Risk Management in Agriculture, Fisheries and Forestry". This consultancy was predicated upon the need to better protect the livelihoods of persons engaged in agriculture, whether banana production, vegetable and other crop production, livestock and also fisheries bearing in mind the risk posed to agricultural production by natural and other disasters.

St. Lucia's open, fragile and dependent economy is still significantly based on agriculture but is at risk to disasters because of the following:

- Its geographic location within the hurricane belt;
- The location of major settlements and infrastructure in low-lying coastal areas prone to flooding and storm damage;
- The island's location within a tectonically-active area, allowing for the possibility of significant earthquakes; and
- Limited human and financial resources.

Moreover, except for bananas, there are no arrangements in place to provide for agricultural production insurances to mitigate against farmers losses following a disaster which would have impacted production. It is critical therefore that farmers are aware of the potential disasters that may affect them and plan to mitigate against the impacts of such disasters. As such the aspects on rural finance and credit, and issues pertaining to insurance for agriculture are very pertinent and are being addressed as an integrated component of project implementation activities.

This intervention to implement a project "Enhanced Capacities for Disaster Risk Management in Agriculture, Fisheries and Forestry" is therefore timely and will be of significant benefit to the local farming community.

1.2 Goal and Objectives of the Consultancy

The main **goal** of project is to contribute to enhanced resilience of the agriculture sector against the impacts of natural hazards thus increasing the sustainable attainment of food and livelihoods security.

The objectives of the project are based on the following broad outcomes as follows:

1) To improve the capacities of the staff of the departments of Forestry, Fisheries and Agriculture to systematically review/update and implement national risk mitigation policies in their respective sub-sectors and provide technical assistance to community level disaster risk management stakeholders within the agricultural sector;
2) To promote community based risk mitigation approaches and to identify measures and test demonstration activities involving farmers, fishers and other groups vulnerable to hydro-meteorological hazards;
3) To improve capacities for vulnerability mapping and damage assessment;
4) Development of a communication public awareness programme targeted to farmers and civil society;

1.3 Outcomes of the Inception Meeting

The Technical Inception Report is intended to provide a more detailed Work Programme and a precise definition of the anticipated work schedule for the consultancy assignment in addition to clearly identifying technical details for project implementation. In addition technical aspects of the project are detailed whilst a description of activities undertaken or are in progress are presented.

Upon initiation of the consultancy, at a meeting with the Client's representatives on September 22nd 2009, the Consultant has focused attention on refining the Scope of Work for the consultancy based on the following impacting factors:

- Late implementation of the project which should have started in March 2009;
- There were question raised by the Steering Committee about the role of Coordinator, and time he could commit to project coordination. It was noted that the National Lead Consultant would do most of the leg work and the role of the Coordinator was to oversee work done by Consultant.
- It was agreed that the work plan should be amended to include completion of the National Disaster Preparedness Plan

- Concerns were raised about farmer and fisher representation on the Steering Committee;
    - It was proposed that representation from the National Fisher Organization be sought on the Steering Committee;
    - It was also proposed that Southern Farmers Group representation be sought
- Proposed orientation for all stakeholders about the project; The Coordinator noted that an earlier orientation had been conducted;
- Recommendation that the business community be engaged in hazard management; (e.g. security of documentation and records);
- Proposal that the Ministry of Education be engaged in discussion for greater promotion of Agricultural Education in Schools;
- Recommended that role of NEMO and community groups be defined in the project
- Recommended that CEDEMA (Caribbean Emergency Disaster Emergency Management Agency) be engaged in project implementation;
- Recommendation by the Consultant that four (4) communities representing, the northern, southern, eastern and western regions be selected in the pilot study and that these communities be selected based on hazards likely to impact them;
- Hazards identified included
    - Heavy rainfall
    - Flood
    - Drought
    - Landslides/slippage
    - Erosion
    - Wind
    - Wave action
    - Pest and disease
    - Praedial larceny
- Proposal by the Consultant that in addition to the Steering Committee that a number of other agencies be engaged in discussion during project implementation and include;

- Fairtrade Organisation
- Other Farmers Groups
- Winfresh (formerly WIBDECO)
- Livestock Associations
- Sir Arthur Lewis Community College (SALCC)
- Government Statistics Department
- Meteorology Office
- Insurance Council of St. Lucia
- Soufriere Marine Management Association (SMMA)
- Banana Insurance Agency
- CARDI
- Community groups
- Ministry of Social Transformation

2.0 APPRECIATION OF THE CLIENT'S REQUIREMENTS

2.1 Terms of Reference

The Terms of Reference (TORs) for the National Lead Consultant are presented in Annex I. In the initial review of the TORs, the Consultant recognized that the principal concern of the client was to facilitate the implementation of disaster risk reduction strategies for agriculture in at least three to five vulnerable St. Lucian communities. It was also intended to implement training and capacity building programmes for staff from the Department of Forestry, Fisheries and Agriculture and also of farmers and other community stakeholders with regard disaster risk reduction in agriculture and to document best practices which would assist in the sustainability of the project. As such the project required the selection of communities based on prescribed criteria and a situational analysis of these communities conducted for piloting the project.

During the inception meeting however it was suggested that in addition to the criteria prescribed in the TOR for selection of the communities, that one community each be selected in the north, south, east and west of the island based on hazards most likely to impact them.

It was also agreed that the work plan be amended to include the National Emergency Disaster Preparedness Plan, while the role of certain agencies such as CEDEMA (Caribbean Emergency Disaster Emergency Management Agency) be better defined in this project.

2.2 Refined Scope of Work

Based on the consideration of the influencing factors outlined above, the Consultant has been able to further refine the scope of works for the consultancy that was presented in the Technical Proposal submitted.

The confirmed scope of work for the assignment is based on the inception meeting of stakeholders on September 22nd 2009 and is summarized as follows

- Agreed that the work plan should be amended to include completion of National Disaster Preparedness Plan for Agriculture
- Gain input from farmers' and fisher organizations with regard project implementation;
- An assessment of communities based on identified hazards, i.e. heavy rainfall, flood, drought, landslides/slippage, erosion, wind, wave action, pest and disease and praedial larceny be undertaken to facilitate final selection of the communities;
- An evaluation of praedial larceny as a cross-sectoral hazard affecting all communities be undertaken.

2.3 Deliverables

The output of the consultancy for the project "Enhanced Capacities for Disaster Risk Mitigation in agriculture, fisheries and forestry shall be;

- Improved capacities of the Forestry, Fisheries, and Agriculture Department staff to systematically review/update and implement national risk mitigation policies in their respective sub-sectors and provide technical assistance to community level DRM stakeholders within the agricultural sector;
- Community based risk mitigation approaches promoted and measures identified and tested demonstration activities involving farmers and fishers directly affected by Hurricane Dean as well as representatives of other groups vulnerable to hydro-meteorological hazards;
- Improved capacities for vulnerable mapping and damage assessment;
- Development of a communication public awareness programme, making use of the local dialect "Kweyol" and local media including Government Information Service and the Agricultural Communications Unit, targeted to farmers and civil society.

Specifically the National Lead Local Consultant shall deliver the following outputs;

1. Provide assistance to NPC in project management and coordination, and lead project related documentation and reporting
2. Lead capacity building, training and local awareness raising process related to DRR/CCA
3. Assist in the overall coordination and provide technical support to NPC, extension officers and Farmer Field Schools (FFS) regarding field demonstrations of good practices for DRR/CCA in selected pilot villages

The national consultant will also prepare the following reports**:**

- 1st reporting after 2 months : project inception report; The inception report will include 2 section (a) project management arrangements and (b) situation assessment in pilot villages (points in TORs refer)
- 2nd report after 4 months covering (a) consolidated good practice (GP) option menu for DRR in AG/FO/FI, including all collected potential options to be brought to validation process (b) training and capacity building strategy for the project
- 3rd report after 6 months: report on validation process and its outcomes and the detailed field implementation guidelines (example to be provided by FAO) for those options selected for field testing in pilot villages
- 4th report after 8 months: first draft of capacity building documentation including training modules applied.

2.4 Project Management Strategy

The project is an integrated one and includes all aspects of agriculture including crop production, livestock, forestry and fisheries. Demonstration activities for both crop production and livestock are being undertaken in four communities, namely Bogis/Baboneau, Mabouya Valley, Delcer and Roseau while fisheries demonstration activities are proposed for Dennery and Soufriere. Details on the communities and activities are presented later in the report.

The Project is under the overall direction of the Ministry of Agriculture, Lands Forestry and Fisheries, with a senior staff member in the person of the Chief Extension Officer representing the Ministry as National Project Coordinator (NPC). There is also established a Project Steering Committee (PSC) and comprise representatives from the following.

1) Ministry of Agriculture, Lands Forestry and Fisheries
    a. Representative-Fisheries Department
    b. Representative – Forestry Department
    c. Representative- Livestock Department
    d. Representative-Extension Division
    e. Chief Agricultural Planning Officer

