COMMUNICATION FOR CLIMATE RESILIENCE

2012 TO 2017

A NATIONAL STRATEGY & ACTION PLAN PREPARED FOR THE PILOT PROGRAMME FOR CLIMATE RESILIENCE (PPCR)

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EXECUTIVE SUMMARY

Over the last 25 - 30 years, Jamaica has experienced an increase in the frequency of natural weather events, primarily floods, tropical depressions, tropical storms, hurricanes, and droughts. Existing data suggest that these climate-related disasters are likely to intensify causing extensive damage to coastal infrastructure and communities, tourism, coastal ecosystems, agricultural livelihoods, health, and reductions in water resources.

Recognizing this climate urgency, under its "***Goal 4 – Jamaica has a Healthy Natural Environment***" Jamaica's Vision 2030 National Development Plan sets ***"National Outcome 14: Hazard Risk Reduction and Adaptation to Climate Change"*** as a priority.

To help achieve this national outcome, in May 2009, Jamaica joined the Pilot Program for Climate Resilience (PPCR). The PPCR aims to pilot and demonstrate ways in which climate risk and resilience may be integrated into core development policies, planning and implementation.

Achieving climate resilience will require all Jamaicans to transition through a very steep learning curve. People will need to:

1. Be correctly informed (in ways they can easily understand) about the types of climate change impacts they are likely to experience;

2. Know what programs and technical options exist to help them adapt and prepare at the personal level, at their livelihood level and at the community level;

3. Learn new skills and adopt new practices, behaviours and attitudes to help them cope with climate change; and

4. Become enthused and empowered so that they can play a role in climate change mitigation and preparedness.

All of these steps can be greatly enhanced through effective and targeted communication with structured messages for different target groups and audiences.

For this reason, a carefully crafted communication strategy and action plan was deemed critical by the Planning Institute of Jamaica (PIOJ) in order to support the PPCR as it implements its Strategic Programme for Climate Resilience (SPCR).

This five-year ***National Communication Strategy and Action Plan*** has been developed based on a thorough needs assessment and situational review of the current climate realities that will be affecting key sectors to be addressed under the SPCR, as well as through extensive participatory consultation with several stakeholders. In order to avoid duplication and to maximize the use of available resources, it builds as much as possible on existing climate change communication experiences and seeks to engage a wide range of critical partners who are already involved in communicating climate resilience.

Key messages are identified to support the SPCR activities and its adaptation strategies in particular, but also to address the known gaps in "***Knowledge, Attitudes and Practices" (KAPs)***

for each specific sector. Key messages are included for the water sector, for health, for agriculture and fisheries, for tourism, for human settlements and built environments, for the energy sector and for the financial and insurance sector.

To support the technical communication and learning that will be needed to enhance resiliency within each of the above priority areas, ***eight key communication actions*** or building blocks are identified. These include:

1. Building ***community awareness and participation*** through promotion of messages that support specific measurable changes in knowledge, attitudes and practices/behaviours related to DRM and Climate Change resiliency.
2. Enhancement of ***climate change technical knowledge*** for lay people.
3. Building the ***communication capacity*** of technical staff in all agencies involved in climate resilience.
4. Adoption of tailored technical behaviour change activities for the needs of ***specific key sectors***
5. Generating enthusiasm and ***"buzz and sizzle"*** to promote climate resilience with champion performing artists and through social media channels.
6. Infusion of climate change awareness into the ***formal education*** sector to support long-term learning for the country's future leaders.
7. Promotion of key accomplishments and milestones achieved for all of the SPCR components through ***public relations (PR)*** events.
8. And sensitisation of the ***mainstream media*** to support evidence-based journalism coverage of climate change issues.

The strategy further identifies an overarching national communication ***goal*** for climate resilience, as well as specific sub-sectoral goals and objectives that are Specific, Measurable, Achievable, Realistic and Time-bound (SMART) so that concrete ***indicators*** can be used for monitoring and evaluating communication results throughout implementation.

Several ***priority communication actions*** are also specifically identified for the SPCR to enhance communication for climate resilience overall. For these, a detailed ***implementation & action plan*** is provided as well as a detailed ***budget***.

These components constitute the main communication strategy for the SPCR. In addition however, specific sub-strategies are also included for each of the technical sectors that are needed for climate resilience. These sub-strategies are presented as discrete, stand-alone appendices and identify a further wish list of communication activities– some of which the SPCR can support through its core communication activities – while others will require additional resources and partners for implementation.

In this way, the strategy provides a national communication framework for climate resilience that includes not only what can be accomplished under the SPCR itself, but what can also be accomplished through additional partnerships, collaboration and identification of resources elsewhere.

ACRONYMS AND ABBREVIATIONS

(RiVAMP)	Risk and Vulnerability Assessment Methodology Project
3D	Three Dimensional
5Cs	Caribbean Community Climate Change Centre
ACID/VOCA	Agricultural Cooperative Development International and Volunteers in Overseas Cooperative Assistance
ACM	Association of Caribbean Media Workers
ADA	Association of Development Agencies
ADRM	Agricultural Disaster Risk Mitigation
AIACC	Assessments of Impacts and Adaptations to Climate Change
APD	Aviation Passenger Duty
CAC	Consumer Affairs Commission
CAMI	Caribbean Agro- Meteorological Initiative
CARDI	Caribbean Agricultural Research and Development Institute
CARIB-RM	Caribbean Risk Management
CARICOM	Caribbean Community
CARIMAC	Caribbean Institute for Media and Communication
CBA	Community Based Adaptation
CBO	Community Based Organisation
CC	Climate Change
CCA	Climate Change Adaptation
CCADRR	Climate Change Adaptation and Disaster Risk Reduction Project
CDC	Community Development Committee
CDEMA	Caribbean Disaster and Emergency Management Agency
CDKN	Climate and Development Knowledge Network
CDM	Clean Development Mechanism
CEP	Caribbean Environment Programme of UNEP
CERE	Centre of Excellence for Renewable Energy
CIDA	Canadian International Development Agency
CMI	Caribbean Maritime Institute
ConSOC	Civil Society Consulting Group
COP	Conference of Parties
CPTC	Creative Production and Training Centre
CR	Climate Resilience
CCRIF	Caribbean Catastrophe Risk Insurance Fund
CSDI	Communication for Sustainable Development Initiative
CSG	Climate Change Study Group, University of the West Indies
CTA	Centre for Tropical Agriculture
CURE	Citizens United to Reduce Electricity
CWIP	Coastal Waters Improvement Project
DBJ	Development Bank of Jamaica
DNA	Designated National Authority
EAST	Environmental Audits for Sustainable Tourism project
ECLAC	Economic Commission for Latin America and the Caribbean
EEIA	Energy Impact Assessment
EFJ	Environmental Foundation of Jamaica
EIA	Environmental Impact Assessment
EU	European Union
FAD	Fishing Aggregating Devices
FAO	Food and Agriculture Organisation of the United Nations
FBO	Faith Based Organisations
FD	Forestry Department
FF	Fossil Fuels
FHH	Female Headed Households

GAR	Global Assessment Report
GDP	Gross Domestic Product
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHGs	Greenhouse Gases
GOJ	Government of Jamaica
HRRACC-TWG	Hazard Risk Reduction and Climate Change Thematic Working Group
IADB	Inter-American Development Bank
IAG	Insurance Association of Jamaica
IBRD	International Bank for Reconstruction & Development - World Bank
ICV	Index of Coastal Vulnerability
IDB	Inter-American Development Bank
IICA	Inter-American Institute for Cooperation on Agriculture
IoE	Institute of Education, Faculty of Education, UWI
IPCC	Intergovernmental Panel on Climate Change
IPM	Integrated Pest Management
ISD	Institute for Sustainable Development, UWI
IWCAM	Integrating Watershed and Coastal Areas Management
JAMPRO	Jamaica Promotional Organisation
JBNS	Jamaica National Building Society
JHTA	Jamaica Hotel and Tourist Association
JIA	Jamaica Institute of Architects
JIEP	Jamaica Institute of Environmental Professionals
JIS	Jamaica Information Service
JPS	Jamaica Public Service Company
JSCQ	Jamaica School Challenge Quiz
JSIF	Jamaica Social Investment Fund
JTFA	Jeffrey Town Farmers Association
JUTA	Jamaica Union of Travellers Association
KAP	Knowledge, Attitudes and Practices
LAT	Livelihood Assessment Tool Kit
LCEP	Least Cost Expansion Plans
LFMC	Local Forest Management Committee
MACC	Mainstreaming Adaptation to Climate Change Project
MAJIC	Marketing and Agriculture for Jamaican Improved Competiveness (USAID)
MDA	Master Builders Association
MDB	Multilateral Development Bank
MDG	Millennium Development Goals
MHEW	Ministry of Housing, Environment and Water
MiCRO	Micro-insurance Catastrophe Risk Organisation
MIND	Management Institute for National Development
MLWECC	Ministry of Land, Water, Environment and Climate Change
MOAF	Ministry of Agriculture and Fisheries
MOF&PS	Ministry of Finance & the Public Service
MoH	Ministry of Health
MOT	Ministry of Tourism
MOYEC	Ministry of Youth, Education and Culture
MPRG	Medicinal Plant Research Group, UWI
MSJ	Meteorological Service of Jamaica
NAPA	National Adaptation Program of Action
NEEC	National Environmental Education Committee
NEPA	National Environment and Planning Agency
NGO	Non-Governmental Organisation
NHT	National Housing Trust
NIC	National Irrigation Commission
NLUMP	National Land Use Management Plan

NSPCR	National Strategic Programme for Climate Resilience
NWA	National Works Agency
NWC	National Water Commission
ODPEM	Office of Disaster Preparedness and Emergency Management
OECD	Organisation for Economic Co-operation and Development
OUR	Office of Utility Regulations
PACT	Private Agencies Collaborating Together
PAJ	Press Association of Jamaica
PARE	Protected Areas and Rural Enterprise project
PBPA	Portland Bight Protected Area
PCB	People's Cooperative Bank
PCJ	Petroleum Corporation of Jamaica
PCU	Project Coordinating Unit
PDC	Parish Development Committee
PH	Public Health
PIOJ	Planning Institute of Jamaica
POJ	Press Association of Jamaica
PPCR	Pilot Programme for Climate Resilience
PR	Public Relations
PSA	Public Service Announcement
PSOJ	Private Sector Organisation of Jamaica
R2RW	Ridge to Reef Watershed project
RADA	Rural Agricultural Development Authority
RO`	Reverse Osmosis
RSS	Really Simply Syndication
SCF	Strategic Climate Fund
SD&RDD	Sustainable Development & Regional Planning Division
SDC	Social Development Commission
SEAJ	Solar Energy Association of Jamaica
SGP	Small Grants Programme
SIDS	Small Island Development States
SLM	Sustainable Land Management
SMART	Smart, Measurable, Achievable, Realistic, Time-bound
SPCR	Strategic Program for Climate Resilience
TECA	Technologies and Practices for Small Scale Agriculture
TORS	Terms of Reference
TPDCo	Tourism Product Development Corporation
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Education and Science Organisation
UNFCCC	United Nations Framework Convention for Climate Change
USAID	United States Agency for International Development
UWI	University of the West Indies
VBD	Vector Borne Diseases
WB	World Bank
WINCROP	Winward Islands Crop Protection
WMU	Watershed Management Unit
WMO	World Meteorological Organisation
WRA	Water Resources Authority
WUG	Water Users Group
WWD	World Wetlands Day

CHAPTER ONE – GENERAL OVERVIEW & INTRODUCTION TO THIS DOCUMENT

1.1 BACKGROUND & RATIONALE

Over the last 25 - 30 years, Jamaica has experienced an increase in the frequency of natural events, primarily floods related to inclement weather, tropical depressions, tropical storms, hurricanes, and droughts resulting in more than half a trillion US dollars alone in damages Caribbean-wide[1]. Existing data suggest that climate related disasters are likely to continue in occurrence causing extensive damage to coastal infrastructure and communities, tourism infrastructure and coastal ecosystems; agriculture; health; and reductions in water resources.

