

Participatory three dimensional modelling of the Soufriere-Scotts Head-Gallion area, Dominica:

Using the completed model for spatial planning











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April 2015

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Submitted to:

Caribbean Aqua-Terrestrial Solutions Programme (CATS) - Adaption to Climate Change in Agriculture and Forestry German Development Cooperation (GIZ)

w/ Caribbean Public Health Agency (CARPHA) - Environmental Health and Sustainable Development Department

Citation: CANARI, 2015. Participatory three dimensional modelling of the Soufriere-Scotts Head-Gallion area, Dominica: Using the completed model, Laventille: CANARI

Acknowledgements:

CANARI and the CATS Programme takes this opportunity to thank the communities of Soufriere, Scotts Head and Gallion, the government agencies, civil society organisations and other interested parties in Dominica that took part in the exercise to complete the model in April 2015









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Introduction

This document is intended to be used as a basic guide for gathering further information using the completed model of the Soufriere-Scotts Head-Gallion area in Dominica. It is not to be used as a guide for participatory three dimensional modelling.

The model of the Soufriere-Scotts Head-Gallion (SSHG) area in Dominica was built by members of the three communities who also provided the information that appears on it. The completed model was handed over to the Soufriere Scotts Head Gallion Village Council with the understanding that it can be used by other organisations (government, civil society, etc.) for spatial planning (e.g. the Ministry of Agriculture and Fisheries may want to use the model to work with the farmers to allocate additional space for farms or with the fisherfolk and divers to place new moorings).

The target audience for this guide is organisations leading spatial planning activities in the area who want to use the model that was produced to assist in the planning process. The guide lays out the key steps that need to be taken.



Preparatory phase

- 1. Determine what is to be achieved by using the model, i.e. the goals and objectives.
- 2. Determine who your partners are in the process. These may be government or civil society organisations (e.g. a farmers' group, divers' association, fisherfolk organisation, etc.). Your partners will help to deliver the results by assisting with facilitation, providing resources or information that will contribute to the exercise.
- 3. List the key stakeholders in the process. Always include the Soufriere Scotts Head Gallion Village Council as a key stakeholder. Use the goals and objectives to help you determine the key stakeholders (e.g. if the goal is to determine the placement of organic farms in the area, then the farmers in that area and their group will be key stakeholders). Other partners may be identified during this step. The initial stakeholder identification that CANARI conducted for the SSHG model building is shown in Annex 1.
- 4. Write to the Soufriere Scotts Head Gallion Village Council for permission to use the model. Request permission to store purchased material on the site where the model is stored. Call the Village Council and/or pay a courtesy visit to explain what is needed in person. Get written permission to use the model and to make any changes to the model.
- 5. If not already identified as a partner, contact a geographic information systems (GIS) Specialist such as those located in the Lands and Surveys Division to create/ provide maps of existing resources. The GIS Specialist will also digitise the model once completed so that it can be georeferenced. If placing information on the model, (s)he can also provide an estimate of the amount of material needed for the exercise based on a 1:5000km scaled model.

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- 6. Set the timeframe and date and draft an agenda for the sessions.
- 7. If placing additional information on the model:
 - a. Work with the GIS Specialist and other partners to determine the amount of material needed.
 - b. Purchase the material and deliver to the Soufriere Scotts Head Gallion Community Centre for storage.
- 8. Draft and finalise possible products such as flyers, concept notes, media releases, radio announcements, etc. that can be used in different phases of the exercise to raise awareness and mobilise stakeholders.

\bigcirc	Estimated time/ duration	3-6 weeks
	Skills necessary for the exercise	 Natural resource/ environmental management Sociology/ social sciences GIS/ geography/ cartography
	Basic materials	 Yarn/ wool (at least 10 different colours) Paint brushes (different sizes) Oil-based paint (at least 5 base colours with white and black to be able to create your own colours as needed) Paint thinner Map pins, tacks, dressmaker pins (multiple colours) Paper towels, cloth towels Paper Printer Camera Fans Notebooks
	Estimated material cost	XCD500-3,500



Mobilisation of stakeholders

- 1. Work with partners to draft a mobilisation plan. The plan should include the target audience, the products (e.g. flyer, concept note, etc.) that will be used to mobilise the key stakeholders and how the product will be delivered. Ensure that the product will be effective for the type of stakeholder. Letters for example, can be used with telephone calls to inform stakeholders from the government but a face-to-face meeting may be more effective for an individual farmer to attend the sessions. A van with a speaker driving through the communities or a preparatory meeting with the stakeholders can also be used to increase awareness. A blank mobilisation plan is shown in Annex 2.
- 2. Implement the plan to mobilise the stakeholders.
- 3. During model building, be prepared to do additional mobilisation as needed to ensure good participation of stakeholders.