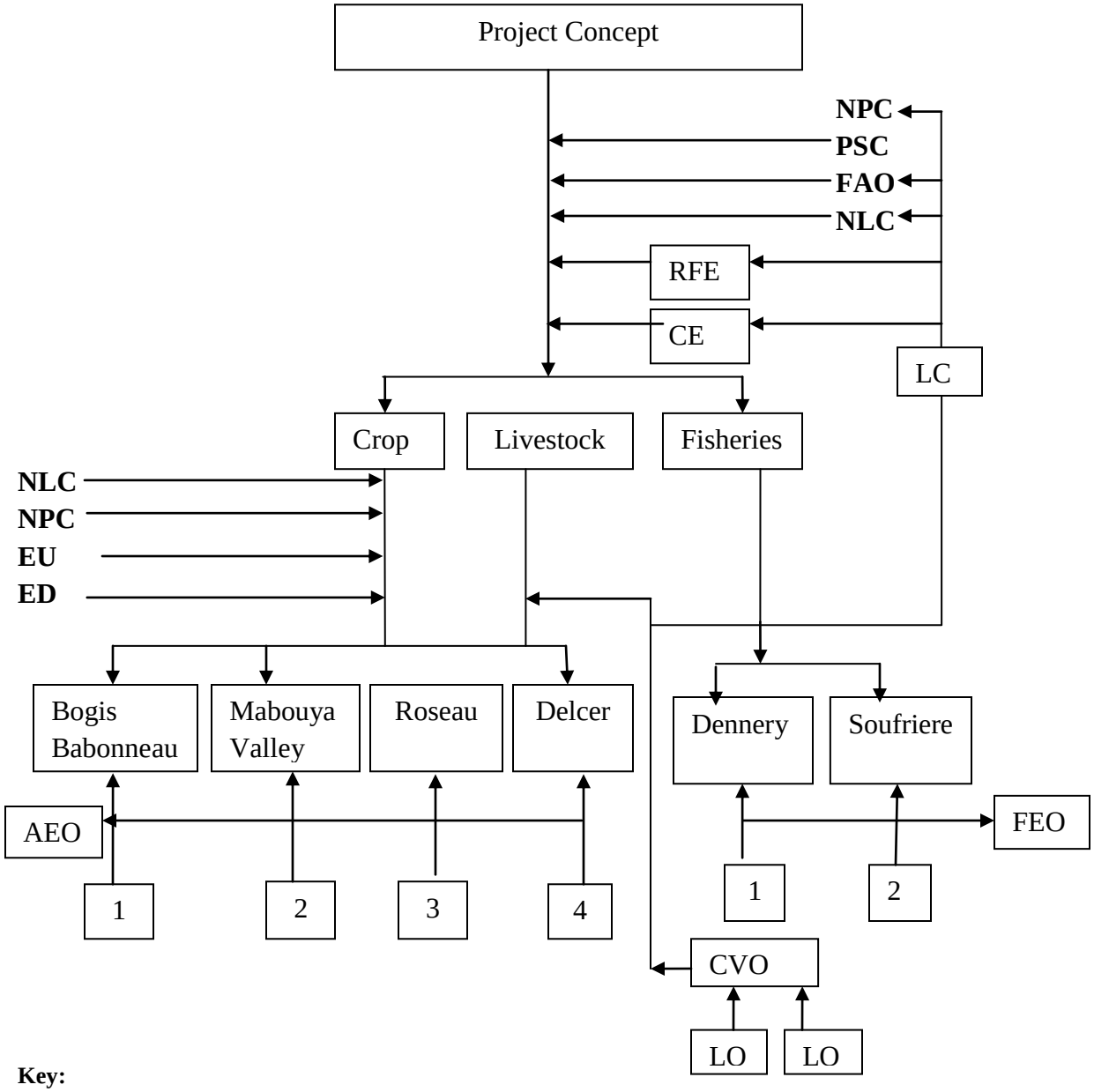
2) FAO representative
3) Inter-American Institute for Cooperation on Agriculture (IICA)
4) National Emergency Management Organisation (NEMO)
5) Babonneau Farmers Group
6) Sustainable Development Unit
7) Other interest groups

A number of consultants are also engaged in project implementation and management and include;

- National Lead Consultant (NLC)
- National Livestock Consultant
- National Rural Finance Expert
- National Communications Expert

CARDI should have been contracted to provide technical support services during project implementation but did not accept the offer. It was subsequently proposed during the mission of 15th -19th March by Dr.Bass and Dr. Lystra Fletcher-Paul that the services of an Agronomist and a Water Management/Irrigation Specialist be engaged. The agronomist was to assist the National Consultant with implementation including demonstration and training activities at the community level. The use of a Water Management/Irrigation expert became necessary as the community meetings clearly demonstrated that given the impact of the drought in St. Lucia water availability and irrigation became a priority and the need for design and implementation activities related to water use and irrigation required specialist expertise. This however no longer became necessary as the Extension Division and the Engineering Unit of the Ministry of Agriculture have been providing the required services. A number of persons have been contacted or are to be contacted during project implementation and a tentative list is given in Annex 3.

Funding and backstopping support is provided by the FAO. In terms of implementation at the community level, Figure 1 illustrates the management strategy for project implementation.



Key:

NPC = National Project Coordinator
PSC = Project Steering Committee
FAO = Food and Agricultural Organisation
NLC = National Lead Consultant
RFE = Rural Finance Expert
CE = Communications Expert
LE = Livestock Consultant
EU = Engineering Unit
ED = Extension Division
AEO = Agricultural Extension Officers
FEO = Fisheries Extension Officers
CVO = Chief Veterinary Officer
LO = Livestock Officers
LC = or this that NLC?? please check in the graphic

Note: The consultants together with the various Extension Officers along with the National Project Coordinator has been referred to as the Project Implementation Team else where in the Report.

3.0 WORK PLAN

A revised summary of activities and outputs with a time schedule for the various phases of the project are presented in Annex 2.

3.1 Activities Completed to Date and In Progress

The National Consultant working with the National Project Coordinator and other Consultants has undertaken the following activities;

- Literature review for good practice related to disaster risk mitigation particularly in relation to agriculture and collection of potentially good practices completed;
- DRM demonstration activities selected for crops and procurement and implementation submitted have been approved and field testing to commence shortly;
- Field testing of DRM best practices for livestock have commenced;
- Social mobilization and capacity building in pilot communities has commenced
- Planning for capacity building and training for technical personnel and farmers nearing completion with some training scheduled for end of October;
- Based on mission report from David Brown (FAO), planning is ongoing for finalization and implementation of best practices for two the fisheries sector;
- At lease five planning meetings held for National Project Coordination.
    - April 14th with Crop Extension Officers to discuss demonstration activities in identified communities
    - July 22- Meeting with Crop Extension Officers to discuss Procurement and Implementation Plans
    - September 16th 2010- Meeting with Crop Extension Officers, Livestock Officers and Consultants to discuss project progress
    - Thursday 23rdMeeting with Consultants to discuss and prepare for farmer demonstration activities and training
    - 24th September- Brief meeting with Consultants, Crop Extension Officers for Roseau and Mabouya Valley and Mr. Beckles of the Regional/Barbados FAO Office;
    - A number of backstopping missions to support project implementation activities have been completed by the following in 2010.
        a) Stephan Baas Project launch mission in Dec 2009 to dicuss project implementation strategy and fine-tune project implementation workplan
        b) Stephan Baas March (11th -19th) Assessment of status of project implementation and to provide technical support and guidance in planning for next steps;
        c) Stephan Baas (June 30th - July 3rd) Provide training to agricultural

extension staff on " Planning for Community Based DRR and CCA" using and testing the NRC E-learning tool

d) Claudia Hiepe (28th June – 5th August) – (i) Conduct e-learning Training on Planning Community based adaptation to climate change together with Stephan Baas (2 days); (ii) Initiate preparation of a Plan of Action for Disaster risk reduction in agriculture, forestry and fisheries (4-5 weeks); (iii) Also conducted a one-day training on climate change and agriculture for staff from all MALFF departments.
e) David Brown (29th May -6th June) - Backstopping support to the fisheries component of the project
f) Ake Olofsson (April 16th -21st)- Micro Finance and Insurance Study
g) Mario Acunzo/Maria Protz (June 13th-19th)-Design of a communication strategy for DRM and awareness raising campaign

- A Rural Finance Consultant had been contracted and he is currently finalizing his report on the study for micro finance and insurance; he will also be engaged in the facilitation of planned training sessions in the relevant areas;
- The Communications Specialist has been contracted and she is currently reviewing and updating the draft communications strategy for further discussion and is also developing a public relations programme for the project which will come to a high at the initiation of the training workshops and field demonstrations.
- Plans are being currently finalized for training workshops and field demonstration of best practices (see section 4.4 and Annex 5)

3.1.1 Good Practice Identified

A number of good practice options for DRM in agriculture have been identified from the literature. These practices are based on experiences in the Caribbean region including Jamaica, Haiti, Belize and Grenada and relate to good practices for crop production, livestock and forestry for hazards that include drought, wind storms/hurricane, flood, high/excessive rainfall, landslides, insects, soil degradation and loss and all meteorological hazards. The identified good practices are presented in Table 1 below.

Table 2 presents a summary of good practices that are used in St. Lucia or could be adopted for use.

Table 1: Summary of Good Practices for DRM in Agriculture for the Caribbean Region

Hazard	Good DRM Practices/Country			
	Jamaica	**Belize**	**Haiti**	**Grenada**
Drought	• Guinea grass mulching • Minimum tillage • Drip irrigation • Fire-breaks • Rainwater harvesting and storage • Aquifer recharge • Timing of crop production • Seasonal breeding of livestock • Planting of drought-tolerant crops	• Dairy cattle production • Beef cattle production • Small ruminant(sheep) production • Improved forages • Dry season forages • Hay production and feeding • Forage protein banks • Agricultural by-products and wastes as livestock feeds and components • Homestead gardening • Drip irrigation • Plastic mulching • Agryl tunnel structures • Planned crop schedules and cycles • Forest conservation and harvesting • Shade tree selection, preservation and management • Drought animals • Fire breaks or fire passes • Water ponds for harvesting and storage • Water transportation and pumping system • Water storage systems, tanks, troughs, and cisterns	• Land tiling • Appropriate selection of cropping season and cultivars • Soil conservation • Tree planting	• Establish environmentally friendly irrigation system • Maintain a supply of and use mulch • Harvest rain water - construct farm dams and cisterns • Implement water conservation practices • Establish and maintain a farm record • Plant drought resistant crop varieties • Store water in plastic barrels • Establish plants suited to dry forest ecosystems • Maintain vegetative cover

Wind/Hurricane Storms	• Planting of low-profile crops in areas susceptible to wind damage • Triangular bracing mechanism for banana s • Removal of foliage from immature bananas	• Dairy cattle production	• Soil conservation • Tree planting • Removing livestock to more secure ground	• Diversified cropping system • Establish erosion control structures and practices • Integrate dwarf varieties into cropping system • Routine tree management • Build low cost hurricane resistant farm and animal buildings • Propagate windbreak species and natural disaster resistant varieties • Integrate agro-forestry practices • Adopt fallow practices • Establish and/or maintain riparian buffer zone • Routine river cleaning • Contour ploughing • Establish and maintain effective drainage system • Establish and maintain germplasms in strategic areas • Maintain a store of farm inputs • Grow crops on cambad beds • Maintain vegetative cover • Cultivate long term crops on steep slopes • Collect and maintain accurate baseline data • Establish food storage facilities • Set up a farm record system • Community based disaster awareness • Establish risk diversion mechanisms • Construct livestock pens in safe areas • Store water in water proof containers or concrete storage sheds with 2 feet drains around them • Establish and maintain a forest nursery • Maintain a store of land clearing and salvage logging equipment and safety gear • Train farmers and foresters in salvage logging

				• Establish an mixed/intercrop forest system • Establish border/shelter belts using strong deep rooted plants e.g. Galba • Maintain vegetative cover
Flood	• Raised beds/Network drains • Raised floors for poultry production	• Dairy cattle production • Small ruminant (sheep) production • Improved forages • Hay production and feeding • Agricultural by-products and wastes as livestock feeds and components • Drought animals	• Appropriate selection of cropping seasons and cultivars • Soil conservation • Building traditional colombier • Tree planting • Banana management package	• Invest in a diversified production system • Integrate flood resistant varieties in cropping system e.g. corn • Establish erosion control structures and practices • Establish and maintain effective drainage • Build a flood resistant store house • Set up a farm record system • Grow crops on cambard beds • Establish and maintain germplasms in strategic locations • Construct livestock unit away from flood prone areas • Establish erosion control structures around livestock unit • Maintain adequate tree cover and effective drainage system