For this reason, in May 2009, Jamaica joined the Pilot Program for Climate Resilience (PPCR), as one of the six countries in a Caribbean regional pilot program. The PPCR aims to pilot and demonstrate ways in which climate risk and resilience may be integrated into core development policies, planning and implementation.

The objectives of the PPCR include:

- piloting and demonstrating approaches for integration of climate risk and resilience into development policies and planning;
- strengthening capacities at national levels to integrate climate resilience into development planning;
- a scaling-up and leveraging climate resilient investment, building on other on-going initiatives;
- and enabling learning-by-doing and sharing of lessons at country, regional and global levels.

The activities of the PPCR for Jamaica have been outlined in the development of a Strategic Programme for Climate Resilience (SPCR). The SPCR aims to:

- mainstream Climate Change into priority sectors;
- facilitate sectoral adaptation measures;
- strengthen policy/institutional arrangements;
- build capacity for planning and forecasting; and
- enhance climate change education and awareness.

Priority sectors under the PPCR include: water resources; agriculture and food security; tourism; human health; human settlements and coastal resources.

1.2 Communication – A Critical Component for Climate Resilience

Adapting to climate change and becoming climate resilient will not be easy. A steep learning curve will be involved. People will need to go through the following learning steps if the transition is to be effective:

1. First, people need to be correctly informed about the types of climate change impacts that will likely affect them. But they need to be informed in ways that they can clearly and easily understand;

[1] Caribsave, 2011

2. They also need to know what programmes and technical options exist to help them adapt and prepare at their own personal level, at their livelihood level and at their community level;

3. They will also likely need to learn new skills and adopt new practices, behaviours and attitudes to help them cope with climate change;

4. And they need to become enthused and empowered so that they can get involved and play a role in climate change mitigation and preparedness.

All of the steps involved in this learning curve can be greatly enhanced through effective and targeted communication.

In recognition of this fact, one key component of the SPCR is the development of a comprehensive communication strategy. Given that climate change is such an important issue which is likely to affect every facet of Jamaican life, it is essential that climate change messages be communicated in a structured manner among different target groups.

Some preliminary work done in 2005 indicated that there were significant gaps in the knowledge, attitudes and behavioural practices of Jamaicans, with respect to climate change. Since then, several climate change awareness projects have been implemented. But even with these efforts, there is still a great need for additional targeted awareness within all of the different sectors that will be impacted.

For this reason, a carefully crafted communication strategy and action plan was deemed critical by the Planning Institute of Jamaica (PIOJ) and a consultancy was contracted to develop one accordingly. Appendix A provides the complete Terms of Reference that were part of the consultancy.

This document serves as the national communication strategy and action plan that has resulted from this exercise. When implemented, it is meant to not only raise greater awareness among targeted groups and the wider society, but to also stimulate and empower all, especially the poor, vulnerable groups and communities, and the private sector, to take the necessary steps to minimize the anticipated impacts of climate change within their sphere of influence and control.

1.3 How to Use This Document

This document is meant to serve as an overall national framework for communication in support of climate change resilience, but specifically prioritizes the communication requirements that are needed to support the strategic actions of the SPCR.

The document is organised as follows:

- ***Chapter Two*** provides an overview of the ***methodology*** and steps taken to generate the communication strategy and action plan for the SPCR.
- ***Chapter Three*** includes a ***situational analysis*** and review of climate change realities within key sectors that will be impacted.
- ***Chapter Four*** discusses the results from the ***needs assessment*** that was conducted as part of the methodology to prepare the strategy and action plan.

- ***Chapter Five*** identifies th***e key messages*** that will need to be promoted based on the needs assessment and on the key SPCR strategic actions and adaptation measures to be pursued for climate resilience.
- ***Chapter Six*** then outlines the ***structure*** of the communication strategy and discusses the key tracks, strategic pillars and main communication actions that that will help build climate resilience. Chapter six also outlines the priority communication activities that should be undertaken under the SPCR for each of the eight communication building blocks identified.
- ***Chapter Seven*** next provides a detailed ***action plan & budget*** for the key communication activities to be implemented through the SPCR.
- ***Chapter Eight*** provides ***a detailed implementation schedule*** and ***management plan,*** and
- ***Chapter Nine*** provides suggestions for ***monitoring and evaluation***.

These nine chapters form the core communication strategy and action plan to be addressed through funding under the SPCR itself. However, in the appendices, the document also provides additional communication menus or sub-strategies for specific sectors that can be undertaken by further respective partners in addition to those that can be supported by the SPCR. In this way, the document provides not only actions for the SPCR, but provides a national framework for further communication activities for climate resilience beyond those that the SPCR alone can support.

These sub-strategies to focus on:

Water
Agriculture, Fisheries and Terrestrial Resources
Health
Tourism
Human Settlements, the Built Environment and Coastal Resources
Energy, and
The Finance and Insurance Sector

Following these sub-sector plans, additional communication activities are further identified for the core communication pillars needed to: (1) strengthen community awareness; (2) strengthen lay persons' understanding of climate change; (3) build enthusiasm through partnerships with performing artists and through social media; (4) strengthen formal education; and (5) enhance mainstream media coverage of climate change issues.

Lastly, in the appendices, persons consulted and other additional resources are also listed.

CHAPTER TWO – METHODOLOGY AND STEPS USED TO GENERATE THE STRATEGY

In this chapter we outline the steps taken to generate the current document and the communication strategy and action plan that have resulted from this process. The strategy was formulated using a robust qualitative methodology that employed:

1. Adoption of ***principles*** to guide the process;
2. A literature review of background documents, extensive secondary research, and related project reports to prepare a ***situational analysis*** of all the sectors to be targeted under the SPCR;
3. A communications ***needs assessment*** exercise conducted through direct one-on-one consultations with representatives from key sector agencies to assess capacity and to further identify information needs among likely key audiences;
4. A ***national consultation*** to vet key important components of the strategy and generate consensus for its main components;
5. Preparation of a draft strategy for ***review by PIOJ*** and other key communication specialists; and finally
6. Completion of the final strategy based on all feedback and recommendations received.

These main preparatory steps are now outlined in more detail so that users can fully appreciate the extensive participatory process that has been involved.

2.1 Guiding Principles

An extensive set of guiding principles was adopted to guide preparation of the strategy. It is important that they be reviewed in order to appreciate how the final recommendations were determined. While not in any particular order, the preparatory process sought to:

a) Be highly consultative with strong input from representatives of key sectors – but especially those that are of particular importance under the SPCR – namely: Water Resources; Agriculture and Food Security; Tourism; Human Health, Human Settlements and Coastal Zones.

b) Be highly consultative with other on-going programmes in Jamaica that are currently working on Climate Change Adaptation (CCA) and which are most likely already implementing public awareness (PA) and communication activities.

c) Build closely on best bet communication practices and successful efforts that have already been proven to work through other initiatives in order to scale up pilot communication initiatives, gain traction and to avoid duplication.

d) Learn from best bet CC communication practices within the wider Caribbean region so as to consider possible opportunities for collaboration.

e) Support the goals, objectives and guiding principles of Vision 2030 for Jamaica.

f) Complement or fit within the "Regional Framework for Achieving Development Resilient to Climate Change" outlined by the CARICOM Caribbean Community for Climate Change (5Cs) so that Jamaica's communication progress can be compared to other CARICOM countries – especially those also participating in the PPCR.

g) Build partnerships, work closely with, and strengthen communication capacity among agencies and groups that are involved in communication for climate change in order to leverage resources (human and financial) and ensure sustainability.

h) Liaise with other consultants implementing SPCR studies, but most especially with the consultants to undertake the KAP survey.

i) Showcase and publicise key milestones and accomplishments achieved through the different components of the SPCR as they are implemented so that high visibility is achieved for scaling up what works.

j) Propose ways to raise the profile of climate change efforts that are being implemented by the Government of Jamaica, and especially the newly constituted Ministry of Water, Land, Environment, and Climate Change (MWLECC).

k) Create a cohesive, unifying, logical and comprehensive, national communication framework that will allow the PIOJ to easily coordinate/track the various CC communication activities that are now on-going as well as future activities to be adopted under the strategy and those not necessarily being implemented by the SPCR. In this way, the risk of replication is reduced and communication impacts and results can be maximized.

l) Outline and create opportunities for monitoring and documenting learning experiences and exchanges among CC communication actors through annual sharing of lessons learnt, stocking taking encounters, student exchanges, case study publications and the like.

m) Maximize the use of all available media, where appropriate, including traditional folk media (drama, cultural presentations, music), mainstream media and new social media channels.

n) Emphasize not only the need to inform and to create awareness about CC impacts, but to also use communication tools/processes to encourage innovative learning for adaptation and behaviour change with concrete indicators for measuring success and impact by 2017.

o) Articulate stated goals, objectives and proposed activities that are clearly SMART (Specific, measurable, achievable, realistic and time-bound).

p) Give attention especially to gender considerations and to vulnerable groups (such as at risk households, the aged, youth), but also to groups that have not traditionally been considered in CC assessments, such as the disabled.

q) Attract the support and interest of the private sector to be involved in key high visibility, high profile activities.

r) And lastly, primarily seek to design an over-arching communication strategy for the SPCR while also proposing sets of sub strategies or a menu of activities for uptake by each sub-sector.