\bigcirc	Estimated time/ duration	2-10 weeks
	Skills necessary for the exercise	Communication/ public relations
	Basic materials	 Flyer with information about what is going to be done Concept note or a page document with information on the project Letters to key stakeholders
	Estimated material cost	XCD200-2,500



Facilitating model building

- 1. Place large scale maps of the area showing different types of information around the room (e.g. land use maps, satellite images, etc.)
- 2. Let the informants find their location on the model so that they are properly oriented.
- 3. Use probing questions to elicit the information you require from the stakeholders. If possible, get responses on where things are currently located, where they were located in the past and where they can be located.
- 4. You may not want to place sensitive information on the model but note these elsewhere. Speak with the informants in closed sessions to get this type of information.
- 5. If placing permanent information on the model use yarn/ wool and the pins/ tacks and make sure that there is consensus among stakeholders on the features before painting the information onto the model. Be sure to note the new, properly labelled information on a visible legend.
- 6. Take note of the information added.
- 7. Hold a handover ceremony to present the updated model back to the community.

\bigcirc	Estimated time/ duration	3-7 days
***	Skills necessary for the exercise	 Natural resource/ environmental management Sociology/ social sciences GIS/ geography/ cartography Facilitation¹ (one of the specialist can be a facilitator as well)
	Basic materials	 The material listed below should have been purchased previously. Yarn/ wool (at least 10 different colours) Paint brushes (different sizes) Oil-based paint (at least 5 base colours with white and black to be able to create your own colours as needed) Paint thinner Map pins, tacks, dressmaker pins (multiple colours) Paper towels, cloth towels Paper Printer Camera Fans Notebooks
	Estimated material cost	XCD700-2,000

1 One of the facilitators should have training in participatory three dimensional modelling especially if making permanent modifications to the model. Both Brendan Defoe and Kendell Barrie were trained in the process by CANARI.



After the model is completed

- 1. Let the GIS Specialist take high quality photographs of the new model. These will be used to extract and digitise data from the model so that it can be georeferenced.
- 2. Debrief the process with partners to find lessons and develop best practices.
- 3. Write a report that will contain the new information in the model.
- 4. Share the report with the participants and partners and solicit feedback.



Further information for the model

Below is a list of possible information that can be placed on the model. The list is not exhaustive.

Gathering information can be done by sectors over several sessions. Agriculture/ farming can be led by the Ministry of Agriculture and Fisheries or the farmers' group to address all the suggested information to be gathered for that sector with the relevant stakeholders.

Suggested information	Suggested lead organisation ²	Potential partners and key stakeholders
Agriculture/ farming		
Location of current and possible new sites of different types of farms (e.g. animal, organic vs. traditional, citrus, monoculture, agroforestry, long-term vs. short-term crops, etc.)	Farmers' group Ministry of Agriculture and Fisheries	 Farmers' group/ Ministry of Agriculture and Fisheries Lands and Surveys Division Forestry Division Environmental groups in the area Large land owners SSHG Village Council
Location of illegal farms (e.g. marijuana, squatting) and strategies to address them	Farmers' group Ministry of Agriculture and Fisheries	 Farmers' group/ Ministry of Agriculture and Fisheries Lands and Surveys Division Forestry Division Environmental groups in the area Large land owners SSHG Village Council

2 One organisation/ group should take the responsibility to lead the process but can rely heavily on partners. The lead organisation should have a high capacity to manage the process. It bears final responsibility for the information gathered.