High/excessive rainfall		• Beef cattle production • Improved forages • Agricultural by-products and wastes as livestock feeds and components • Homestead gardening • Plastic mulching • Agryl tunnel structures • Planned crop schedules and cycles • Deep bedding systems for improved drainage • Forest conservation and harvesting • Drought animals		
Landslides	• Contour planting of Matt and King Grass • Contour planting of pineapples			• Maintain vegetative cover • Establish erosion control structures and practices e.g. grass barriers and contour farming • Cultivate long term crops on steep slopes • Set up a farm record system • Construct livestock units in safe area • Establish erosion control structures in vulnerable areas
All agro-meteorological hazards		• Diversified cropping systems • Community networking, input procurement and marketing • Food preservation and storage • Life skills development through experience		
Insects		• Agryl tunnel structures		
Soil degradation and loss		• Organic soil amendments and soil management		

Table 2: Some DRM Practices and Possible Ones for Adoption in St. Lucia

Drought/Dry weather	**Floods**	**Hurricanes/Wind**	**Insects/Pests**	**Landslides**
Drip irrigation	Raised beds/Netw ork drains	Banana management package	Agryl tunnel structures Farmer Field School Training	Contour planting of pineapples
Mulching	Banana management package	Use of windbreak species	Improving climatic/environmental conditions (e.g. water, temp, light, humidity, ect)	Maintain vegetative cover
Fire breaks				Establish erosion control structures and practices
Water storage systems e.g ferrocement tanks				Cultivate long term crops on steep slopes
Ponds				Construct livestock units in safe areas
				Set up a farm record system

3.1.2 Final Selection of Communities and Good Practices

A process involving brain storming and review at the Project Steering Committee level identified a number of communities/potential sites listed below. In identifying potential sites/communities, due regard was paid to identifying sites/communities covering the four geographical locations, i.e. north, south, east and west. In addition a major input by Agricultural Extension Officers, and other groups such as CARDI and NEMO, other community groups provided further information on potential pilot sites/ communities for project implementation. The final selection of communities/potential sites were selected based on essential criteria previously documented by FAO and using an optional appraisal ranking (see table 3 below) of the communities/potential sites

Table 3: Optional Appraisal Matrix for Selection of Communities/Site for DRM Project

		Options										
Criteria	**Wt**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	Max Score
1) Communities//villages involved in diverse agricultural activities	5	3 15	3 15	3 15	2 10	3 15	3 15	3 15	3 15	3 15	2 10	28
2) Each selected community has been repeatedly affected by hazards in the past	7	3 21	3 21	4 28	2 14	2 14	3 21	4 28	4 28	3 21	3 21	31
3) Hazards pose major risks and are major constraints to further livelihood development	10	4 40	4 40	5 50	3 30	2 20	3 30	3 30	4 40	4 40	3 30	35
4) Data is available to characterize the farming system and hazard frequency	5	3 15	3 15	3 15	3 15	3 15	3 15	3 15	3 15	3 15	3 15	30
5) Small enterprises and subsistence farming comprise the main economic activity	8	5 40	5 40	5 40	2 16	2 16	5 40	3 24	5 40	5 40	5 40	42
6) Farmers and/or fishermen organization are existing to work with	6	5 30	4 24	5 30	3 18	3 18	4 24	3 18	5 30	5 30	4 24	41
7) Village should demonstrate an awareness of hazards and potential risks to farming/fishing and are supportive of mitigation efforts	10	5 50	5 50	5 50	4 40	4 40	4 40	4 40	5 50	5 50	4 40	45
8) Committed extension staff is responsible for village/community and will play active role in project	10	5 50	4 40	5 50	3 30	3 30	4 40	4 40	4 40	5 50	4 40	41
9) Village selection creates piggy back on /collaborate with other project	6	3 18	2 12	4 24	2 12	2 12	2 12	3 18	4 24	4 24	2 12	28
10) Villages/communities reflect different hazard exposure situation	7	4 28	4 28	4 28	3 21	3 21	4 28	4 28	4 28	4 28	4 28	38
11) Composition of villages/communities reflects different production characteristics	5	3 15	3 15	3 15	2 10	3 15	3 15	3 15	4 20	4 20	3 15	31

12) Distance between selected villages /communities pose no operational constraints to project implementation and allows collaboration	4	3 12	3 12	3 12	3 12	3 12	3 12	3 12	3 12	3 12	3 12	30
13) Villages/communities themselves offers opportunities for synergies between this and other projects	8	3 24	2 16	3 24	3 24	3 24	3 24	3 24	4 32	3 24	3 24	30
Total Score **Weighted Score**		**49** **358**	**45** **328**	**52** **381**	**35** **252**	**36** **257**	**44** **316**	**43** **307**	**52** **374**	**51** **369**	**43** **311**	**450Base**

Key:

Options

1 = Bougis
2 = Fond St Jacques
3 = Roseau
4 = Soufriere
5 = Micoud
6 = Forestierre
7 = Dennery
8 = Mabouya valley
9 = Delcer
10 = Millet

Based on the evaluation and further discussion with the Extension Division of the Ministry of Agriculture, the following communities were selected for crop DRM as follows. Based on discussions with the Chief Veterinary Officer and the Livestock Consultant the four communities were also confirmed for livestock DRM activities.

1) Bogis (Babonneau)
2) Roseau
3) Mabouya Valley
4) Delcer

Fisheries DRM communities were selected separately and the selection was based on discussions held with personnel from the Fisheries Department. The communities confirmed were Dennery village and Soufriere town. The selected communities are identified on the map below (Figure 2) and a profile of each community is also presented.

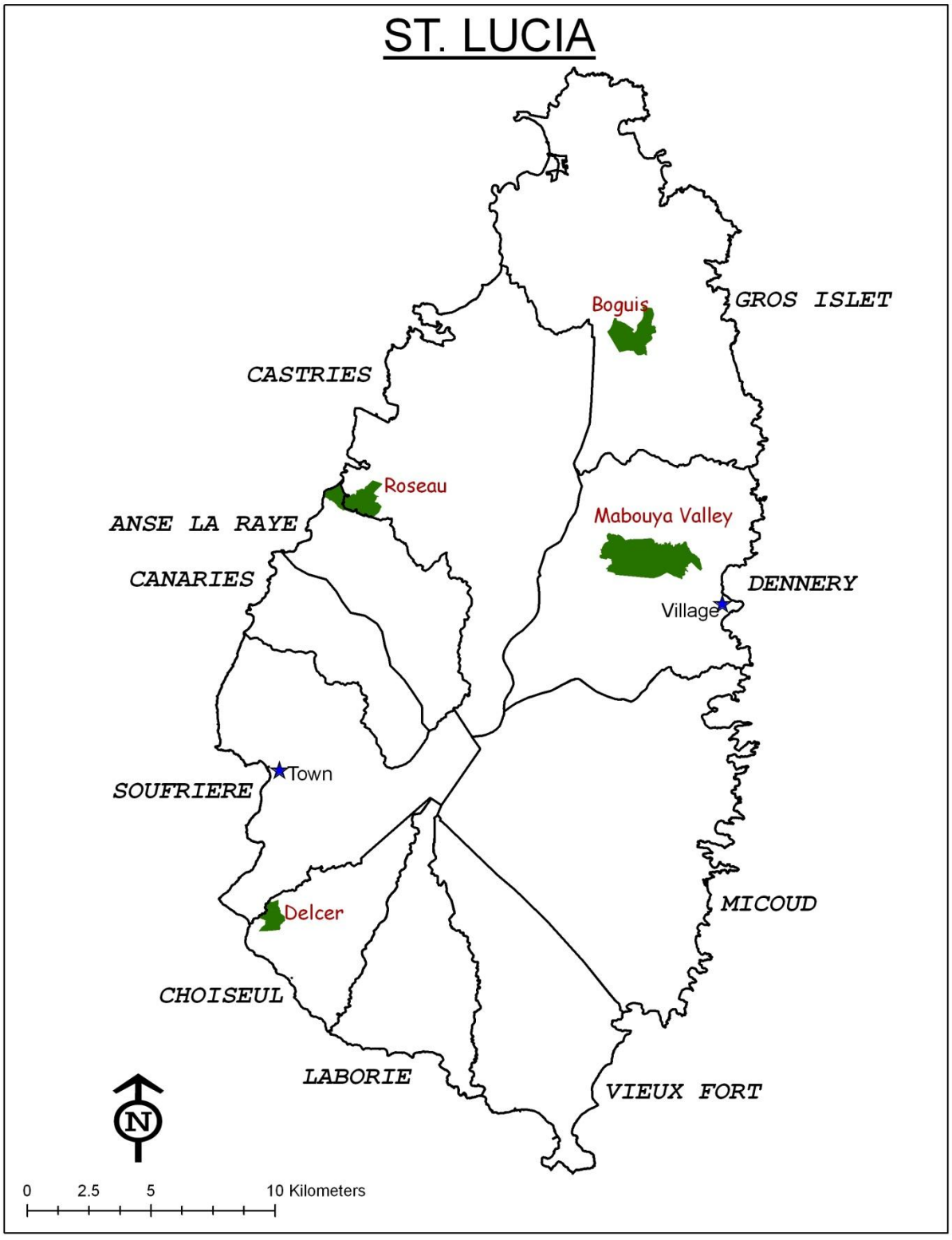


Figure 2: Selected Communities for DRM Pilot/Demonstration Activities

4.0 PROFILE OF COMMUNITIES

4.1 General

The communities selected for DRM pilot activities are in the main rural communities, some of which have been identified as among the poorest in St. Lucia as reported in the 2005 Poverty Assessment Report. These communities (with the exception of Soufriere which also has tourism related economic activities) have in the main depended mainly on agriculture-subsistence farming, fisheries and livestock production to a lesser extent for their economic survival.

The pilot sites cover a mix of communities spread around the north, west, south west, and east coast of the island with some variation in topography and are exposed to a mix of disasters and also based on the land capability use map of St. Lucia would vary in the type of cultivation which can be undertaken.

The Agro-ecological Zones (AEZ) within which these communities lie, also in general characterizes the profiles the type of agricultural activity which takes place in these communities. As documented by CARDI in 1992, the island is divided into six (6) Agro-ecological Zones (AEZ) and the establishment of these zones took into account an analysis of various physical factors including rainfall, number of dry months per year, soil type and fertility, land capability and erodibility and slope category. Table below defines the Agro-ecological Zones of St. Lucia

Table 4: Main Characteristics of Agro-ecological Zones (AEZ) of St. Lucia

AEZ	Rainfall (mm)	Number of Dry Months	Altitude (m)	Soil Type	Soil Name	Drainage
1	1750	2-4	150	Heavy, shallow, montmorillonitic clay	Hardy, Duggard, Annus and Delomet Clays; Stony Franciou, Stony Clay and Falaise Stony Loam	Imperfectly-drained
2	1750-2500	1-2	150-450	Intermediate Latosolics and polysols	Anse, Canelles, Assor, Moreau and Warwick Clays and Cocchon Silty Clay	Imperfectly-drained
3	1750	3-4	150	Heavy montmorillonitic with clay pan	Rozette, Micoud and Michel Gritty Clays and Balemobouche Gritty Clay Loam	Level
4	2000-2500	1	150-600	Brown latosolics	Beefond and Haut Clay Loams, Rabot Clay, Panache Silty Clay Loam and Ivrogne Stony Clay	Good
5	2500	Nil	300-900	Latosolics	Warwick Clay, Calfoure Silty Loam and Mahaut Silty Clay Loam	Good

6	1750-2500	2-4	30	Alluvial	Latille Clay Loam, Richefond Fine, Sandy Clay Loam, Troumassee Loam, Soucis Salty Clay Loam and Raveneau Clay	Well-drained

4.2 Profile of Individual Communities

Please add in each community on paragraph on demographic figures, and % people working in agriculture (full and/or part time), and also please list key organizations in place such as FFS or coops or farmers/livestick associations, or charity organizations which might be of use/to partner Please also add 2-3 sentences /per community regarding DRM work, and DRM related features (in place or not) such as Early warning office or mechanisms, rescue teams etc.