2.2 Literature Review

With these guiding principles in mind, the preparatory process next involved an extensive literature review of related project documents, secondary research and communication for climate change literature. This was critical since the development of the strategy and action plan needed to be informed by prior research and consultations that had already been done. In fact, a great deal of preparatory work had already commenced under other project initiatives and in preparation of the SPCR itself, so it was important not to duplicate these efforts and tire persons who had already been consulted.

Central to this literature review process were three critical documents: (1) the Vision 2030 National Development Plan which makes specific provisions for achieving climate change resilience within the overall context of economic and sustainable development; (2) the 2011 Second National Communication of Jamaica to the United Nations Framework Convention on Climate Change (UNFCCC) and (3) the Strategic Programme for Climate Resilience (SPCR) plan. All of these documents have served to outline the main sectoral and umbrella considerations for this national communication strategy. The specific communication priorities of the PPCR itself are therefore set out within an overall national communication framework that fits within Jamaica's Vision 2030 National Development Plan.

Also critical was review of existing "Knowledge, Attitudes and Practices" (KAP) data - the most recent of which was from 2005. But other KAP surveys (albeit with more narrow foci) were also reviewed where possible including reports by Panos, CaribSave, European Commission for Latin America and the Caribbean (ECLAC), the Office for Disaster Preparedness and Emergency Management (ODPEM), and the Agricultural Disaster Risk Mitigation (ADRM) project of the Food and Agriculture Organisation (FAO). In addition several national consultations and focus group discussions which have yielded important KAP information, also helped to guide the strategy.

It is also important to clarify, however, that normally communication strategies are designed using baseline data from the most current and available "*Knowledge, Attitudes and Practices (KAP)*" surveys. In this case, the PPCR is indeed conducting a KAP survey, but it will only commence in earnest after this strategy has been drafted. When the KAP data is available, its findings will be incorporated into this current document and the measurable indicators will likely be tweaked at that time, but it is not expected that the findings will fundamentally alter the main proposals, targets, audiences and communication activities outlined here. Rather, the new data will help to make the measurable indicators and targets presented in this current document – perhaps more precise, but they should not generate substantially new communication goals and objectives.

Another core component of the literature review process was review of on-going and complementary communication strategies related to climate change (CC) such as the just launched European Union funded project "Climate Change Adaptation and Disaster Risk Reduction" (CCADRR) project, the Voices for Climate Change education initiative of Panos-

Caribbean and the National Environmental Education Committee (NEEC), and the 5C's[2] own regional strategy. This step was critical to ensure that the current strategy captures these related activities so that duplication is avoided.

Kindly see ***Appendix B*** for a complete summary of all documents and references reviewed through this desk research process.

2.3 Needs Assessment Process

The next dimension of the qualitative preparatory process involved a concrete needs assessment of key agencies that will play a role in implementing climate change resilience measures. The needs assessment process involved direct meetings with representatives from recently completed and on-going climate change or disaster risk mitigation projects. Both national level and community based projects were investigated (see list in Table 2.1). This was done in order to get a feel for what communication and educational tools, methods and approaches (if any) were used and what communication experiences resulted from these initiatives. It also provided an opportunity to assess communication capacity for on-going communication implementation. Please see Appendix C for the questions that were used to guide this capacity assessment process and see Appendix D for the persons who were consulted.

The exercise also helped to elicit additional key priority gaps in KAPs that the projects felt still had to be addressed through further action and revealed several exciting "best communication practices" which could be scaled up and/or extended to additional areas.

TABLE 2.1
CLIMATE CHANGE RELATED PROJECTS

Terrestrial Resources and Biodiversity
1. Capacity Building for Sustainable Land Management in Jamaica
2. Climate Change Adaptation and Disaster Risk Reduction
3. Hazard Mapping, Disaster Vulnerability and Risk Assessment
4. Glengoffe Climate Change Adaptation Project
5. Land and Preservation measures to combat climate change pressures in the Cockpit country's Martha Brae watershed
6. Reducing Climate Change driven erosion and landslide risks through sustainable agriculture for safer slopes
7. Glengoffe Climate Change Adaptation programme
8. Coastal Multi-Hazard Mapping and Vulnerability Assessments towards integrated Planning and reduction of vulnerability for Portland Cottage, Manchioneal
9. Communication climate change and biodiversity
Agriculture and Food Security
10. FAO Technical Cooperation Programme on Promoting Rain Water Harvesting and small scale irrigation in south St Elizabeth
11. European Union Banana Support Programme
12. Strengthening Capacities for Sustainable Livelihoods
13. Improving Jamaica's Agricultural Productivity
14. National Irrigation Development Programme
Coastal and Marine Resources
15. Proposed Restoration Works to Mitigate against beach erosion in Negril
16. A study of the impact of climate variability on Jamaican beaches

[2] *The 5Cs stands for "Caribbean Community Climate Change Centre"*

17. Analysis of Island-wide shoreline stability
18. Rehabilitation of Coral Reefs
19. Increasing community adaptation to ecosystems resilience to climate change in the Portland Bight
Human Settlement
20. Building disaster resilient communities project
21. Natural hazard management in urban coastal areas
22. Climate wise communities – strengthening livelihoods and infrastructure in Jamaica
23. LGGE promoting energy efficiency and renewable energy in buildings in Jamaica
Water Resources
24. Rehabilitation of pipeline facilities and water supply in Greater Spanish Town and South East St Catherine and south Kingston
25. Water programme for environmental sustainable towards adaptation measures to human and climate change impacts
26. Rain water harvesting project
27. Climate change modelling for sea level rise on water resources in the Clarendon plains
28. Establishing the Caribbean Maritime Institute (CMI) as a learning centre for renewable energy producing wind energy/portable drinking water
Tourism
29. Development of a nature trail within the Bogue Forest Estate and application for solar energy
Energy
30. Capacity building of Caribbean private sector environmental and energy management capabilities
31. Application of renewable energy
32. Reducing carbon emissions through the use of solar energy technology in Protected Agriculture - Mafoota
33. Reducing carbon emissions through the use of solar energy technology in Protected Agriculture - Sweetwater
34. UNDP's support for National Energy Policy Action Plan (2010-2030)
35. UNDP Improved Energy Efficiency and Security Project
Data Management and Climate Change Awareness
36. Network of automated online climatological stations and data management platforms
37. Establishment of sea level gauge network
38. Enhancing knowledge of comprehensive disaster management
39. When the sea rises project
40. Follow up training on the RiVAMP methodology
41. Voices for Climate change education
42. Project "Tell-It" disseminating Caribbean climate change science and stories
43. Second national communication to the UNFCCC
44. Communication for Sustainable Development Initiative (agriculture, Climate Change adaptation and natural resource management)
Potential Regional projects
45. Strengthening sea level observation network and coordination activities in the Caribbean
46. Caribbean modelling initiative – addressing Caribbean climate change
47. Caribbean Planning for Adaptation to Climate Change (CPACC) project[3]

For several projects, it was also possible to review key media products and outputs that had been generated. Much thought has been given in this national communication strategy with regards to how to maximize the use of existing media materials – many of which are quite good and have much potential to be used for purposes beyond that for which they were originally intended. Several can serve as 'best case study' examples and are especially highlighted here.

[3] *http://www.caricom.org/jsp/projects/macc%20project/cpacc.jsp*

Further input was also derived through participation in related meetings such as the FAO ADRM Livelihood Baseline Assessment training course and with the Marketing and Agriculture for Jamaican Improved Competitiveness (MAJIC) project's "Consultation on Climate Change and Agriculture forum"– both exercises which provided very useful information and feedback regarding the priority agricultural KAP needs for agriculture, and the communication capacity requirements of rural service providers.

Review was also done on climate change activities to ascertain how Jamaican progress can be scaled up to the regional level and how lessons learnt through the PPCR can be used to enhance regional resilience. Jamaica is fortunate that it is one of only a few countries that have been given special status under the Global Environment Facility (GEF) and therefore, the progress that is achieved here has great significance not only to our own national resiliency, but must also serve to guide other Caribbean states and Small Island Developing States (SIDS) elsewhere.

Likewise, Jamaica's participation in the regional Integrating Watershed and Coastal Areas Management (IWCAM) project also offers opportunities for further partnership at the regional level in Phase II.

2.4 National Consultation

Fourthly, through a national consultative process that was held on April 3rd, 2012, further sectoral input was also provided from focus group discussions and analysis of discrete components within the overall strategy and action plan. This was necessary to ensure the technical accuracy of key gaps in KAPs to be addressed. Appendix E provides a list of persons who participated in the national consultation.

2.5 Preparation and Review of Draft Strategy

Lastly, a draft of the entire strategy – with all of the inputs from the national consultation – was prepared and submitted to PIOJ for comments and feedback. This draft document resulted in more than 270 pages and was reviewed by key PIOJ staff and invited communication specialists.

Based on their feedback and input, this final document was revised and resubmitted for approval.

The next chapter now presents the results from the situational analysis that was conducted.

CHAPTER THREE – SITUATIONAL ANALYSIS

In this chapter we present a ***brief overview*** of current climate change realities within the main sectors that are to be most severely affected by climate change in order to set the context for the communication recommendations that are proposed.

A great deal has already been written about how climate change will affect the country. More detailed accounts of likely climate impacts can be found through a review of the sources listed in Appendix B, but the priority sources of literature that have substantively informed this analysis are these:

1. Jamaica's Strategic Programme for Climate Resilience document
2. The 2nd National UNFCCC Communication
3. The Vision 2030 National Development Plan
4. ECLAC's "The Economics of Climate Change in the Caribbean: Summary Report"
5. The 2005 Knowledge, Attitudes and Practices Survey (KAP) done through the Jamaica Climate Change Enabling Activity (JCCEA) Project
6. The 5C's "Vulnerability, risk management and adaptation: Responding to Climate Change Challenges in the Commonwealth Caribbean: report
7. CDEMA's Report on the Workshop on Mainstreaming Climate Change Adaptation into Community-Based Disaster Risk Reduction Planning".
8. And CaribSave's "Caribbean Climate Change, Tourism and Livelihoods: A Sectoral Approach to Vulnerability and Resilience"
9. The 5C's Delivering Transformational Change 2011-21. Implementing the CARICOM 'Regional Framework for Achieving Development Resilient to Climate Change' and the
10. Department of Physics and Climate Studies Group. 2012. Climate Change and Jamaica. University of the West Indies, Kingston.

The situational analysis is conducted sector by sector as follows for:

- The water sector
- The agricultural, fisheries and terrestrial resources sector
- The health sector
- The tourism sector
- The human settlements and built environment sector (including coastal zones)
- The energy sector, and lastly
- The financial and insurance Sector

The chapter also briefly examines the current status of Jamaica's ***climate science*** and research from a communication needs perspective.