Suggested information	Suggested lead organisation ²	Potential partners and key stakeholders
Location of plant and animal diseases (e.g. black sigatoka)	Farmers' group Ministry of Agriculture and Fisheries Ministry of Health and Environment	 Farmers' group/ Ministry of Agriculture and Fisheries Lands and Surveys Division Forestry Division Environmental groups in the area Large land owners SSHG Village Council Ministry of Health and Environment
Location and possible movement of animal farms	Farmers' group Ministry of Agriculture and Fisheries	 Farmers' group/ Ministry of Agriculture and Fisheries Lands and Surveys Division Forestry Division Environmental groups in the area Large land owners SSHG Village Council
Meteorological information for the area used in farming (e.g. high rainfall, high wind areas, etc.)	Farmers' group Ministry of Agriculture and Fisheries Dominica Meteorological Services	 Farmers' group/ Ministry of Agriculture and Fisheries Lands and Surveys Division Office of Disaster Management Dominica Meteorological Services Forestry Division Environmental groups in the area Large land owners SSHG Village Council
Farms prone to landslides, floods and possible movement of or strategies to assist these farms	Farmers' group Ministry of Agriculture and Fisheries Office of Disaster Management	 Farmers' group/ Ministry of Agriculture and Fisheries Lands and Surveys Division Office of Disaster Management Dominica Meteorological Services Public Works and Ports Forestry Division Environmental groups in the area Large land owners SSHG Village Council
Forestry		
Location of other major hunting areas and animals found there (e.g. mountain chicken, wild goats, wild pigs, crayfish, crabs, etc.)	Forestry Division	 Hunters Farmers General community members Tour guides Discover Dominica Authority Dominica Hotel and Tourism Association Ministry of Agriculture and Fisheries Forestry Division SSHG Village Council Land owners in the area Lands and Surveys Division

Suggested information	Suggested lead organisation ²	Potential partners and key stakeholders
Location/ extension/ re- alignment of the Forest Reserve; reforestation activities/ plans	Forestry Division	 Hunters Farmers General community members Tour guides Discover Dominica Authority Dominica Hotel and Tourism Association Ministry of Agriculture and Fisheries Forestry Division SSHG Village Council Land owners in the area Lands and Surveys Division
Areas of illegal cutting of trees (e.g. for squatting for housing or farming, using the timber for housing, charcoal production, etc.)	Forestry Division	 Hunters Farmers General community members Tour guides Discover Dominica Authority Dominica Hotel and Tourism Association Ministry of Agriculture and Fisheries Forestry Division SSHG Village Council Land owners in the area Lands and Surveys Division
Charcoal production areas	Forestry Division	 Hunters Farmers General community members Tour guides Discover Dominica Authority Dominica Hotel and Tourism Association Ministry of Agriculture and Fisheries Forestry Division SSHG Village Council Land owners in the area Lands and Surveys Division
Current and proposed tracks and trails in the area; minor tracks and footpaths	Forestry Division	 Hunters Farmers General community members Tour guides Discover Dominica Authority Dominica Hotel and Tourism Association Ministry of Agriculture and Fisheries Forestry Division SSHG Village Council Land owners in the area Lands and Surveys Division Office of Disaster Management

Suggested information	Suggested lead organisation ²	Potential partners and key stakeholders
Fisheries/ diving		
Location of fish nursery areas	Fisheries Division Fisherfolk groups	 Fisherfolk groups Fisheries Division Soufriere Scotts Head Marine Reserve (SSMR) Dominica Watersports Association and individual dive owners General community members Discover Dominica Authority Dominica Hotel and Tourism Association
Location of coral reefs, wrecks, other features of interest	Fisheries Division Fisherfolk groups	 Fisherfolk groups Fisheries Division Soufriere Scotts Head Marine Reserve (SSMR) Dominica Watersports Association and individual dive owners General community members Discover Dominica Authority Individual tour guides Dominica Hotel and Tourism Association Lands and Surveys Division Soufriere Scotts Head Gallion Village Council
Location of current and other proposed moorings	Fisheries Division Fisherfolk groups	 Fisherfolk groups Fisheries Division Soufriere Scotts Head Marine Reserve (SSMR) Dominica Watersports Association and individual dive owners General community members Lands and Surveys Division Soufriere Scotts Head Gallion Village Council
Location of different types of commercial fish species	Fisheries Division Fisherfolk groups	 Fisherfolk groups Fisheries Division Soufriere Scotts Head Marine Reserve (SSMR) Dominica Watersports Association and individual dive owners General community members Lands and Surveys Division Soufriere Scotts Head Gallion Village Council
Exact boundaries of the Soufriere Scotts Head Marine Reserve (SSMR) and possible re-zoning of activities	Fisheries Division SSMR	 Fisherfolk groups Fisheries Division SSMR Dominica Watersports Association and individual dive owners General community members Lands and Surveys Division Soufriere Scotts Head Gallion Village Council Discover Dominica Authority Dominica Hotel and Tourism Association Individual tour guides