Bogis (Babonneau)

Bogis is a small rural community established within the wider community of Babonneau in the north of the island and within the Administrative District of Gros Islet.

As defined in the Land Capability Use Map of St. Lucia, Babonneau is characterized by largely undulating hilly landscape and severe slopes with some severe limitations for cultivation. There are however some patches of flat to gentle sloping areas of soil without many limitations for cultivation. Parts of Bogis lie within the flat areas and are prone to flooding. Babonneau in general is characterized by intensive agriculture including banana and mixed crop farming along with the existence of some patches of tropical forests. Livestock in Bogis/Babonneau is centered mainly around poultry rearing and pigs, but small ruminants and cattle are also bred.

Babonneau/Bogis fall into both AEZ zones 2 and 5.

Roseau

Roseau is a rural community along the west coast of the island and is within the administrative district of Anse La Raye. In spite of a one time booming banana trade in the general Roseau valley, the community of Roseau continues to be one of the poorest in St. Lucia. The main Roseau region is characterized by a mix of flat to gentle sloping soils. The main valley is prone to floods and wind storms but there is intensive farming of bananas and mixed cultivation. There also exist also some plantation forest and scrub forest. The general Roseau region falls within the AEZ of 5 and 6 as described in Table below.

Livestock in Roseau is focus primarily on cattle, small ruminants and poultry to a lesser extent.

Mabouya Valley

The Mabouya Valley in the Administrative District of Dennery is along the east coast of the island and its physical nature comprise of level soils and some level to undulating areas in addition to some severe slopes and hilly areas which places serious limitations on cultivation due to flooding, drainage and erosion problems and some stoniness.

The area is covered with some scrub forest and grasslands and there is intensive farming of bananas and mixed cultivation. The region is covered by AEZ 5 and 6 as defined in Table 4. Some livestock rearing particularly involving pig rearing and some poultry is undertaken. Some cattle and small ruminants are also kept.

Delcer

Delcer is an inland and generally remote rural community in the Administrative District of Choiseul along the west coast of St. Lucia. The region is generally characterized by undulating to hilly areas with some slopes and eroded agricultural land and some stoniness which in general limits the choice of crops and requires some special conservation practices. There is however areas of both intensive and mixed farming in the region. The area is within AEZ 2 and 3.

Livestock in Delcer is focused mainly on small ruminants and pigs to a lesser extent.

Dennery

Dennery is both a quarter and a village on the east coast of the island. The main economic activities are fishing, and the cultivation bananas, and other mixed crop cultivation. Much of Dennery is in the Mabouya Valley.

The topography of Dennery comprise mainly of some severe slopes mixed with undulating hilly terrain. There are also patches of level soil and nearly soils and also patches of level soils with no erosion hazards which can be used of pasture. There are also patches of level undulating land with severe limitations. Dennery falls within AEZ of mainly 5 and 6 and also in 2.

In terms of cultivation, there is much intensive farming and large areas of mixed farming. There are also areas of flatland intensive farming, patches of densely vegetated farming, some natural tropical forest, scrub forest and patches of grasslands and open woodlands.

Fishing in Dennery is mainly restricted to the village (see map) and is managed by a Cooperative of about 100 members including fishers, boat owners, distributors and other stakeholders. In

2008 there were 296 registered fishers in Dennery including 165 full time, 95 part time and 36 boat owners. There are about 80- to 85 boats involved in fishing in Dennery most of them engaged in bottom fishing in the open seas but also using FADs to support their fishing. In 2008 307.17 tonnes of fish was landed at the land site in Dennery.

Soufriere

Soufrière is a town and also one of the quarters into which the island is divided and is situated on the Southwest coast. The terrain in Soufriere comprise mainly of severe slopes mixed with areas of undulating-hilly landscape. There are also many areas of very severe slopes covered with woodlands and which caters for wildlife and water resources. There are also small patches of level undulating land soils with severe limitations and other with very severe limitations. Soufriere falls with AEZs 5 and 2.

With respect to cultivation, there are large areas of both intensive and mixed farming. There are also many patches of densely vegetative farming. There exist large areas of scrub forest and natural tropical forest. In addition, small areas of grasslands and open woodlands, patches of eroded agricultural lands and rock and exposed soil are present.

In the case of fishing, most of it originates out of the Soufriere bay near the town itself. Fishing in the community is supported by the Fishermen's Association comprising 111 members who are not all fishers. In 2008 there were 168 registered fishers in Soufriere including 97 full time fishers 63 part time fishers and 8 non fishers who owned boats. There are about 71 fishing boats registered in Soufriere comprising mainly of Canoes (30) and Pirogues (32).

Some fisher boats (about 19) are involved in trolling, and catching of flying fish and other pelagic species as well as going to the nearby FADs. A few boats (about 14) are involved in seine and gill net fishing. These fish for mackerel and other coastal pelagic and they operate between Choiseul and Canaries. There are also eight fishers and their boats engaged in pot fishing between Anse I'vorgne and Anse Chastanet. In 2008, 73.26 tones of fish was landed in Soufriere.

5.0 IMPLEMENTATION OF DRM GOOD PRACTICES

5.1 Crops

Following a number of community and site visits and meetings, potential DRM good practices for implementation at the individual communities were identified, discussed and prioritized. These good practices are identified below in Tables 5 to 8 for Bogis(Babonneau), Mabouya Valley, Roseau and Delcer (Choiseul)

Table 5: Potential Best Practices for Bogis (Baboneau)

Hazard	Best Practice
Pest and Disease	Use of green house technology, education and training
Flooding	Drainage Desilting of river River bank stabilization
Drought	Water harvesting and storage Drip irrigation Management of bush fires; e.g firebreaks

Table 6: Potential best Practices for Mabouya Valley

Hazard	Best Practice
Drought	Water harvesting and storage (ponds, underground wells, water tanks) Irrigation
Landslides	Tree planting
Wind storms	Windbreaks
Soil degradation	Soil testing and improving soil fertility

Table 7: Potential Best Practices for Roseau

Hazard	Best Practice
Drought	Water harvesting (e.g . dam) and storage Drip irrigation
Wind storms	Investigate use of windbreaks
Landslides	Tree planting and land stabilization
Flood	Desilting of main drains

Table 8: Potential Best Practices for Delcer (Choiseul)

Hazard	Best Practice
Pest and Disease	Use of greenhouses Education and training Integrated Pest Management (IPM)
Drought	Water harvesting and storage Use of drought resistant crops Crop scheduling Mulching

Farmers and community members subsequently met with their respective Extension Officers and at a final meeting with NLC and the NPC to agree on priorities for each community. The following activities were approved as illustrated in Table 9. These demonstration best practices has since been approved by the Project Committee and vetted by the appropriate Officers of the FAO.

Table 9: Approved DRM Best Practices for Crops in Four Communities

Community/Site	Demonstration Best Practice	Extension Officer(s) Responsible	Proposed Costs (EC$)	Number of Farmers to Benefit	Implementation Date
Bogis/Babonneau	Stabilization of River Bank and Main Drains	Donald Joseph Damien Joseph	20,958.00	15	October 2010
Roseau	Establishment of Dam and Water Distribution System	Cherry Anne C. Smith	40,167.75	5-12	October 2010
Mabouya Valley	Soil and water Conservation Practices	Cletus Alexander	38,797.50	5	October 2010
Delcer	Pest Management - Comparative Field and Greenhouse Studies	Bron Lafeuillee Cornelius Sydney	39,264.65	35	October 2010

Plans are well ahead for the procurement of materials and services and implementation of these demonstration activities are to commence before the end of October. Approximately 60 farmers and their families and by extension the communities stand to benefit from these interventions. Detailed Implementation Plans for each demonstration best practices is presented in Annex 4.

5.2 Livestock

As previously noted the livestock demonstration best practices are generally being undertaken in the same communities as for the crops component with some ancillary activities taking place in Vieux Fort.

These demonstration activities were finalized at community meetings with input from the Livestock Consultant, the Chief Veterinary Officer and three other livestock/veterinary officers. These activities are currently ongoing with some being completed. A summary of the various best practices being promoted are presented in Table 10 below. Further details on the Livestock component can be obtained in various Progress Reports submitted by the Livestock Consultant.

5.3 Fisheries

With regard DRM in Fisheries, the communities of Dennery and Soufriere were identified as demonstration sites. During a back stopping mission undertaken by David Brown (Emergency and Rehabilitation Response Coordinator; Fisheries and Aquaculture Department, FAO) form May 29th to June 6th, the communities were visited and discussions held with various interest groups including fishers, management of Fishers Associations in both communities, SMMA (Non-governmental marine resource regulatory agency in Soufriere) to plan the way forward.

Based on discussions held there was general interest in safety at sea training, the use of GPS in both communities, and the formation of fisheries community emergency plans. There were also specific technical interventions requested which in the case of Soufriere was the need for an electric or hydraulic winch to lift boats out of the water faster in case of an emergency while Dennery requested the building of a slipway which would also facilitate moving boats out of the water faster and also minimising damage to them. The recommendations from the FAO Mission report suggest that the areas identified for training would serve the identified communities and the wider fishing sector well. In addition the specific technical interventions for each pilot community were cleared as technical sound but implementation should be guided by cost implications. It was also noted that the Fisheries Department would have to play a greater role in helping to address DRM programmes for the fisheries sector at the national level.

Presently discussions are ongoing with community stakeholders and personnel of the Fisheries Department to finalize and implement activities for the identified communities and the wider fishing sector.

5.4 Field Demonstrations and Training Workshops

As noted previously a number of the livestock best practices have been completed while some are still to be completed while implementation of DRM best practices for crops have just commenced.

It was agreed by the project implementation team that a training programme comprising site visits for demonstration of best practices and a number of lecture sessions covering disaster risk management in general and DRM in livestock and crops and issues pertaining to finance and insurance would form part of this integrated training programme. Draft programmes are presented in Annex 5, while a full training report will be submitted subsequently.