3.1 SITUATIONAL ANALYSIS – WATER SECTOR

There are three main demands for water in Jamaica:

A. Residential Water Demand
B. Tourism Water Demand

C. Agriculture Water Demand (at present, the country's agriculture sector accounts for approximately 75% of the country's water demand).

Table 3.1 Climate Change Impacts on the Water Sector

Climate Change Variable	Response	Impact on Water Sector		
		Quantity and Quality	Infrastructure	Resources
Increasing length of the dry season	Low flows	Low volume Pollutants	Broken mains Low storage, inactive pumps, pipelines. barge, trucks	Loss vegetation on slopes, fires,
Increased frequency of high intensity rainfall events	Rapid runoff, rapid flood-peak Increased erosion, high sediment loads. Landslides and floods.	Increased quantity high turbidity	Washout mains, pumps, siltation of intakes	Slope failure Debris slides Loss of soil Siltation of channels - reduced capacity
The likely increase in climatic variability	Flood-drought cycles - impact on agriculture	Variability in flow -high & low flows High turbidity with high flows. Contaminants with low flows	Flood impacts Low flows Irrigation Trucking, barge	Slope failure Debris slides Loss of soil
Sea level rise	Coastal Flooding Saline intrusion	Brackish water	Corroded equipment - loss of use	Habitat alteration
Temperature increases	Increased evaporation ocean temperatures, extreme events	Flood impacts	Wash out	Accelerated erosion. Siltation of channels - reduced capacity

Source: United Nations Water, 2009. Climate Change and Water - An Overview from the World Water Development Report 3: Water in a Changing World: A United Nations World Water Assessment Programme Special Report. Online at: http://unesdoc.unesco.org/images/0018/001863/186318e.pdf.

Climate change will invariably directly affect both the quantity and quality of Jamaica's water supply[4] since it will inevitably impact the hydrological cycle, thus changing precipitation patterns and increasing the frequency and intensity of extreme weather events. There will therefore be challenges in meeting the quantity and quality of water needed to meet Jamaica's human and development needs. Changes in water quantity and quality due to changes in climate are also expected to lead to decreased food security and increased vulnerability of farmers and will also impact tourism and have impacts for the health sector and vulnerable groups.

Table 3.1 above summarizes the main anticipated changes in the water sector due to climate change.

3.1.1 Gender and Vulnerable Groups in Water

The impact of climate change on the water sector will also be experienced differently by different groups since access to water is itself differentiated according to gender and class. Poorer households rely more extensively on public water supply sources and it is most often women and children who have to walk distances in order to obtain the water they need for daily use. In many cases, these households rely on rivers, springs and streams for their water supply and with CC,

[4] *CaribSave. November 2009. "Caribbean Climate Change, Tourism and Livelihoods: A Sectoral Approach to Vulnerability and Resilience". CARIBSAVE: Final Report: Negril, Jamaica. Oxford, U.K.*

these sources will likely be severely affected. With shortages, the domestic sanitation and health of these poorer households will be impacted.

3.2 SITUATIONAL ANALYSIS OF THE AGRICULTURE AND FISHERIES SECTOR

3.2.1 Agriculture

Jamaica's agriculture sector uses over 325, 000 hectares of land and comprises large scale plantation production and small scale mixed cropping. The former is often used for cultivating food for the export market such as sugarcane, banana and coffee. The latter produces food items for the domestic market, including yams, potatoes, fruits and vegetables.

All of these crops are expected to be impacted by climate change as will livestock and aquaculture.

Table 3.2 Summary of the Economic Losses Sustained to the Agricultural and Sector Source: ODPEM, ECLAC and PIOJ (cited in Martinez:2010)

Event	Year	Impact on Agriculture (J$M)	Number of Farmers Affected
Hurricane Ivan	2004	7,951.10	117,700
Hurricanes Emily and Dennis	2005	379.90	8,199
Hurricane Wilma	2005	206.40	19,973
Hurricane Dean	2007	3,405.99	63,707
Tropical Storm Gustav	2008	1,678.30	24,255
Total		13,621.69	233,834

According to Jamaica's 2nd UNFCCC communication, already there are signs of significant vulnerability of the sector to climate variability (e.g., storms and droughts)[5].

There are over 200,000 farmers (30% of whom are women) and 20,000 registered fishers.

Much of the small scale agriculture occurs on slopes as some 80 % of the land surface is hilly or mountainous. About 50 % of these lands have slopes at or exceeding 20% and are often in important watershed areas. These are often badly degraded and prone to flooding due to unsustainable cultivation practices such as "slash and burn" which causes deforestation.

The main climate change projections for agriculture are these:

- agriculture on hilly slopes will experience further degradation with increased incidence of drought and intense rainfall;
- crops will become more exposed to pests and diseases;
- water availability will be uncertain with changes in rainfall patterns;
- soil productivity will be reduced over-time;
- traditional crops and livestock may not be able to withstand increased temperatures and other extreme climate conditions.

[5] *Government of Jamaica (GOJ). June, 2011. The Second National Communication of Jamaica to the United Nations Framework Convention on Climate Change (UNFCCC). UNDP, GEF. Kingston.*

3.2.1.1 Vulnerable Farm Families

Farming communities in Jamaica will continue to be adversely affected by extreme weather events[6]. Between 2004 and 2008, for instance, a total of 233,834 farmers were negatively impacted as a result of Hurricane Ivan.

Among these, female headed (FH) farming households are among the poorest and most vulnerable, many of which are landless. So too are young landless farmers and those farmers that are much older. Indeed, the demographics for the sector indicate that the small farming population in particular is getting older and that young farmers are not coming into the sector.

Resource poor farmers are those who farm on the most climate vulnerable tracts of land (such as steep slope sites, landslide prone areas), and are less likely to invest in longer-term and more sustainable and climate resilient coping strategies such as fruit tree crop production. They may also be more likely to employ unfriendly climate practices – such as slash and burn agriculture – because these are deemed to be less labour and cash intensive. So, they are more likely to contribute to carbon emissions while also being more vulnerable to climate impacts.

Additional negative coping practices employed by vulnerable farm and fishing families include actions that clearly impact their livelihoods, such as:

a) Selling key assets to cover short term cash flow needs

b) Taking children out of school and/or sending them elsewhere to live when climate impacts occur

c) Going into illicit drug production.

d) Reducing use of key farm inputs such as fertilizers, pesticides, herbicides etc. in order to save costs in the short term.

e) Or moving out of agriculture altogether with no clear alternative in sight.

3.2.1.2 Impacts on Livestock

Thermal stress due to sudden changes in temperature extremes and the occurrence of droughts may also result in large scale losses of cattle and other livestock due to increased mortality and decreased reproduction rates. Hurricane impacts regularly decimate the poultry sector, for example.

3.2.1.3 Increases in Fungal Diseases

Wet vegetation promotes the proliferation of bacteria, while prolonged dry spells in other geographic regions encourage insect- borne diseases (OECD, 2010).

[6] *Martinez, Rodrigo (Consultant). March, 2010. "Economic and Community Vulnerability Assessment of Climate Change in Jamaica". Office of Disaster Preparedness and Emergency Management of Jamaica (ODPEM) and the Organization of American States, Department of Sustainable Development (OAS), Washington, D.C.*

3.2.1.4 Value Chain Considerations

In the long run, these climate challenges are expected to result in higher food prices, since the loss of on-farm production is just one part of the agricultural value chain equation. When hurricanes occur, it is not only crops in the field that are damaged, but infrastructure is also affected (roads, bridges, agro-processing facilities, post-harvest storage facilities and so on). So too is farm equipment and the supply of farm inputs. Farm stores that provide fertilizers, seedlings, and other critical production elements are often adversely affected.

In some instances, farm labour may no longer be able to get to work because of damaged infrastructure. Likewise, marketers that buy directly from farmers may have lost their equipment or vehicles and are no longer in a position to purchase. Exporters may also suffer damage and are no longer able to buy.

3.2.1.5 Constraints on Rural Services

Another recognition which must be mentioned in any attempt to develop a CC strategy for the sector, is the capacity of rural extension services to address and communicate CC issues. Most of this responsibility will fall to the Rural Agricultural Development Authority (RADA) and other rural service providers such as the 4H, the Jamaica Agricultural Service (JAS) and the extension staff of commodity boards such as the Cocoa Board, Coffee Board and Banana Board.

These services are under considerable budgetary constraint and are understaffed. Area Extension Officers (AEOs) are expected to cover wide geographical areas with large number of farmers. Most of these farmers prefer face-to-face visits from their AEOs or at least expect to be able to get them by cell phone 24/7. This demand for extension input is not sustainable under current arrangements. New social media and information & communication technology (ICT) methods need to be found that allow officers to be 'virtually" available while minimizing the actual costs of being in the field as was traditionally the case.

3.2.1.6 Recommended Adaptation Strategies for Agriculture

Farming systems on a whole will have to change. Several adaptation measures are possible. Some important best-bet options for small farmers have been identified by Spence[7] and are included in Appendix F. The following additional measures are also being considered including[8]:

1. Use of water saving irrigation systems and water management systems e.g. drip irrigation
2. Adoption of improved technologies for soil conservation
3. Establishment of food storage systems
4. Promotion of water conservation for on-farm water harvesting and storage (tanks, ponds)
5. Promotion of protected agriculture options
6. Designing and implementing holistic water management plans for all competing uses

[7] Spence, Balfour. April 2008. **Good Practices for Hazard Risk Management in Agriculture: Summary Report – Jamaica**. *TCP/RLA/3101 "Assistance to Improve Local Agricultural Emergency Preparedness in Caribbean Countries Highly Prone to Hurricane Related Disasters"*. Food and Agriculture Organization of the United Nations (FAO), Rome.

[8] *ECLAC. 2011. The Economics of Climate Change in the Caribbean: Summary Report. United Nations Economic Commission for Latin America and the Caribbean (ECLAC).*

7. Improving agricultural drainage
8. Establishment of germ-plasm banks
9. Research on indigenous drought tolerant varieties
10. Research for adoption of cultural/ biological control measures
11. Provision and distribution of planting material on a timely basis
12. Adjustment to the crop calendar for short-term crops and to changing rainfall patterns
13. Development of ways of reducing non-indigenous species competition by controlling invasive species
14. Movement of production to less sensitive sites and higher elevations may be required
15. Development/introduction of salt tolerant/ resistant crop varieties
16. Adoption of more integrated and intensive livestock farming
17. Better design of livestock pens and facilities to allow for greater airflow and temperature management, and
18. Establishment of early warning systems.

In the long run, to really make the sector climate resilient, affordable crop, livestock and fisheries insurance products will also have to be created and made available.