Suggested information	Suggested lead organisation ²	Potential partners and key stakeholders
Climate change adapt	tation and disaster risk	management
Storm surge and bathymetry data	Lands and Surveys Division Dominica Meteorological Services Public Works and Ports Office of Disaster Management	 Lands and Surveys Division Dominica Meteorological Services Public Works and Ports Dominica State College Fisherfolk Dominica Watersports Association and individual dive owners Discover Dominica Authority Dominica Hotel and Tourism Association Soufriere Scotts Head Gallion Village Council Office of Disaster Management General community members from the area
Projected sea level rise data	Lands and Surveys Division Dominica Meteorological Services Office of Disaster Management Public Works and Ports	 Lands and Surveys Division Dominica Meteorological Services Public Works and Ports Dominica State College Fisherfolk Dominica Watersports Association and individual dive owners Discover Dominica Authority Dominica Hotel and Tourism Association Soufriere Scotts Head Gallion Village Council General community members from the area Office of Disaster Management
Other areas prone to landslides land slips, rock falls, etc.	Office of Disaster Management Local Government Division Public Works and Ports	 Office of Disaster Management Local Government Division Public Works and Ports Soufriere Scotts Head Gallion Village Council Lands and Surveys Division General community members Farmers, hunters, fisherfolk Land owners Discover Dominica Authority Dominica Hotel and Tourism Association Resource users and their organisations
Areas prone to floods, susceptible to hurricane/ storm damage	Office of Disaster Management Local Government Division Public Works and Ports	 Local Government Division Office of Disaster Management Lands and Surveys Division Dominica Meteorological Services Public Works and Ports Dominica State College Fisherfolk Dominica Watersports Association and individual dive owners Discover Dominica Authority Dominica Hotel and Tourism Association Soufriere Scotts Head Gallion Village Council General community members

Suggested information	Suggested lead organisation ²	Potential partners and key stakeholders
Location of faults; seismic and volcanic activity; seismic/volcanic monitoring sites	Office of Disaster Management	 Lands and Surveys Division Dominica Meteorological Services Public Works and Ports Dominica State College Fisherfolk Dominica Watersports Association and individual dive owners Discover Dominica Authority Dominica Hotel and Tourism Association Soufriere Scotts Head Gallion Village Council General community members from the area
Disaster evacuation routes	Office of Disaster Management	 Lands and Surveys Division Dominica Meteorological Services Public Works and Ports Dominica State College Fisherfolk, farmers, hunters, divers and their organisations Dominica Watersports Association and individual dive owners Discover Dominica Authority Dominica Hotel and Tourism Association Soufriere Scotts Head Gallion Village Council General community members from the area
Hard and soft engineering measures to reduce potential impacts of sea level rise	Public Works and Ports	 Lands and Surveys Division Dominica Meteorological Services Public Works and Ports Dominica State College Resource users and their organisations Dominica Watersports Association and individual dive owners/ divers Discover Dominica Authority Dominica Hotel and Tourism Association Soufriere Scotts Head Gallion Village Council General community members from the area
Tourism		
Location of other ruins and sites of historical significance	Discover Dominica Authority SSHG Village Council Dominica Hotel and Tourism Association	 Discover Dominica Authority SSHG Village Council Dominica Hotel and Tourism Association General community members Resource users and their associations Local Government Division Lands and Surveys Division Dominica Taxi Association Office of Disaster Management