This training and demonstration of best practices is schedule to run form the end of October into the start of November.

Table 10 Demonstration sites and best Practices being promoted – Livestock DRM TCP/STL/3202

Budgetary Allocation: US$13,000 (EC$ equivalent = $34,840)

Demo Best Practices	**Delcer**	**Mabouya Valley**	**Babonneau**	**Roseau**	**Vieux- Fort**	***Estimated Cost***	***Actual Cost***
1. Safe storage of livestock feed- design/construct hurricane resistant – Construction of structure on Mr. Imbert Budhoo's Farm in Mabouya Valley		✓				*EC$8000*	*EC$8638.35*
2. Improved Livestock housing – design/construct hurricane resistant shelter (Small ruminants) – Construction of unit on Mr.Clovis Davis' Farm at Delcer	✓					*EC$8000*	*EC$7048.05*
3. Improve hurricane resistance of livestock buildings – install hurricane clamps (Demos on 3 farms in Vieux Fort, Mabouya Valley and Babonneau namely Simon Clarke, Trevor Andrew and Virginia Jules, respectively)		✓	✓		✓	*EC$3000*	*EC$2800.0*
4. Improved housing- Disease mitigation in poultry (install concrete flooring). Demo of New concrete floor erected for Ms. Virginia Jules at Desbarra, Babonneau.			✓			*EC$7000*	*EC$7004.00*
5. Forage bank establishment/maintenance on Mr. Matthew Jacques' farm at Delcer, Choiseul. Demonstration of establishment to be done.	✓					*EC$2700*	*EC$3123.95*
6. Removal /pruning of hazardous trees proximal to livestock buildings. Demonstration site selected – SALCC farm in Mabouya Valley		✓				*EC$ 0*	*EC$ 0*
7. Improved drainage around livestock housing. Demonstration on Roger Dembow's farm at Desbarra, Babonneau			✓			*EC$ 0*	*EC$0*
8. Improved waste management systems on farms – Septic tank for swine at Mabouya Valley and Construction of composter for rabbit waste management at Marigot Secondary School farm, Roseau. Demos to be done on Trevor Andrew's farm in		✓		✓		*EC$5000*	*EC4705.05*

Mabouya Valley and Marigot Secondary School for septic tank and composter, respectively							
9. Rain water harvesting on livestock farms. Demos to be done on farms of Clovis Davis, Imbert Budhoo and Joel Greene in Delcer, Mabouya Valley and Vieux Fort respectively	✓	✓			✓	*EC$660*	
10. Bio-security on livestock farms – Installation of footbaths. Demos to be carried out on farms of Clovis Davis, Trevor Andrew, Virginia Jules and Joel Greene in Delcer, Mabouya Valley, Babonneau and Vieux Fort respectively.	✓	✓	✓		✓	*EC$330*	
TOTAL:						***EC$34,690.00***	

6.0 CONCLUSIONS

Besides the regular exposure to major extreme climatic events hitting St. Lucia, the country is exposed to recurrent impacts of so-called "neglected" or small scale disasters, which do not attract international attention, including strong winds, localized floods, drought spells and landslides, many of them impacting most on the agricultural sector, the sector which has already been affected by trade liberalization policies and in particular affecting bananas and banana farmers. Another impacting factor which has not been paid much attention to is praedial larceny where farmers produce is stolen on the farmer before it can be harvested. These risk factors together have resulted in farms and farmers seeking employment in other sectors and in general affecting agricultural productivity.

Many of the impacts of disasters caused by winds, floods and landslides could have been avoided or minimized if proper on farm mitigation measures were implemented. In addition farmers have very little to invest in disaster mitigation and depend on government and donor funds for post disaster recovery. Also, risk transfers such as insurance is not readily available and is generally limited to banana production. As such farmers into vegetable and production of other crops and the livestock and fisheries sub-sectors have suffered tremendously in the past.

All of this has led to the recognition that national agricultural and economic plans and policies should at best address disaster mitigation in general but with a strong focus on agriculture which typically is most affected. The National Consultants are sensitive to those impacting issues and will seek to empower all stakeholders and members of the communities where the project is piloted to play their part in realizing project goals. The provision of technical support is critical as this could help alleviate problems regard risks and opportunities identified. Financing arrangements including credit is also a matter to be addressed. As such the intervention to address disaster risk mitigation in agriculture is both timely and relevant.

This Report addresses a slightly revised scope of work based on the appreciation of issues and concerns raised during the inception meeting and a number of other meetings with project beneficiaries, other stakeholders, the National Project Coordinator, , FAO backstopping officers, designated Project Extension Officers and other Consultants.. The report also provides a summary of major technical outputs of the assignment and activities and those completed to date .In terms of the way forward, The National Lead Consultant is working with the recently recruited Communications Specialist and the rest of the Project Implementation Team to elaborate on the draft communications strategy and develop and implement a vigorous and effective publications programme to sensitize the public and stakeholders of the project Consultants and give it the necessary profile.

Annex 1

TERMS OF REFERENCE

National Consultant
Capacity Building for Disaster Risk Reduction (DRR - natural hazards) and Climate Change Adaptation (CCA) in agricultural sectors

for the duration of 11 months
(thereafter extendable by another 11 months)

Under the overall supervision of the FAO representation and the Sub-regional FAO office, SLAC, the technical guidance of the Climate Change and Bioenergy Unit (NRCB) of FAO which is the project lead technical unit (LTU) for the project, and under the direct supervision of the National Project Coordinator (NPC) the consultant will have the following duties related to three main areas

4. Provide assistance to NPC in project management and coordination, and lead project related documentation and reporting

this includes to

- assist NPC in organizing, preparing and facilitating the project inception workshop
- assist on regular intervals the LTU and NPC in updating/fine-tuning the project implementation strategy and work plan;
- prepare after 2 months a project inception report covering (a) the detailed description of project set up; pilot site selection, implementation work plan and agreed implementation roles responsibilities of various stakeholders/individuals as well as (b) the situation assessment in pilot villages [1]
- collect, review and file relevant documents (such as project report provided by FAO) to identify and advise on good practice options for DRR in agriculture forestry and fisheries in St Lucia;
- assist the NPC in setting up a technical validation group to review good practice options for DRR/CCA in view of their value added for pilot areas in St. Lucia
- participate at all validation meetings and document discussion and outcomes
- take the lead role in coordinating and documenting in form of a local good practice(GP) options menu (ref. reporting to FAO) all potential GP technologies for local DRR / CCA in AG.FO FI, identified in St Lucia and the wider Caribbean for possible field testing; this includes coordination with livestock fisheries and forestry extension officers, consultants and FAO backstopping officers, who will advise on and contribute options

[1] as outlined under point three first bullet point

available in those sectors; The documentation format for GPs will be provided by FAO/LTU.

- assist the project and extension officers after each validation meeting in preparing detailed implementation guidance sheets for those good practices selected for field testing in a specific season/term;
- prepare 4 monthly progress reports for FAO (3-4 pages max)
- assist the NPC and Lead Technical Unit (LTU) in collection material and organizing brainstorming sessions with key stakeholders needed for the development of a sector specific Plan of Action for DRR in MALFF; a sector specific PoA should be designed within the umbrella of the existing national disaster management and CCA policies.
- Assist NPC in ensuring coordination and consistency of working approach and implementation process between pilot sites and coordinate in the second half of the assignment learning exchange and Farmers to Farmer visits.
- Assist the NPC to promote collaboration and operational linkages with other agencies and project working on the same or related topics
- perform other duties as may be requested on unforeseen demands by NPC

5. Lead capacity building, training and local awareness raising process related to DRR/CCA

this includes to

- identify technical and operational capacity needs among Ag/Fo/Fi extension staff and local organizations in pilot villages, related to DRR and CCA and the national and sector specific implementation of DRR/CCA policies and plans
- take a lead in fine-tuning and implementing the capacity building process outlined in the project document (outputs 1 and 2 refer); outlining a needs responsive training strategy and training work plan (ref to reporting) ; the training strategy should include both classroom training events as well as process based field coaching of extension workers and community organizations/groups;

- support the NPC in organizing training workshops and training activities as outlined in the project document, including selection of resource persons as may be needed, preparation of training outlines (including anticipated budgets) as needed by FAO to transfer timely funding
- assist in conducting training sessions; high emphasis shall be given in the capacity building process to (a) the understanding of DRR concepts and translating them into operational approaches at all levels, including the links between DRM and climate change and long term options for resilience building; (b) on technical training on concrete measures and good practices for field level risk coping, resilience building and adaptation within the AG FO and FI sectors. (c) training ssupport for department staff and producer organisation in the design of contingency plans; ccontribute as trainer on selected training topics
- ensure effective coordination and information sharing among all stakeholders involved in project implementation.

- Design and guide, in close collaboration with national communication consultant and linked to the capacity building strategy, a social mobilization process and awareness raising process on DRR and CCA in the pilot villages an/or selected village organizations

6. Assist in the overall coordination & provide technical support to NPC, extension officers and Farmer Field Schools (FFS) regarding field demonstrations of good practices for DRR/CCA in selected pilot villages

- building on available data and knowledge, conduct Participatory Rural Appraisal sessions in each in selected pilot site to fill possible knowledge gaps needed to describe in a detailed situation assessment report the pilot sites' biophysical conditions (weather records, soils and soil analysis data, topography , detailed outline of existing farming/fisheries systems; hazard exposure and history; socio economic conditions/ features; existing risk coping/adaptation strategies (good practices); additional coping and adaptation needs; as well as institutional settings and organizational strengths and weaknesses in the pilot villages related to DRR [2]
- assist the NPC and the Project Steering Committee (PSC), and extension officers in identifying local farmers and/or fishermen and/or other community organizations interested in participating in the pilot testing of good practices for local DRR/CCA.
- advise extension workers and CARDI in the implementation of the selected GP options, to ensure cross-sectoral integration, and a consistent and integrated working approach at pilot village level; including through facilitating coordination with FAO and other project staff; capturing of feedback from farmers and ensuring wide participation of farmer organizations;
- assist the project in preparing detailed implementation guidance sheets for all those good practices selected for field testing (ref: part of reporting duties);
- guide and advise on the set up and implementation of the monitoring process of demonstrations; advise extension staff and farmers on the monitoring and evaluation of the field testing of GP options.
- assist the project in analysis of findings and lessons from the first round of pilot demonstrations in order to conclude implications and requirements for further replication in second round of field trials.
- advise and guide farmers and fishermen in the pilot villages to contribute to monitoring of pilot testing activities on demonstration sites;

Qualifications: the candidate should posses an advanced university degree in agriculture, agronomy, or other relevant subject and good understanding of sustainable natural resource management practices. Working experience in disaster risk reduction or post emergency

[2] The descriptions will later form the basis to qualify the GP options in the context of the environment where they were tested, and thus for replication in similar environments elsewhere.

agriculture rehabilitation programmes; including training of trainers. Long standing experience in training material development and training delivery, including training of trainers. Sound knowledge of participatory methodologies and approaches including proven experience a trainer is needed.