3.2.2 Situational Analysis in the Fishing Sector

For fisheries, a changing climate and sea level rise will not only exacerbate existing conditions, but will also further undermine and displace coastal communities (Martinez, 2010). Frequent weather events have already extensively affected fishing communities. For example, during Hurricane Gilbert in 1988 Jamaican fishermen lost 90 per cent of their traps resulting in a significant loss of revenue and high cost of repairs, as well as the inability to resume fishing activities promptly afterwards. Approximately JM$89.1 million was lost in addition to 550,000 pounds of fish and fingerlings due to Tropical Storm Gustav in 2008 alone.

These conditions translate into ever decreasing profit margins for fishing households. Many of the country's coastal fishing and farming communities exist in vulnerable conditions and their livelihoods are under constant threat from coastal hazards such as storm surge, coastal erosion, flooding as well as storms and hurricanes.

Added to this is the fact that coastal resource such as coral reefs, seagrass beds, mangroves and beaches have not been spared. The uprooting of large mats of mangroves and seagrass beds, severe erosion of beaches, and the sedimentation of coral reefs, have increased the vulnerability of these ecosystems, as well as rendered coastal zones more vulnerable. Moreover, climate change and projected increased climate variability are likely to place additional stress on fish production systems, many of which are already threatened by overexploitation and habitat degradation.

3.2.2.1 Adaptation Strategies for Fisher Folk

A further weather related impact which is not mentioned enough in the literature cited, is the critical damage that ghost fishing causes after storm events. When fish pots are lost at sea or as a result of storms, they still continue to "ghost fish". Fish caught in the pots before the event, are trapped and they in turn continue to attract additional fish even after the event passes. This results in a further depletion of stocks that are available for the fishermen after the event is over.

New fish pot technology[9] is being tested in the region however, and involves a new type of fish pot that includes a biodegradable panel. The panel does not degrade under normal fishing operations, but if left in the water after a storm, the panel decays and will thus allow any fish inside to escape so that it does not continue to "ghost fish".

Other regional efforts are being made to improve the fuel efficiency of fishing boats by building more of them out of light weight fibreglass materials so they use less fuel. Fisherfolk in Jamaica should also be encouraged to use and produce such vessels.

The restoration of wetlands and mangroves is also a critical adaptation strategy that needs to be encouraged.

TABLE 3.3
SUMMARY OF LOSSES SUSTAINED IN THE FISHERIES AND AQUACULTURE SECTOR (2004-2008)
SOURCE: ODPEM, ECLAC AND PIOJ CITED IN MARTINEZ: 2010

EVENT	YEAR	IMPACT ON FISHERIES $JA MILLION	EXTENT OF DAMAGE
Hurricane Evan	2004	342	50 boats and approximately 80% of fishing pier at Old Harbour Bay Destroyed Significant beach erosion at Alligator Pond, 8 fishing sheds destroyed
Hurricane Dennis and Emily	2005	365.1	70-90% of fishing gear and equipment were missing or destroyed Shortage of fish supplies 1000 fisherfolk on the Pedro and Morant Cays affected
Hurricane Dean	2007	310.0	3523 Fisher folk affected Approx 52,500 fish nets lost Habitat and fishing grounds damaged
Tropical Storm Gustav	2008	89.11	2185 fish pots lost 39 gear sheds destroyed Loss of 550,000 lbs of fish-food

3.3 SITUATIONAL ANALYSIS OF THE HEALTH SECTOR

Climate change poses a serious threat to public health and wellbeing. Direct effects of climate change on human health are due to increased exposure to extreme weather events such as hurricanes and tropical storms; rising temperatures and heat waves; and increased rainfall in some areas or drought in others

The World Health Organization (WHO, 2008) has identified five major health consequences of climate change:

1. **Climate-related ecosystem changes** that can increase the range, seasonality, and infectivity of some vector- and water borne diseases, such as cholera and diarrheal diseases, malaria and dengue fever, many of which are highly climate sensitive to temperature and rainfall. Changing temperatures and patterns of rainfall are expected to alter the geographical distribution of insect vectors that spread infectious diseases, thus bringing new challenges to the control of infectious diseases.

[9] *http://www.dominicaliving.com/fish-fads_pots_nets.htm*

2. **Rising temperatures and more frequent droughts and floods** will threaten food security. Increased malnutrition is expected to be especially severe in countries where large numbers of the population depend on rain-fed subsistence farming. This has particular implications for child growth and development (Intergovernmental Panel on Climate Change (IPCC, 2007b) and could negatively affect the achievement of the Millennium Development Goals (MDGs).
3. **More frequent extreme weather events** are linked to a potential increase in the number of deaths and injuries caused by storms and floods. In addition, flooding can be followed by outbreaks of diseases, such as cholera, especially when water and sanitation services are poor or where they have been damaged or destroyed. Storms and floods are already among the most frequent and deadly forms of natural disasters (IPCC,2007; WHO, 2008).
4. **Water scarcity** (due to droughts) and **excess water (**due to more frequent and torrential rainfall) are both expected to increase the burden of diarrheal disease (United Nations Environment Programme (UNEP), 2003). Downpours can trigger sewage overflows, contaminating ground water that is often used for crop irrigation and as a source for drinking water.
5. **Heat waves** can directly increase morbidity and mortality, mainly in elderly people, with cardiovascular or respiratory disease (IPCC, 2007). Apart from heat waves, higher temperatures can increase levels of ground-level ozone and hasten the onset of the pollen season, contributing to respiratory problems such as asthma attacks.

The overarching concern is that the changing global climate will affect the very basic requirements for maintaining health (clean air and water, sufficient food, and adequate shelter) and will place pressure on the natural, economic, and social systems that sustain health. These health impacts will in turn increase the likelihood of poverty, population dislocation, and civil conflict (WHO:2008). Table 3.4 summarizes the potential impacts of climate change on health overall.

Table 3.4 Potential Health Effects of Climate Change

Manifestation of climate change	Health Determinant due to Climate Change	Health Outcome
Climate-related ecosystem changes	Temperature, humidity, rainfall effects on vector-borne (and rodent-borne) diseases	Increased vector-borne disease such as West Nile virus, equine encephalitis, Lyme disease, Rocky Mountain spotted fever, hantavirus, malaria, dengue fever, leptospirosis
	Changes in air pollution and aeroallergen levels	Increased allergies caused by pollen Increased cases of rashes and allergic reactions from toxic plants such as poison ivy, stinging nettle, and other weeds Deaths and disease cases associated with air pollution, allergies
	Emergence or spread of pathogens via climate-change-driven biodiversity loss	New cases of infectious disease
Rising temperatures and erratic rainfall patterns	Effects of extreme rainfall and sea-level rise on flooding (attributed to coastal floods, inland floods and landslides)	Fatal injuries; Non-fatal injuries and mental health effects Death from drowning Increased water-borne diseases from pathogens and water contamination from sewage overflows Increased food-borne disease
	Temperature effects on food and water-borne disease	Increased food-borne disease, such as Salmonella poisoning, diarrhoea and gastroenteritis
	Temperature and precipitation	Death from burns and smoke inhalation

	effects on incidence and intensity of forest fires and dust storms	Eye and respiratory illness due to fire-related air pollution Fatal and non-fatal injuries
	Increased average temperature	Increased strain on regional drinking water supplies Increased vulnerability to wildfires and associated air pollution
Water scarcity (drought)	Changing patterns of agricultural yield due to water shortages and increasing temperatures	Disruptions in food supply Changing patterns of crops, pests, and weed species Water shortages Malnutrition Food- and water-borne disease Emergence of new vector-borne and zoonotic disease
	Sea-level rise and reduced snowmelt impacts on freshwater availability	Water-related diseases in resident and displaced populations
Heat waves	Direct impact of heat waves	Premature death due to heat-related illnesses such as heat stroke, heat exhaustion and kidney stones Cardiovascular disease /deaths
Extreme events	Destruction of health infrastructure in floods and storms	Increases in mortality and morbidity in affected areas
	Increased intensity of hurricanes due to higher sea surface temperature	Death from drowning Injuries Mental health impacts such as depression and post-traumatic stress disorder Increased carbon monoxide poisoning Increased gastrointestinal illness Population displacement/homelessness

Source: Adapted from, Campbell-Lendrum, D. H., & Woodward, R. (Eds.). (2007). *Climate Change: Quantifying the Health Impact at National and Local Levels*. Geneva, Switzerland: World Health

Jamaica has already experienced many outbreaks of vector borne diseases, particularly dengue fever and malaria. Mosquitoes are responsible for the spread of these diseases. Among the contributing factors are inappropriately stored water (often for domestic uses), blocked drains and unsuitable garbage disposal which facilitate the development of the mosquitoes and the subsequent spread of the diseases. The island's climate is conducive to the development of the larvae which require sufficiently high temperatures and rainfall. Further increases in temperature coupled with unpredictable rainfall patterns are likely to exacerbate these conditions and result in increased incidence of the disease.

3.3.1 Vulnerable Groups and Health

The health of women and men will likely be affected different by climate change. As the primary caregivers of those affected by the diseases or accidents women are on the front line. Moreover, women and children are 14 times more likely to die than men during a disaster. In Jamaica, while the incidence of death has remained relatively low, there is concern that with climate change, increasing urbanisation and increasing poverty trends, the risk for poor women and children will increase. Poverty and poor access to health care exacerbate these risks. For men, a decline in food security and livelihood opportunities can cause considerable stress given the social expectation that they will provide economically for the household. Also, the involvement of men in elementary occupations such as agriculture and fisheries, construction and installation and

occupations which more often expose them to the elements - pose specific climate change risks for men.

3.3.2 Mitigation and Adaptation Strategies for Health

Measures to mitigate the impact of climate change on human health include the following recommendations:

Strengthen the Health Promotion Approach - The Health Promotion Approach places emphasis on empowering individuals to minimize exposure to hazards and practice healthy lifestyles including balanced nutrition, regular physical exercise, adequate rest, and minimal exposure to health risk factors.

Support National Food Security -The need for food security has emerged as a national priority, as global economic and environmental forces combine to threaten long-term food supply and prices. Food security has been defined as ensuring that "All people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life." The national strategy for food security integrates actions among health, environment, agriculture, foreign trade and hazard mitigation.

Strengthen the Linkages between Health and the Environment -Vision 2030 Jamaica recognizes that various environmental conditions can affect human health. Human-induced changes in the environment such as climate change and land use change have resulted in the emergence of diseases and contributed to the emerging epidemiological transition.

Promote Bed Nets and Spraying Programmes -The provision of impregnated bed nets and the implementation of a pesticide spraying programme are two key adaptation strategies associated with the prevention of malaria.

Mobilize and Enable Communities -The health effects of climate change will be felt most intensely at the local community level. Communities are going to need data, tools, and resources to mobilize public health strategies such as improved access to enhanced sanitation facilities and potable water. In addition, communities are going to need a sound health care delivery infrastructure that can not only address extreme events, but can also provide prevention, acute, and chronic care services to populations.