Suggested information	Suggested lead organisation ²	Potential partners and key stakeholders
Current and planned location of hotels, motels, guesthouses, inns, host homes, bed and breakfasts, etc.	Discover Dominica Authority SSHG Village Council Dominica Hotel and Tourism Association	 Discover Dominica Authority SSHG Village Council Dominica Hotel and Tourism Association General community members Resource users and their associations Local Government Division Lands and Surveys Division Office of Disaster Management Dominica Taxi Association
Restaurants, bars, casinos	Discover Dominica Authority SSHG Village Council Dominica Hotel and Tourism Association	 Discover Dominica Authority SSHG Village Council Dominica Hotel and Tourism Association General community members Resource users and their associations Local Government Division Lands and Surveys Division Office of Disaster Management Dominica Taxi Association
Potential location of new attractions e.g. interpretation centres, signs etc.	Discover Dominica Authority SSHG Village Council Dominica Hotel and Tourism Association	 Discover Dominica Authority SSHG Village Council Dominica Hotel and Tourism Association General community members Resource users and their associations Local Government Division Lands and Surveys Division Office of Disaster Management Dominica Taxi Association
Location of current and proposed tour routes	Discover Dominica Authority Dominica Hotel and Tourism Association	 Discover Dominica Authority SSHG Village Council Dominica Hotel and Tourism Association General community members Resource users and their associations Local Government Division Lands and Surveys Division Office of Disaster Management Dominica Taxi Association
Environment and hea	th	
Areas of infectious diseases (e.g. dengue, Chikungunya, etc.) and breeding sources for vectors	Ministry of Environment and Health	 Local Government Division SSHG Village Council Resource users and their associations Lands and Surveys Division Discover Dominica Authority Dominica Hotel and Tourism Association Parent Teacher Associations in the area Land and home owners Enterprise/ business owners

Suggested information	Suggested lead organisation ²	Potential partners and key stakeholders
Other point sources of pollution	Ministry of Environment and Health	 Local Government Division SSHG Village Council Resource users and their associations Lands and Surveys Division Discover Dominica Authority Dominica Hotel and Tourism Association Parent Teacher Associations in the area Land and home owners Enterprise/ business owners

Annex 2: Mobilisation plan

Objective: To stimulate interest of key stakeholders to____

Target groups:

The groups being targeted for participation are (examples shown below):

- Government agencies/ divisions with the responsibility for management in the Soufriere Scotts Head Gallion (SSHG) area inclusive of forestry and fisheries departments, environmental authorities, physical planning, lands and surveys, tourism, agriculture and water and electric utilities
- Resource users such as farmers, fisherfolk, tour guides and their organisations
- Private sector such as small and medium sized business owners and employees in the tourism, agriculture and other relevant sectors
- CSOs, including national non-profit organisations and academic institutes
- Community Based Organisations (CBOs) (e.g. village councils, church and youth groups, school clubs) and local community residents

Mobilisation strategies:

Target group	Mobilisation strategies
Informants	• E.g. letters, e-mails, flyers, meetings, workshops, radio announcements, Facebook posts, text messages, Tweets, WhatsApp messages, television and newspaper announcements, etc.

Workplan:

Phase	Activity	Responsible	Support and informed	Resource	Output	Timeframe
Phase 1: Planning	e.g. Perform stakeholder identification and analysis to identify residents of SSHG with natural resource -based livelihoods (e.g. farmers, hunters, fisherfolk)	Jane Doe	John Smith Jack Brown Emily Sun		Completed stakeholder identification and analysis and identification of key stakeholders and partners	Jan 10-Feb 23, 2015
Phase 2: Awareness raising	e.g. Visit community groups to raise awareness, publicise event and get appointments for groups to attend to populate the model	John Smith	Jane Doe	Concept note Flyer	Appointments for groups of informants	April 07, 2015
Phase 3: Analysis of lessons learnt and documentation	e.g. Facilitate debrief and evaluation session with partners/facilitators	Jane Doe John Smith	Jack Brown	Concept note/ project document	Lessons learnt document for implementing such an exercise	Jun 20-30, 2015



Caribbean Natural Resources Institute

The Caribbean Natural Resources Institute (CANARI) is a regional technical non-profit organisation which has been working in the islands of the Caribbean for over 20 years. Our mission is to promote and facilitate equitable participation and effective collaboration in the management of natural resources critical to development in the Caribbean islands, so that people will have a better quality of life and natural resources will be conserved, through action learning and research, capacity building and fostering partnerships.

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Citation: CANARI, 2015. Participatory three dimensional modelling of the Soufriere-Scotts Head-Gallion area, Dominica: Using the completed model, Laventille: CANARI