Duty Station: Saint Lucia

Duration: (11 month on WAE basis; for the first 6 months an average of 15 working days/per month is estimated to deliver field work and reporting)

Contract is extendable on mutual agreement basis for another 11 months

PROPOSAL

A flexible arrangement for salary payment is proposed to adjust working days to demand and delivery over the project period; Salary payments should be installed on monthly or two-monthly basis (to be agreed with consultant), but in any case payments shall be linked to tangible written outputs to be delivered every second month as follows:

- 1st reporting after 2 months : project inception report; The inception report will include 2 section (a) project management arrangements and (b) situation assessment in pilot villages (points in TORs refer)

- 2nd report after 4 months covering (a) consolidated GP option menu for DRR in AG/FO/FI, including all collected potential options to be brought to validation process (b) training and capacity building strategy for the project

- 3rd report after 6 months: report on validation process and it outcomes and the detailed field implementation guidelines (example to be provided by FAO) for those options selected for field testing in pilot villages

- 4th report after 8 months: first draft of capacity building documentation including training modules applied.

- Further deliverables will be defined at a later stage.

Salary payments will be hold back in case reporting is delayed.

Annex 2 : Revised Project Implementation Workplan

		J	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**J**
Project launch activities and management																								
Appointment of NPC and recruitment of consultants		X																						
Inception mission	LTU	X																						
Set up PM office and establish Project steering and advisory committee	NPC	X																						
Inception workshop	NPC/NC		X																					
Select 4 -5 pilot villages: Vision "create more climate resilient villages/communities" (*village as social nucleus- the villages' watershed as spatial planning reference unit)* o set criteria for village/community selection o tentatively identify villages/communities o consult with villages about interest and commitment	NPC/NC																							
Select consultants, prepare contracts (Cardi/Livestock) and appoint responsible Ext officers per pilot sites	NPC/ FAO																							
Define management and clear implementation responsibilities (national level, regions and pilot community level); Who does what?	NPC				X		X																	

[3] The work plan needs to be revised at project inception on the basis of the effective project inception date to take fully into consideration the hurricane season implications.

Prepare 4 monthly progress reports for FAO	NPC/NC							x				x				x									
<u>Output 1</u> Improved capacities of the Forestry, Fisheries and Agriculture Department staff to services community level																									
		J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
Identify technical & operational capacity/ training among EX for implementation support of DRR management	NC																								
Deliver needs based training on disaster mitigation and preparedness and post disaster rehabilitation for staff in Agriculture, Fishery and Forestry Departments	NC/FAO/ CDEMA NEMO												X			X			X						
Advise and assist MALFF in fine-tuning sectoral action plan for DRR in line with the new national DRR/CCA policy/frameworks o 1st draft version of plan available o Hold national discussion workshop on plan	FAO/ LTU NPC/NC CDEMA																			x x					
Train departments staff and selected producer organisation in the design of local hazard specific contingency plans;	FAO LTU																			X					
Conduct 2 days training workshop early July for extension officers and farmer group leaders on Planning for community based DRM and Climate Change Adaptation	FAO LTO													X											

National project representative represents the project at FAO Climate Field days in Rome (June 20-23 rd)													X													
Study tour of two extension officers to attend training course on Community Based DRM at ADPC Bangkok 19-30 July 2010	NPC FAO SLC													X												
Conduct study to assess needs and scope for enhanced climate information products tailored to the needs of local AG producers ; o building on existing climate info & Early warning systems; **in collaboration with Met. and NEMO** o linking to local vulnerability contexts	LTU mission												X													
Facilitate the dialogue between MALFF and the CDM programme , CDEMA, to discuss linkages and harmonize national and regional approaches for DRM in Agriculture; ensuring that operational links to CDM will be incorporated into St. Lucia's DRR policy frameworks (NEMO)	BecklesNPC/ CEDEMA											X														
<u>Output 2:</u> Village/Community level risk mitigation approaches promoted and measures identified and tested demonstration activities involving farmers and fishers																										
		J	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	
Identify and collate potentially good practices for local DRR in AG/LI/ FI in St Lucia	NCs																									

○ From available literature : Haiti Cuba Grenada Jamaica, Belize; AGil Project St Lucia etc ○ From St Lucia : what is already in place and should be wider promoted ? *Blending local and scientific know how: : Establish options menu* ○ provide up date after x months																									
Technical support missions FAO (CROP/LI/FI/SLM – 1st missions) as input to DRR technology selection process 3 days per officer)										X	X	X													
Vulnerability and situation assessment study/ documentation/report of selected pilot villages/communities including bio physical parameters within watershed (climate soil topography GPS/vulnerability maps overlay; and socio-economic features including farmers/fishers organizations (Precondition for replication strategies) ○ reporting example: Belize/Grenada reports	**NC**/EXT Of.																								
Install and mandate a technical validation group/ clearinghouse for pre-selection of GP for DRR (composition: extension officers; CARDI, IICA. farmers representatives FAO as available Sir Arthur Lewis Community college; chaired by NPC) ○ Validation group meetings: Evaluate and pre-select from options menu good practices	MALFF NPC										X					X					X				

to be suggested for testing in project context; (needs a criteria catalogue) + draw lessons from field testing																									
Social mobilization and training/capacity building process in pilot villages (1/2 days sessions and demo days/exchange visits/ through existing FFS	EXT of./NC							x			x	x		x											
Select Farmers/fishermen's organizations to work with discuss roles and responsibilities o FAO FI technical support service mission	FAO FI FI EXT. Of.											X													
Training fishers and sea moss harvesters in the use of safety at sea equipment (*to be finetuned)	FAO FI FI EXT OF.																								
Facilitate seasonal village DRR plan development; local farmers/villages select those practices they want to be tested through demos or FFS on their communities/on their fields o submit the budgeted plans 6 weeks before implementation to FAO for review and procurement of inputs as needed	NC EXT. Of.										X							X					X			
Prepare detailed implementation guideline for each selected GP including monitoring indicators per GP o *(ref TECA data base; BGD project))*	EXO											X						X					X			
Pilot testing of improved practices on demonstration sites ; guide monitoring process per GP	EXT Of. NCs																								
Facilitate field based training on the selected good practices for DRR/CAA	EXT Of/ FAO/ NCs												x		x				x		x				

Document after field testing good practices and lessons learned and define a strategy for further replication and up-scaling ; link into TECA database	NCs																X					X			
Conduct a study to assess options for developing a viable model for agricultural insurance for small island states like Saint Lucia or for the Eastern Caribbean sub region aimed at providing buffer or safety net mechanisms for the agriculture sector	FAO AGSP national consultant										X														

Output 3 Improved capacities for vulnerability mapping and damage assessment

		J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
Assess methodologies & protocols currently applied for undertaking damage and needs assessments in the agriculture, fisheries and forestry sectors	FAO																								
Support the GIS/GPS data base system for vulnerability mapping that would be instrumental to deliver on pilot basis detailed hazard vulnerability maps for each of the pilot site; it would be an input to the community disaster management planning o FAO LTU support	NPC FAO/ TCDC																								
Training of thirty (30) personnel from key agricultural agencies in damage assessment utilizing improved and standardised methodologies FAO TCDC and Technical service support from HQs	FAO/ TCDC											X													

Output 4: Development of a communication public awareness programme, making use of the local dialect "Kwéyol" and local media including the Government Information Service and the Agricultural Communications Unit, targeted to farmers and civil society																								
		J	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**
Review available material on disaster risk management; and **develop a communication and public awareness strategy** that includes targeting of specific groups and the use of selected types of media for the different purposes of the project	Nat cons communi cation FAO TSS																							
Identify communication media and **produce public awareness material** channels for delivery of information and including brochures, videos, press releases and public service announcements for use in the various media as identified;	FAO NRRR/ SLAC																							
Dissemination of good practices and lessons learned in the country and in the Region through Regional DRM partner organisations, establishing linkages with similar project implemented by FAO and international good practice databases o Provide linkage to CDSI global project for region al exchange ogf lessons	FAO NRRR/ SLAC												X								X			
Project medium term progress assessment workshop; project wrap up workshops to share lessons learned and recommendations with policy makers	NPC LTU										X													X	

Annex 3

Preliminary List of Stakeholders Consulted/to be Consulted

1) Ministry of Agriculture, Lands Forestry and Fisheries
    - Fisheries Department
    - Extension Division
    - Forestry Department
2) Caribbean Agriculture Research and Development Institute (CARDI)
3) National Emergency Management Organisation (NEMO)
4) Statistics Department
5) Sir Arthur Lewis Community College (SALCC)
6) Farmers' Organisations
7) Fair Trade Group
8) Meteorology Office
9) Caribbean Disaster Emergency Management Agency
10) St. Lucia Insurance Council
11) WINFRESH (formerly WIBDECO)
12) Banana companies
13) Livestock Associations
14) Ministry of Social Transformation
15) Inter American Institute for Cooperation on Agriculture
16) Community Organisations in Selected Villages/Communities
17) National Fishers Organisation(s)
18) OECS
19) Sustainable Development Unit
20) Individuals-Julius Polius, Peter Murray
21) Farmers of Pilot Communities

Annex 4

Implementation Plans for DRM Demonstrations in Pilot Communities

(A)
Enhanced Capacities for Disaster Risk Management in Agriculture, Fisheries and Forestry-Project TCP/SLT/3202
Region 2- Babonneau
Activity – Stabilization of River Bank and Main Drains

Introduction

The community of Bogis (in Babonneau) was selected based on established criteria (see Inception/Progress Report) as one of the pilot sites for project demonstration activities for disaster risk management in agriculture. After two consultations coordinated by the National Project Coordinator, the Extension Officer (Mr. Edwin Henry) designated to the project and the National Lead Consultant were held with representatives of various farmers groups and other representatives in the community. During these consultations, the project was introduced in detail and a number of activities for disaster risk management in the community were identified and discussed. The hazards that were of interest to the group included flood, pest and disease, wind storms, and water shortage/ drought and irrigation.. At a final consultation however, it was agreed that flood management including river bank stabilization in the general area where a number of farms were situated was most appropriate at the time..

This intervention is based on findings that revealed deforestation and land degradation along with the decentralization of major gullies and drains upstream was impacting river bank stabilization down stream.. About 15 to 20 farmers are expected to benefit from this intervention

The activity will involve two phases, one which will see the stabilization and rehabilitation of the main drains and the other the stabilization of the river bank through the planting of tree crops and forest trees. The estimated cost of this activity is EC$20,958.50 details of which are are presented in the attached Procurement Plan. An MOU will have to be established between the land owners and the Ministry of Agriculture to ensure sustainability of the project.

Objective

- To demonstrate and promote the use of maintenance of drains as a means of mitigating flood damage;
- To demonstrate and promote the use of river bank stabilization by the planting of trees to minimize flood damage
- To promote awareness of the impacts of deforestation and land degradation on as a cause of flooding and impacting livelihoods of farmers.