Table 3.5 Summary Table of Adaptation Strategies Recommended to Increase Savings and Avert/Prevent the Most cases of disease, Jamaica[10]

Projected Time (2011-2050)	Adaptation Strategy	
Dengue Fever	Improve sanitation by 5%	Will reduce the number of expected cases by between 6,000 and 7,000 cases in both the high emissions (A2) and low emissions (B2) scenarios. Will save approximately between $US5.2 and $US5.5 million.
Gastroenteritis	Improve access to potable water by 5%	Will reduce the number of cases under both scenarios by over 74,000. This will result in about $ US 21 million in cost savings.
Leptospirosis	Improve sanitation by 5%	Will reduce the number of cases by about 7,000 in both scenarios, resulting in over $600,000 in cost savings.

3.4 SITUATIONAL ANALYSIS OF THE TOURISM SECTOR

Tourism is one of the leading growth industries in the global economy. Jamaica has been one of the best-known resort vacation destinations in the world for decades, and has seen sustained growth of its tourism industry since Independence in 1962. In 2006, total arrivals, comprising stop over visitors and cruise passengers, passed the 3million mark for the first time. Tourism is also a major contributor to GDP and employment as well as a leading earner of foreign exchange.

The sector[11] provides approximately $1.934 billion US dollars annually to the foreign exchange earnings of the nation and is surpassed only by private remittance inflows as a foreign exchange earner.

3.4.1 Likely Climate Impacts on Tourism

As a sector, our tourism product is highly climate-sensitive given that it is based largely on natural ecosystems and the environment (reefs, beaches and rivers, mangroves). Coral reefs, a main feature of the tourism product with the associated activities of diving and snorkelling for example, are particularly at risk, due to ocean acidification and sea surface temperature rise. On average, 25 to 40 per cent of visitors to the Caribbean engage in reef-related activities, thus coral reef-associated tourism (directly and indirectly) accounts for a significant proportion of total tourism receipts for the sub-region (Burke, et.al, 2008).

In addition to its tourism function, coral reefs also perform an important role in protecting the islands coastlines and provide a habitat for a diversity of marine species, thereby also contributing to food security and employment for fisher-folk.

Sea level rise will contribute to coastal inundation[12], coastal erosion and inland flooding from storm surges. These impacts are in turn expected to result in losses to tourism stemming from

[10] Source: Gordon-Strachan, G. (2011). The Economic Impact of Climate Change on Health. Jamaica: United Nations Commission for Latin America and the Caribbean.

[11] 2nd UNFCCC communication.

[12] Coastal inundation is the flooding of coastal lands, including wave action, usually resulting from riverine flooding, spring tides, severe storms, or seismic activity (tsunami).

loss of land, beach loss, and costs to replace or rebuild infrastructure[13]. Because most of the infrastructure for the industry (such as hotels and resorts) are on or near the coast and are thus subject to sea level rise and extreme climatic events (e.g. hurricanes and floods) [14] the sector is especially vulnerable.

There will be an increasing need for beach nourishment projects for carbonate beaches. If the tourist industry is to survive through 2050, then identification of suitable offshore sand deposits should commence now to avoid the growth of unregulated sand replenishment schemes.

Tourists are fickle. Increased droughts and extremely hot temperatures, damaged reefs, and hurricanes are not part of the travel package that most tourists seek

Extreme weather events and hurricanes are likely to continue and intensify and will impact the sector through damage not only to direct tourism properties, but also to major infrastructure on which the sector depends - such as airports, roads, bridges, and utilities.

ECLAC reports that climate change will have both direct and indirect impacts on the sector[15] as follows:

Direct impacts Rainy summers or less snowy winters can have significant impacts on tourism demand, because it affects the natural environment in ways that can either attract or deter visitors. In the long run the climatic features of a destination form part of its product offering and can either deter or attract visitors.

Changes in the length and quality of climate-dependent tourism seasons could also have implications for competitive relationships between destinations and therefore climatic variations can potentially impact the profitability of tourism enterprises.

Climate variability also directly influences operating costs, such as heating and cooling, irrigation, food and water supply, and insurance costs. Other potential direct impacts to the industry include increased infrastructure damage, additional emergency preparedness requirements and business interruptions due to sea level rise, floods, coastal inundation and extreme events.

Climate-induced environmental changes are indirect effects related to the importance of environmental conditions for tourism. Warmer temperatures and sea level rise may decrease the quality of terrestrial and coastal ecosystems resulting in biodiversity loss.

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[13] *A one-meter sea level rise is estimated to result in a total cost of US$2 billion per year for Latin America and the Caribbean, based on combined information on coast length and various assumptions regarding key policy variables (Tol, 2002 cited in 2nd UNFCCC communication).*

[14] *Vulnerability is defined as the "ability to manage climate risks without potentially irreversible loss of welfare". It is linked to a level of risk defined as "exposure to external dangers over which people have little control", and reveals the degree of development of a particular area or region, i.e. the capacity of the transient poor who will face the disasters caused by climatic variations to cope (UNDP, 2007).*

[15] *ECLAC. 2011, op.cit..*

Policy-induced impacts of mitigation efforts on tourist mobility may result in upward pressure on transportation costs and changes in attitudes to travel, that may have indirect consequences due to changes in destination choices or travel mode (for example due to environmental attitudes). The air transportation and cruise ship industries provide key services to tourism but there is increasing concern about the contribution of these forms of travel to global GHG emissions. The recent increase in the Aviation Passenger Duty (APD) for all travellers from the United Kingdom to destinations around the world is one such example.

Indirect adverse impacts on economic growth in source markets, which would reduce the discretionary income of consumers, would also negatively affect tourism.

3.5 Situational Analysis of Human Settlements, Built Environment and Coastal Zones

3.5.1 Built Environments

According to the 2nd UNFCCC communication, over the last decade, infrastructure has accounted for the largest share of the costs resulting from disaster damage from extreme weather events. Based on nine different events damage to infrastructure sector amounted to $51.7 billion or 46% of the overall costs; the transport sub-sector (roads and bridges) amounted to $44.4 billion, and accounted for majority (86%) of the infrastructure damage.

The rapid pace of urbanization in Jamaica is also contributing to climate vulnerability. The percentage of the population living in urban areas has moved from three per cent in the 1960's to 52 per cent currently. In this period, informal settlements or slums have increased by over 40 per cent and are home to the most vulnerable in society.

3.5.1.1Challenges to Climate Resilience for Built Environments and Human Settlements

Several challenges face this sector with respect to climate resilience. These include:

1. Inadequate enforcement of existing building guidelines and other environmental regulations
2. Many of the poor are drawn to tourist areas in search of employment and end up in poorly constructed in-formal communities that are highly vulnerable to storms and other CC impacts. Moving informal communities is highly sensitive and politically charged. People will not move willingly, unless they see the alternative as being an improvement from their current situation.
3. Delays in approving the new building code which should stipulate new requirements for construction that should incorporate DRM and CC considerations also hinder resiliency
4. Inadequate enforcement of existing building guidelines and other environmental regulations
5. Local Development Planning and management of coastal resources are inadequate and not fully equipped to deal with CC planning issues.
6. Inadequate capacity of the technical personnel in planning, policy formulation and infrastructure development to mainstream climate change adaptation measures into policies, plans (including spatial plans) and regulations
7. Short term planning horizon within the tourism sector that fails to invest in long term infrastructure improvements.

3.5.2 Coastal and Marine Resources

Over the next century, climate change is expected to negatively affect coastal resources including land, ecosystems, biodiversity, infrastructure and human settlements. Some of these impacts are expected to be considerable and will add to existing problems including pollution, invasive species, habitat destruction and urbanisation of highly exposed areas. One of the more important impacts is rising sea level which will increase exposure and vulnerability of the population on the coast. Another climate change concern is the damage that will be caused by coral bleaching due to increased sea surface temperature and ocean acidification, resulting in coral reef loss and habitat destruction. Loss of coral reefs has the potential to drastically reduce commercial marine species and reduce the capacity of coral reefs to protect the coastline from wave action.

Sea level rise will be a particular concern that will affect several coastal communities including Portmore, Negril, Old Harbour Bay, and Rocky Point to name a few.

The impacts of these processes on the various kinds of coastline around Jamaica are likely to be short term erosion of beaches due to storms. Over longer periods, sea-level rise will cause progressive retreat of beaches. Recession will be greatest for soft rock cliffs, whereas fractured hard rock cliffs will be more prone to sudden collapse.

Wetlands present a particular problem due to their proximity to sea level and the micro tidal regime around Jamaica. Small changes in sea level will prompt progressive retreat and migration of wetland eco zones, unless vertical accumulation rates of wetland debris keep up with sea level rise.

Hard engineered structures such as sea walls will probably lead to eventual disappearance of any beaches in front of them. The 2nd communication suggests that offshore breakwaters would likely be more useful in retaining near shore sand supplies.

These impacts are likely to be exacerbated by deforestation and from poor farming practices, increased near shore sedimentation and turbidity, increased chemical pollutants from agriculture and industrial wastes, and from increasing coastal population growth.

3.5.2.1 Adaptation Measures – Coastal Resources

The 2nd UNFCCC communication makes several recommendations towards a Coastal Zones & Human Settlements Adaptation Strategy for Jamaica.

The most important measure for adapting to sea level rise is identified as a ***thorough revision of the present published setback guidelines.*** Instead of being based on slope angles, these should be related to the local risk of inundation from present and future storm events.

Setbacks for structures on rocky coasts where there is storm deposited debris should be determined by the position of the debris ridge formed by sandy and rocky debris accumulated over the past four millennia. Destroying ridges for construction materials exposes communities and buildings behind the ridge to increased vulnerability from inundation and damage from moving debris.

Sea defence works and river embankments need to be rehabilitated and maintained.

In heavily populated and touristic areas of the coastline, there is a need to provide rapid dissemination of warnings of sudden events, perhaps aided by the development of audible warning systems to meet the needs of those who are vision-impaired. Such events would include tsunami (rare events, but with increasing impact on coastal structures as sea level rises), flash floods, accidental release of poisonous gases, oil spills and so forth.

Continuing research is required on perfecting setback guidelines for Integrated Coastal Zone Management.

Jamaica's 2nd national UNFCCC[16] communication identifies the following strategies for improving coastal zone management:

- Installation of beach protection measures such as groynes and revetments;
- Reinstatement of the tidal gauge network (for obtaining data to feed into the geographic information system and aid in planning and project designs, thus ensuring vulnerability reduction occurs;
- Beach profiling (to aid improved data collection); and
- Regeneration of mangroves.