Output

The project outputs are:

i) Main drains along the defined area where farms are located rehabilitated

ii) Four thousand tree crops and 5000 forest trees planted to stabilize the river bank in the defined area where arms are located.

Major Activities

i) Cleaning and rehabilitation of main drains leading to the river in the defined area

ii) Planting of tree crops and forest trees

iii) Awareness raising on impacts of deforestation, and land degradation during activity

Major Inputs

- 4000 tree crops (of economic value)
- 500 forest trees
- Small farm implements (e.g. forks, spades, cutlasses, etc)
- Labour

The total cost for the activity is presented in the attached procurement plan.

Implementation and Institutional Support

Implementation will commence as soon as approval for the procurement plan has been received and the MOU signed. The Extension Officer with support from the NLC consultant and the NPC will coordinate implementation of the activity.

Technical supervision will also be provided by the Forestry Department and the Extension Division.

Implementation Schedule

Activities	**August**				**September**				**October**				**November**			
	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4
Confirmation and demarcation of location for drain rehabilitation and bank stabilization				√	√											
Develop plan for tree						√	√									

planting																
Procurement of materials									√	√						
Rehabilitation of main drains											√	√				
Tree planting													√	√		
On site awareness training facilitation												√	√			
Maintenance and follow-up															√	√

Assumptions

- Farmers will provide necessary in kind assistance as required in the MOU
- Necessary and adequate funding is provided for the activity
- Farmers will maintain their interest in the proposed activity

Monitoring and Sustainability

The Extension Officer with support from farmers in the area will be directly responsible for monitoring and evaluating the intervention. Any problems will be reported to the NPC and NLC who will liaise as necessary with the Steering Committee, and other appropriate agencies and Departments within the Ministry and advice on any actions necessary

An MOU will be signed by the farmers in the environs and the Ministry of Agriculture with regard maintenance and monitoring and reporting impacts of the intervention to ensure sustainability of the initiative.

Extension Officer: Donald Joseph/ Damien Joseph

(B)

Enhanced Capacities for Disaster Risk Management in Agriculture, Fisheries and Forestry-Project TCP/SLT/3202

Region 3-Mabouya Valley

Activity –Soil and Water Conservation Practices

Introduction

After the community was selected (see Inception/Progress Report) as one of the pilot sites for project demonstration activities, a number of consultations coordinated by the National Project Coordinator (NPC), the Extension Officer (Mr. Cletus Alexander) designated to the project and the National Lead Consultant (NLC) were held with representatives of various farmers groups and other representatives in the community. During these consultations, the project was

introduced in detail and a number of activities for disaster risk management in various locations of the Mabouya Valley were identified and discussed. The activities proposed included those for managing flood, water shortage, the improvement of marginal lands including countering the effects of sea blast, landslides and pest control

Final consultations defined the activity that all stakeholders were comfortable with and an integrated project for soil and water conservation was agreed upon. The water conservation component required the harvesting of rain water through the creation of a dam. However, establishment of the dam required the approval of a third party which could have implications for sustainability and as such stakeholders agreed that the location for the activity be moved and substituted to a tank collection system to a more appropriate farm nearby, the owner of which had fully consented.

The farmer Mr. Constantine is very cooperative and cultivates a four acre plot of land at La Perle in the Mabouya Valley. He is already harvesting and storing water on a small scale and this would be an improvement to his system and four other farmers will benefit. In this activity a small shed with guttering attached would feed a thirty thousand gallon tank to be used for the next dry season. The other component of the activity will demonstrate the establishment of contour stone bunds to reduce soil loss on the main farm.

Objective

The project seeks to demonstrate to farmers the importance of engaging in risk management strategies for continued production in times of crises namely drought and severely degraded soils. Specifically the activity will

- Demonstrate and promote methodologies for rainwater harvesting on the farm;
- Demonstrate the use of contour stone bunds to minimize soil and water loss

Output

The project will

iii) irrigate about nine (9) acres in the Mabouya Valley through water harvesting techniques implemented during the rainy season;

iv) introduce soil and water conservation strategies using contour stone bunds.

Activities

iv) With advice from the Extension Officer one contour stone bund will be constructed using stones that are readily available on the farm. This bund will help reduce the amount of soil loss on the farm.

v) One (1) small shed measuring 12” x 6” with guttering attached to collect rain water will be constructed. There will be a minimal fee for labour given the expertise required

vi) One d slab will be constructed and a prefabricated tank installed on the slab. There will be a minimal fee for labour given the expertise required.

vii) Water will be fed into the tank from the roof guttering and will be distributed to the farms through gravity

Major Inputs

- Galvanise and guttering for shed
- Stones (small boulders)
- One (1) water tank (30,000 gallons)
- Six (6) cubic **y**ards of ready mix
- Twenty (20) bags of cement
- Fifty (50) concrete blocks

The total estimated cost for the activity is **EC$38,797.50** details of which are presented in the attached procurement plan.

Implementation and Institutional Support

Implementation will commence as soon as approval for the procurement plan has been received and the MOU signed. The responsible Extension Officer with support from the NLC consultant and the NPC will coordinate project implementation activities. Some in kind labour will be provided by the farmers involved.

The technical works will be supervised by the Engineering Unit of the Ministry of Agriculture with support from the Extension Division.

Implementation Schedule

Activities	**July**				**August**				**September**				**October**			
	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4
Confirmation relocation of activity and identify and visit site	√	√	√	√												
Site preparation and sourcing materials needed					√	√	√									
Contour bond designed and constructed									√							

Procurement of materials								√	√	√						
Construction of shed and slab											√					
Placement of tank												√				
Complete assembly of system and irrigation lines												√	√	√		
Test run and demonstration														√	√	√

Assumptions

- That the landowner will remain committed to use of his lands for erection of infrastructure for rain water harvesting and related activities.
- Farmers will provide necessary in kind assistance as required in the MOU
- Necessary and adequate funding is provided for the activity
- Farmer(s) will maintain their interest in the proposed activity

Monitoring and Sustainability

The Extension Officer will be directly responsible for monitoring use of the system and for reporting any problems to the NPC and NLC who will liaise with the Steering Committee and other appropriate agencies and advice on any actions necessary.
An MOU will be signed by the farmer on whose farm the system will be located and the Ministry of Agriculture to ensure appropriate use and sustainability of the project.
Evaluation and monitoring reports will be presented by the Officer.

Extension Officer: Mr. Cletus Alexander

(C)

Enhanced Capacities for Disaster Risk Management in Agriculture, Fisheries and Forestry-Project TCP/SLT/3202

Region 6-Delcer/La Pointe

Activity – Pest Management-Comparative Field and Greenhouse Studies

Introduction

The community of Delcer in Choiseul was selected based on established criteria (see Inception/Progress Report) as one of the pilot sites for project demonstration activities. At least three consultations coordinated by the National Project Coordinator, the Extension Officer (Mr.

Cornelius Sydney) designated to the project and the National Lead Consultant were held with representatives of various farmers groups and other representatives in the community. During these consultations, the project was introduced in detail and a number of activities for disaster risk management in various locations of Delcer were identified and discussed. From inception the community grouping was mainly interested in pest management as it was seen as an emerging hazard affecting their livelihood in recent times. One concept was to have an integrated project including water harvesting, the grazing of small ruminants (for manure) along with the use of IPM. In the final analysis however, in consultation with the Project Extension Officer and another senior officer deputizing for the NPC the group firmly decided to undertake a comparative field and greenhouse study to investigate how best to management the pest Curly Leaf Tomato Virus and other diseases affecting tomatoes which was seriously impacting farmers crops.

The major component of this activity is to investigate pest and disease management in tomatoes through training of farmers during demonstrations at three (3) outfield plots and one (1) green house. The outfield demonstrations will be undertaken on farmers belonging to Vincent Montoute, Marianna Charles and Francis Ismael while Anthony Alexander has consented to host the greenhouse studies. The activity will benefit at least 35 farmers in the Delcer/La Pointe areas of Choiseul.

An MOU will have to be established between the land owners and the Ministry of Agriculture to ensure sustainability of the project and that the identified stakeholders benefit. The estimated cost of the activity is **EC$39,264.65,** details of which are presented in the attached procurement plan.

Objective

- To train farmers in the identification and control of major pest of tomato using the integrated pest management method
- To evaluate the economic impact of the use of IPM on tomato production and yield in the mentioned area;
- To demonstrate practices in IPM.

Output

v) Increased production of marketable yield of tomatoes form the region

vi) At least 35 farmers trained in methods of IPM and in the identification and control of pest in tomatoes;

Major Activities

1) Identification and confirmation of sites/farms
2) Seedlings ordered

3) Land clearing and preparation
4) Procurement of seedlings
5) Transplanting
6) Crop husbandry
7) Harvesting
8) Post harvest handling
9) Marketing

Major Inputs

- Three farms for outfield production and one greenhouse farmer
- Organic manure
- Fertilizers
- Insecticides
- Fungicides
- Drip lines
- Knap sac sprayers
- Complete irrigation system
- Bird net
- Covering plastic
- Installation cost for greenhouse repair

The total cost for the activity is presented in the attached procurement plan.

Implementation and Institutional Support

Implementation will commence as soon as approval for the procurement plan has been received and the MOU signed. The Extension Officer with support from the NPC and the NLC will coordinate project implementation activities.

The technical works will be supervised by the designated Extension Officer with support from the Extension Division of the Ministry of Agriculture.

Implementation Schedule

Activities	August				September				October				November				December				
	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5
Place order for seedlings				√																	
Land clearing				√																	
Land preparation					√	√															
Procure seedlings							√														
Transplanting & manuring							√	√													
Fertilizer application							√	√	√												
Pest & disease control							√	√		√		√		√		√		√		√	
Weeding & moulding									√	√	√										
Pruning									√	√											
Staking											√	√									
Harvesting																√		√		√	
Post harvest handling																√		√		√	
Marketing																√		√		√	

Notes:

Apart from the crop husbandry practices to be employed, the following will be undertaken:

1. Farmer field school activity will be conducted simultaneously with the Disaster Mitigation Project. Therefore all participants of the disaster mitigation project are expected to participate in the farmer field school activity.
2. To avoid duplication of all training exercises will be done at the Farmer Field School site.
3. Farmers hosting the demonstration plots will be required to take records on all crop husbandry practices carried out.
4. Reporting / Evaluation will be carried out by Extension Officer responsible and NLC at the end of each crop cycle

Assumptions

- That the landowners will remain committed to use of their lands for demonstration activities
- Farmers will provide necessary in kind assistance as required in the MOU
- Necessary and adequate funding is provided for the activity
- Farmers will maintain their interest in the proposed activity

Monitoring and Sustainability

The Extension Officer will be directly responsible for monitoring implementation activities with support from other Extension staff. The Officer will liaise with the NPC and the NPC to report any problems who will advise on appropriate actions to be taken.

An MOU will be signed by the farmers on whose lands the demonstrate activities will take place and the Ministry of Agriculture to ensure benefits to all stakeholders and sustainability of the project.

Extension Officers: Bron Lafeuillee/ Cornelius Sydney

(D)

Enhanced Capacities for Disaster Risk Management in Agriculture, Fisheries and Forestry-Project TCP/SLT/3202

Region 7-Roseau

Activity – Establishment of a Reservoir and Water Distribution System

Introduction

After the community of Roseau was selected based on established criteria (see Inception/Progress Report) as one of the pilot sites for DRM project demonstration activities a number of consultations coordinated by the National Project Coordinator, the Extension Officer (Ms Cherry Anne Smith)) designated to the project and the National Lead Consultant were held with representatives of various farmers groups and other representatives in the community. During these consultations, the project was introduced in detail and a number of activities for disaster risk management in various locations of Roseau were identified and discussed. The hazards that were of interest to the group included water shortage and drought, wind, flood, erosion and increasingly new problems with pest. However, the drought situation which prevailed at the time shifted the focus to rainwater harvesting, and equitable distribution for irrigation.

At a final consultation and with consensus by all stakeholders, it was agreed that at least five (5) farms not impacted by previous water distribution interventions and without any access to water be fed with construction of a reservoir/dam in an area

where there was a natural water basin. The reservoir was to be established on adjoining lands belonging to Mr. Conrad James and Ms. Jacinta Gilbert.

Following at least two (2) site visits by the Engineering Unit of the Ministry of Agriculture, Lands Forestry and Fisheries, to determine feasibility of the project, it was confirmed that the site could accommodate the reservoir and design proposals and costing were undertaken by the Engineering Unit with support from Mr. Eloi Alexis of the Extension Division.

The main component of the project is the construction of the dam/reservoir with costing details presented in the attached Procurement Plan. The estimated cost of the activity is **EC$40,167.75.** An MOU will have to be established between the land owners and the Ministry of Agriculture to ensure sustainability of the project and that the identified stakeholders benefit.

Objective

- To demonstrate and promote the use of small dams (or reservoirs) for rain water harvesting and conservation

- To facilitate the irrigation of adjoining farms by using water from the established dam. For demonstration purposes one farm will be irrigated through drip lines..

Output

The project outputs are:

vii) Construct a dam with the holding capacity of 262 cubic metres of dimensions

Length 35m
Width 5 m
Depth 1.5m

viii) At least five (5) farms (approximately 20 acres) irrigated during the dry months

ix) Demonstrate the use of drip irrigation on one farm fed from the reservoir

Activities

viii) Site clearing and excavation

ix) Dam/Reservoir construction under direction of the Engineering Unit of the Ministry of Agriculture, Lands, Forestry and Fisheries

x) Connection of pump and pipes for water distribution;

xi) Establishment of a drip irrigation system on one farm and pilot tested

xii) Other farmers to establish individual irrigation systems from the mains;

Major Inputs

- Construction equipment
- 15Hp Robin Pump
- Cement
- Ready mix aggregate
- Sand
- BRC steel
- ½ ‘ steel
- Blocks
- 4” pipes and metal valve
- Labour for technical works
- Drip irrigation lines

The total cost for the activity is presented in the attached procurement plan.

Implementation and Institutional Support

Implementation will commence as soon as approval for the procurement plan has been received and the MOU signed. The NLC consultant with support from the NPC and the Extension Officer will coordinate project implementation activities.
The technical works will be supervised by the Engineering Unit of the Ministry of Agriculture with support from the Extension Division.

Implementation Schedule

Activities	**July**				**August**				**September**				**October**			
	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4
Visit and confirmation of site for proposed dam			√	√												
Design proposals and costing					√	√	√									
Procurement of materials									√	√						
Land clearing and preparation										√	√					
Construction of dam												√	√			

Complete assembly of pump and water lines														√	√	
*Test run and demonstration of drip lines on one farm																√

N.B. Other farmers will make their own connections from the main line out of the reservoir

Assumptions

- That the landowners will remain committed to use of their lands for construction of the reservoir
- Farmers will provide necessary in kind assistance as required in the MOU
- Necessary and adequate funding is provided for the activity
- Farmers will maintain their interest in the proposed activity

Monitoring and Sustainability

The Extension Officer will be directly responsible for monitoring use of the dam/reservoir m and for reporting any problems to the NPC and NLC who will liaise as necessary with the Steering Committee, and other appropriate agencies and Departments within the Ministry and advice on any actions necessary
An MOU will be signed by the farmers on whose lands the dam will be located and the Ministry of Agriculture to ensure appropriate use and sustainability of the project.

Extension Officer: Ms. Cherry Anne Smith

Annex 5 Tentative Programme for Training Workshops and Field Demonstration

(A)
PROPOSED SCHEDULE
FOR
DISASTER RISK MITIGATION –RURAL FINANCE (COMPONENT)

SESSION NO.	UNIT	DURATION	DATE	REMARKS
	DAY	**ONE**		
One (1)	Introductions/Ice Breaker	9..00-9.30 am	TBD	
Two (2)	Entrepreneurial Mindset ("From farmer to Agri-Entrepreneur)	9.30-10.30 am	TBD	Martin Weekes
	BREAK	10.30-10.45 am	TBD	
Three (3)	Understanding the risks in Agriculture (Protecting your Investment)	10.45am -12.30 pm .	TBD	IICA/MOA
	LUNCH	12.30-1.30 pm	TBD	
Four (4)	Natural Hazards and Disaster Management in Agriculture (St. Lucia)	1.30-3.30pm	TBD	IICA/MOA
Five (5)	Discussions and Summary of Day./.Recommendation	3.30-4.00pm	TBD	

DISASTER RISK MITIGATION –RURAL FINANCE (COMPONENT)

SESSION NO.	UNIT	DURATION	DATE	REMARKS
	DAY	**TWO**		
One (1)	Introduction to Business Planning	9.30am -10.30am	TBD	Martin Weekes
	BREAK	10.30 -10.45 am		--------
Two (2)	Introduction to Business Planning (Financials)	10.45-12.30 pm	TBD	Martin Weekes
	LUNCH	12.30-1.30 pm	TBD	----------
Three (3)	The Importance of Savings/Thrift and Disaster Risk Mitigation (Strategy)	1.30-3.00 pm .	TBD	Credit Union Representative (Laborie/Choiseul CU
	BREAK	3.00-3.15 pm	TBD	
Four (4)	Approaching a lending Institution (Guidelines/Risk Assessment) (Bank Perspective	3.15 -4.30 pm	TBD	Bank Rep. (Haynes or SLDB)
Five (5)	Discussions/Summary/recommendations	4.30- 5.00pm	TBD	

(B)

Proposed schedule for Livestock component of DRM workshops & field demonstrations

Day 1 Initial workshop on DRM for all sectors. This will be a generalised session so that all aspects of disaster will be discussed.

- One day session – Grande Riviere Secondary School (proposed venue).
- Housing, bio-security, waste management
- Different type of disasters which can affect Livestock.
- Mitigation measures overall per specie.
- Environmental factors which impact livestock and can be a disaster. E.g. wind, trees (windbreaks), grasses, land without proper soil holding plants (bare land), drainage, and proximity to waterways.
- Welfare of animals during disaster (alternative housing)
- OUTPUT- Small Brochures on the various topics to be presented to farmers

Day 2 (Approximately 20 farmers @$30 per farmer)
Visits to BABONNEAU area for Poultry Demonstrations

- This will entail visits to farm of Rogers Dembow. The issue of improper drainage will be addressed on this visit.
- Visit to the Farm of Virginia Jules. Demonstration on improved flooring to poultry pens and its benefits as well as foot bath construction for enhanced bio-security.
- Installation of hurricane clamps

Day 3 (Approximately 40 farmers @ $30 per farmer)
MABOUYA VALLEY – SWINE WASTE DISPOSAL DEMOS & FEED SHED FOR BOTH SWINE AND POULTRY FEED STORAGE.

- Installation of hurricane clamps
- Tree pruning at SALCC farm
- Composting Demo (Mr. Mathurin's farm)

Day 4 (Approximately 40 farmers @$30 per farmer)
DELCER – SMALL RUMINANT DEMOS

- Establishment of forage bank for dry season feeding (Matthew Jn. Jacques Farm)
- Demonstration of small ruminant hurricane-resistant housing, rain water harvesting and footbath

Day 5 (Approximately 40 farmers @ $30 per farmer)
VIEUX FORT FARMS

- Installation of hurricane clamps (Mr. Simon Clarke's Farm)
- Footbath demonstration / rain water harvesting demonstration at Mr. Joel Greene's farm.

Day 6 (Approximately 20 farmers/ students @ $30 per farmer)

MARIGOT SECONDARY SCHOOL, ROSEAU

- Demonstration on construction and use of a composter for farm wastes

Day 7 (Approximately 60 farmers @$15 per farmer)
SUMMARY & CLOSING

Venue: Tissue Culture Compound

- Farmers' feedback on the workshop and demonstrations
- Recommendations for future DRM activities

(C)

Tentative Schedule for Crops Component <u>of DRM Workshops and Field Demonstrations</u>

Session 1: The Effects of Natural and Man-induced Disasters on Agriculture

Session 2: Disaster Risk Management in Agriculture

Session 3: The Role of Farmers and Communities in Disaster Risk Mitigation in Agriculture

Session 4: Theory of Best Practices for Disaster Risk Mitigation in Agriculture Applicable to St. Lucia

Session 5: On-site Demonstration and explanations of best practices at the pilot sites of Bogis, Delcer, Mabouya Valley and Roseau

N.B. The workshops and field demonstrations will be integrated and presented as one to prevent repetition and also to expose a cross-section of Farmers to all the relevant areas.

Annex 6

List of Documents Reviewed/to be Reviewed

1) Anon. Disaster Risk Reduction (DRR) Good Practices – Haiti
2) Project Document- Enhanced Capacities for Disaster Risk Mitigation in Agriculture, Fisheries and Forestry
3) Stephan Baas, Back to Office Report, July 2009
4) Holder, G. D. Good DRM Practices for Belizean Small Farmers and an Approach at Inclusion and Acceptance, on a Pilot Basis, to Promote Disaster Risk Management in the Agriculture Sector (Draft).
5) Spence, B. (2008) Good Practices for Hazard Risk Management in Agriculture – Summary Report, Jamaica
6) Stephan Baas, Selvaraju Ramasamy, Jenny Dey de Pryck, Federica Battista. 2008. Disaster Risk management Systems Analysis – A Guide book. Rome. FAO.
7) Roberts, Dianne A. and Shears, Randolph. 2008. Good Agricultural Practices for Climate Risk Management in Grenada, Summary Report, Rome, FAO.
8) The Institute of Environmental Management and Assessment (IEMA). 2006. Risk Management for Environmental Practitioner. London. IEMA.
9) Various Mission Reports (Baas, Brown, Hiepe, Olofsson), 2010.