3.6 SITUATIONAL ANALYSIS OF THE ENERGY SECTOR

The energy sector requires both mitigation and adaptation measures for building climate resilience.

With regards to mitigation, as far as carbon dioxide (CO_2) emissions are concerned, Jamaica's carbon footprint is relatively low. But despite this, there is a need for the country to put in place a more secure, lower-carbon energy system, without undermining economic and social development.

Jamaica's dependence on imported petroleum accounts for 94 per cent of its energy consumption (Vision 2030:177). This makes our country highly vulnerable to disruptions in the supply and price of energy and thus reduces our energy security. This in turn makes us less able to improve our energy efficiency overall and reduce our energy costs.

3.6.1 Challenges to Energy Self-Sufficiency

Several challenges face the energy sector:

1. For one, much of the island's energy infrastructure is "over three decades old and has exceeded its useful economic life" (Vision 2030:178).
2. Much of our energy use is inefficient due to: (1) high energy use of the bauxite and alumina industry; (2) an inefficient public electricity system; (3) inefficient energy technologies and manufacturing; (4) inefficient energy use in the public sector; (5) low public awareness of the importance of energy conservation; and (6) an inadequate policy framework to promote energy conservation and efficiency.
3. The cost of energy is high compared to prices in many developed and developing countries, although it is in the mid-range compared to other Caribbean states.

[16] *2nd UNFCCC Communication.*

4. Negotiation will be required to coordinate between energy consumption within the bauxite and alumina industry and the public electricity supply to resolve the fundamental medium-term fuel choice between coal and natural gas to replace dependence on petroleum.
5. The bauxite and the alumina industry and the public electricity supply company need to resolve the fundamental medium-term fuel choice between coal and natural gas to replace dependency on petroleum.
6. While alternative energy sources exist, many of these solutions are not yet ready for adoption by large-scale commercial use because of their limitations.
7. Jamaican energy consumers are becoming increasingly concerned about their high energy bills and are beginning to demand greater openness and transparency within the sector and especially with regards to how the Jamaica Public Service Corporation (JPSCo) operates and is regulated by the Office of Utilities Regulation (OUR).
8. The stakeholders who are needed for the implementation of mitigation measures span the gamut of public and private sector agencies and institutions as well as the general public. Coordination of mitigation activities and communication of vital information to and among these stakeholders is vital.
9. While various energy sector projects and programmes have been planned over the years, few were undertaken and there has been limited coordination of activities and timeliness in implementation of projects. Additionally, over the years, while some emphasis has been placed on the promotion of energy conservation in commercial sectors and industries such as tourism, the emphasis was not sustained and pilot projects (such as the Environmental Audits for Sustainable Tourism-EAST) were not effectively institutionalized across other sectors.
10. Although there have been ***least-cost (electricity) expansion plans*** (LCEPs), the expansions that have taken place have been determined by expediency, and external factors have, in some cases, driven the decision making process. There have been several sectoral plans or policies (e.g., tourism, transport, industry) but, until recently, there was nominal effort directed at national or sectoral energy (apart from the electricity generating sector) or emissions forecasting. For example, there appears to be little if any reliable national or sectoral energy demand projections (and hence potential savings from energy conservation initiatives for example in the tourism sector or among JPS Rate 40 and 50 consumers)
11. In the case of electricity generation, the forecasting of electricity consumption among various rate categories was based on macroeconomic data rather than on knowledge of end use equipment.
12. Low levels of research in the energy sector are also be identified as a gap, resulting in low levels of adoption and adaptation of new and emerging energy technologies, improvements in energy infrastructure, and appropriate legislation.
13. The Jamaican public has a relatively low level of awareness of the importance of energy and its use in their daily lives and the contribution that each person can make to the responsible and efficient use of this vital resource. This low level of awareness also could explain the low intensity of use of solar energy for water heating in Jamaican households.

National strategies for the sector outlined in Vision 2030 include:

a) Diversifying the energy sector through diversification of both sources of energy and suppliers of energy. This is proposed through a mix of four energy sources including petcoke, natural gas, coal and renewable energy.

b) During the transition from fossil fuels, the emphasis will be on switching from inefficient use of fossil fuels to more efficient use and also to promote energy conservation in order to reduce economic and environmental costs.
c) Use of locally produced ethanol, solar energy, biogas, photovoltaic technology, wind, hydropower and other renewable energy sources will be explored to help reduce dependency on petroleum
d) Energy diversification in the transport sector will concentrate on ethanol and other renewable energy sources for motor vehicles and the promotion of hybrid vehicles.

3.6.2 Implementation of Mitigation Actions

According to the 2nd UNFCCC report, the Energy Policy presents a range of options and strategies for energy conservation to which the government is committed to pursue over the short, medium and longer term. It also identifies fuel diversification (with explicit targets) among the key goals to improve energy security and reduce energy costs. Some of the specific strategies included are as follows:

- finalizing the energy efficiency and conservation policy;
- creating relevant legislation to support required investments in energy efficiency and encourage enforcement;
- infusing energy conservation issues into relevant sectoral policy development (e.g. tourism, health, and water policies);
- implementing a public education programme to encourage energy conservation;
- providing incentives/disincentives for the use of innovative/clean technologies in power generation, mining, and manufacturing to improve energy efficiencies;
- promulgating the energy efficient building code;
- introducing national vehicle emission standards;
- promoting greater vehicle fuel efficiency;
- promoting imports of more fuel efficient vehicles;
- levying taxes on petrol at appropriate levels to encourage conservation;
- providing adequate infrastructure for transition to alternative energy vehicles;
- improving infrastructure and enforcing maximum axel weight standards;
- increasing mass transit opportunities and utilization; and
- introducing financial incentives for solar technologies in the public and private sectors.

Additional recommendations focus on improving the enabling environment and building institutional and technical capacities to encourage adoption of suitable energy conservation/GHG mitigation technologies and to fill data gaps that will facilitate cost-effective energy use and implementation of GHG mitigation measures.

3.7 SITUATIONAL ANALYSIS OF THE FINANCIAL AND INSURANCE SECTOR

Generally speaking, the financial and insurance sectors are not yet sufficiently equipped to support climate resilience and there is little awareness of what financing and insurance options currently now exist.

3.7.1 Actions to be taken under the SPCR

Ensuring that Jamaica adapts to climate change and becomes more resilient will be extremely costly[17]. In order to foster sustainability beyond the lifespan of the SPCR, the programme will be undertaking specific activities to encourage creative financing to fund climate resilient practices over the long term. These mechanisms will be targeted at both the private sector and at community based organisations and include:

1. The establishment of a ***line of credit*** to provide loan financing to the private sector, with an emphasis on agribusiness;
2. The establishment of a ***Trust Fund*** that will help to leverage additional financial resources for community based DRM and CCA projects.

In particular, the SPCR will seek to support the development of self-sustainable financing mechanisms for private sector and community level adaptation and will promote the diversification of funding sources including leveraging from as many different donors as possible.

The line of credit for the private sector will be created through the Development Bank of Jamaica (DBJ) and the People's Cooperative Bank (PCB) network to provide loan financing to farmers and other businesses in the agricultural sector.

The trust fund will be established with an original amount of seed financing of $US5.0 million. Additional financing will be leveraged from other funding sources so that the fund can generate a target income of $US 500,000 to $US 1,000,000 per annum.

Both of these initiatives will require promotion through public awareness and targeted communication activities.

In addition however, long term financial mechanisms will also need to be created through partnerships with the wider private sector and with the ***insurance sector*** in particular. Some key steps are already been taken within the insurance sector, that will support long-term financial sustainability in the face of climate risk.

These efforts will require specific promotional efforts to make the public aware of the financial resources available to support climate resilience.

3.8 SITUATIONAL ANALYSIS OF SCIENTIFIC RESEARCH AND DATA COLLECTION

The SPCR notes that **several challenges** are associated with the production and use of timely, usable information and data. These challenges include:

[17] *ECLAC. 2011.*

1. Inadequate climate data with which to downscale and to generate scenarios: to ascertain vulnerability nationally and at the sectoral level, and to guide the formulation/revision of policies, development plan and adaptation strategies.
2. Absence of a comprehensive risk information platform with information on the types and extent of risks faced by different communities/locations across the island.
3. Climate change considerations are not fully integrated in policies, legislation, regulations and sectoral plans and the general institutional framework for coordinating and leading climate change resilience-building is inadequate and fragmented.
4. Various publics are not generally aware of potential impacts of climate change; neither are they aware of the measures that they can take to build climate resilience nor the mechanisms in place to encourage adaptation measures.
5. Local Development Planning and management of coastal resources are inadequate and there is need to revise and enforce regulations and legislation based on local climate data.
6. Inadequate capacity of the technical personnel in planning, policy formulation and infrastructure development to mainstream climate change adaptation measures into policies, plans (including spatial plans) and regulations.

3.8.1 The Need to Visualise and Better Communicate Scientific data[18]

Increasingly national, parish, and local community decision-makers face the challenge of preparing for and adapting to impacts from climate change, often with a lack of full understanding of the risks associated with these impacts. Some climate change impacts, for example, will be felt in the short term (quick onset hazards such enhanced hurricanes and their storm surge), while others will be manifested as changes to climate continue (e.g. slower developing hazards such as drought and sea-level rise). As Garrett, *et.al.* (2010) have noted, often these decisions are made with a lack of scientific knowledge because of a disconnect between scientists and local decision makers. Although there are many reasons why this gap in knowledge exchange exists, most notably science tends to focus on generalizations that are theory-based without explicit applications to a specific problem or location. Another primary cause for this gap is that when science does provide research of a specific applied nature, scientific publications are often the targets of research results instead of local decision makers.

Even when local decision-makers know of relevant scientific research, they may not have the opportunity to evaluate the literature because they lack access to most academic journals. Given the potentially grave consequences of failing to exchange knowledge about climate change impacts, the scientific community must increase efforts to bridge this gap so that local decision makers have the latest information.

Although there have been attempts to map, visualize, and communicate the risk associated with slow developing hazards such as drought, the public's perception of these types of hazards is usually low (Garrett ,2010, *op.cit.).* A possible explanation could be that the public believes that slow-developing hazards can be easily mitigated during their onset and thus response requires much less preparation. Whatever the rationale, adaptation efforts for drought hazards are not on pace with those of faster onset hazards. Public education efforts that include visualization

[18] *Broad, Garrett, et.al. July 2010. "Visualization of Slow-Developing Hazards: Influencing Perceptions and Behaviours to Facilitate Adaptation Planning", Paper for the Pan-American Advanced Studies Institute for the Integration of Research on Climate Change and Hazards in the Americas, Panama City.*

techniques communicated in a way that increases the public's perception of risk to slow-developing hazards (such as sea-level rise) could enable societal adjustment to these environmental stressors.

Garrett et. al. (2010) suggests that the best way to create visualisation tools for CC is to design them in such a way that they simulate "conversations" among decision makers and within communities. Along with role play and drama tools that can be used to bring likely climate scenarios to life, 3D visual simulation tools can engage participants in different scenarios.

3.9 Summary

Clearly, based on the existing situation analysis of climate realities within key sectors, a great deal of awareness raising, new skills and information will be needed to build climate resilience across the many different sectors that will be impacted.

CHAPTER FOUR - FINDINGS FROM THE NEEDS ASSESSMENT PROCESS

In this chapter we summarize the key findings that have resulted from the direct consultations with key partners and from the needs assessment process that was conducted.

This needs assessment chapter is organized on a twofold basis as follows:

1. A review of key communication strengths and opportunities for synergies identified through the assessment; and
2. A review of key challenges and weaknesses that remain and that need to be addressed through the strategy.

4.1 Strengths

4.1.1 Strong demand for increased awareness and improved climate literacy

One thing is clear through a review of these documents and discussions – the need for enhanced communication about climate change was emphasized over and over again. Ironically, the 2005 KAP survey suggested that among the Jamaican public as a whole, 95% of persons claimed to have some awareness of CC – or had heard the term. But they could not actually articulate what their real understanding of the term "climate change" in fact meant.

Throughout all of the levels of consultation (both from the PPCR regional consultations, the Panos consultations, the Caribsave Report, and others – as well as through individual interviews), the critical role of improving communication as a priority step in advancing resilience echoed over and over again.

Misperceptions therefore still abound. There is confusion by what is meant by the word "climate", and what is meant by "climate change" as well as "climate adaptation" versus "climate mitigation" and "climate resilience" vis-à-vis disaster risk reduction. Indeed, even among the different key players who are involved in implementing climate change initiatives; there are differences in understanding and awareness.

4.1.2 Numerous Excellent Communication Resources and Experiences Already Exist

Fortunately, however, a major surprise through the needs assessment process is the clear recognition that Jamaica is in fact, more climate ready than may be believed at first glance. The project review concretely showed that there is a considerable amount of climate readiness that has already taken place or is currently being implemented. Much of this work is being done at the community level and within some of the most vulnerable community areas. Many communities have already been sensitized through a variety of communication efforts – using a wide range of media formats - and there is thus considerable foundation to build on for the SPCR strategy.

4.1.3 Many Opportunities for Communication Synergies and for Leveraging of Resources and Existing Communication Materials and Experiences

These positive pilot initiatives suggest that there is already a solid basis for further scaling up that the SPCR and other projects can build on.

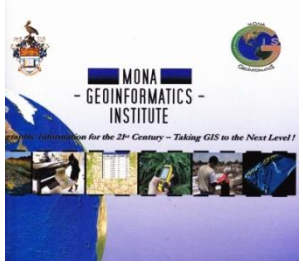
Matrix A provides a list of some of these experiences and resources and clearly indicates where there are gaps while Mosaic 1 illustrates some of the many players and resources that are already involved in CC adaptation and communication.

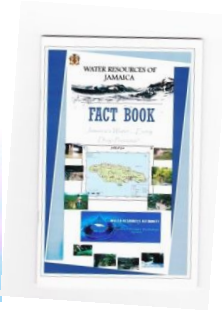
Specific recommendations for synergies are also listed in each of the sub-sector strategies that are included as appendices.

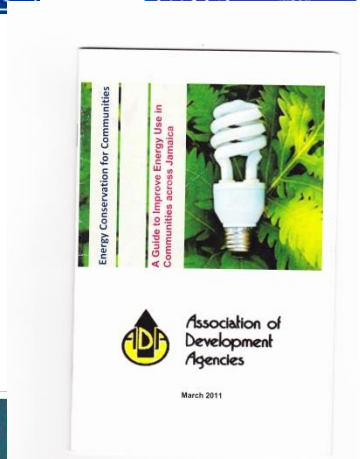
Matrix A – Inventory of Available Communication Resources & Partner Agencies/Projects										
Water	**Agriculture Food Security Fisheries**	**Tourism**	**Community Resources**	**Coastal and Marine Resources**	**Energy**	**Finance Sector and Insurance**	***Formal Education***	***Performing Artists***	***Mainstream Media***	***Scientific Data***
FACT Book – Jamaica's Water – Every Drop Precious by WRA	Trinityville Women's Farmer Group	EAST project	Mona Geo-Informatix Hazard Atlas	CCAM – with FAO ADRM building resilience in fishing communities of Rocky Point and Old Harbour Bay	Centre of Excellence for Renewable Energy (CERE)	PSOJ's Energy Tool Kit for Business	ODPEM – Website/page for children	Voices for Climate Change project	MACC project Mainstreaming Adaptation to Climate Change	Climate Studies Working Group. 2012. Climate Change and Jamaica. Department of Physics. UWI.
JET Competitions for Water Conservation (Jamaica Environmental Action Awards – JEAA)	Community Radio – Jeffrey Town Farmers' Association	Blue Flag Programme	Christian Aid Tool Kit for Communities		Waste to Energy at PCJ	Christian Aid's 2009 "Climate Change: What Caribbean Businesses Can Do About it". Fact Sheet. Christian Aid, Kingston, Jamaica.	WRA WET teachers program			
WET – Water Education for Teachers - WRA and NEPA	JSIF – Mona Geo Informatix 3D Disaster Simulation Tool	Green Globe Certification	ADA "Community Toolbox for Disaster Preparedness: Guidelines for Community based organisations, groups and householders in the Caribbean"		Caribbean Maritime Institute training for renewable Energy	CCRIF and MiCRO	PARE project – USAID tools for children			
IWCAM rainwater harvesting made easy brochure	IWCAM "Going for the Green: Water In Agriculture":	IWCAM recreational water quality monitoring brochure IWCAM Tourism and Water Management Brochure	IWCAM Community Based Resource Assessment Tool Kit			IWCAM Water and Industry Brochure				

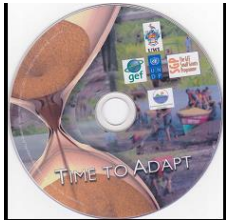
Water	**Agriculture Food Security Fisheries**	**Community Resources**	**Energy**	***Formal Education***
FAO-NIC Irrigation Projects for Water User Associations	GEF-SGP programme – several projects or CBA – solar technology for protected agriculture – Mafoota and Sweetwater Agricultural Cooperative	Trinityville women's farmer group	UNDP support for Energy Sector	Panos-NEEC Voices for Climate Change project
Rain Water Harvesting Video - NIC	GEF-UNDP Capacity Building for Sustainable Land Management Project	Roots FAM and JET FM	UNDP Improved Energy Efficiency and Security Project	PCJ website/page "Kids Corner"
	FAO ADRM project	CIDA-ODPEM Building Disaster Resilient Communities (BDRC Project)	Jamaica Solar Energy Association of Jamaica	NEPA pub edu department and website
	Medicinal Plant Research Group, Biotechnology Centre, UWI	JSIF-Mona Geo-Informatix 3D simulation Tool	CURE – Citizens United to Reduce Electricity	NEEC curriculum
	FAO-'s Irrigation Project – Carron Hall Farmer's Group	CCAM – FAO ADRM project	Fight for Your Light lobby group	JET schools' programme
	Rain Water Harvesting Video – NIC	JCDT – Halls Delight ADRM	Private Sector of Jamaica (PSOJ) tool kit for businesses in energy and environmental management and carbon trading	Farmville model – Jamaica on-line
	It's Better Inside Protected Area Agriculture video	Centre for Disaster –IDS – UWI – Newmarket	ADA Community Energy Handbook	GEF-SGP Poster Competition for Schools
	MAJIC Crop Research and Forecasting	GEF-SGP projects		UNESCO Climate Change Education Project for Teachers
	MAJIC vulnerability Assessment	Jamaica foundation for lifelong learning		New Teacher Education Programme – course for EE and Sustainable Development – Institute of Education (IOE) UWI
	MAJIC Training of extension officers in CC approaches	Voices for Climate Change project		Joint Teachers' Board of Education = Environmental Education for Teachers in Early Childhood and Primary education
	CSDI – Training of Extension officers in ComDev for CC			ODPEM – Website/page for children
	COL – RADA Farmer Early Warning Text Messaging			WRA WET teachers program
	Web-based farmer tips – RADA			PARE project – USAID tools for children
				Panos-NEEC Voices for Climate Change project
	Web-based farmer tips - ODPEM			PCJ website/page "Kids Corner"
	Regional level World Bank "Risk Mitigation Course for Small Holder Agricultural Production in the Caribbean"			NEPA pub edu department and website
	Caribbean Agro-meteorological Initiative - CAMI			NEEC curriculum

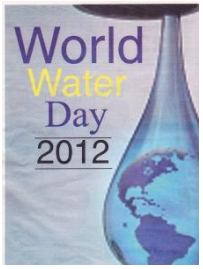
Mosiac 1 – A sample of some Resources and Partners

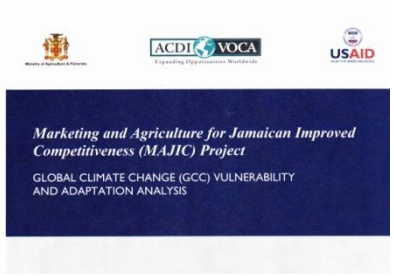


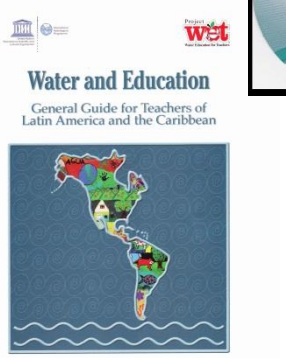


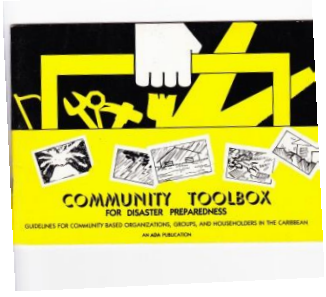


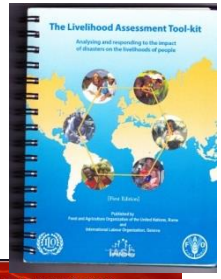












4.2 CHALLENGES AND WEAKNESSES

While the needs assessment outlined key strengths and synergistic opportunities, it also flagged some key weaknesses and gaps that need to be addressed through the strategy.

4.2.1 Little Attention to the Communication Needs of Persons with Disabilities

Despite the wealth of communication materials and resources that are already available and should be used, none have really addressed the needs of persons who are visually or hearing impaired. Print-based materials are fine for hearing impaired persons, but not for those who have visual challenges. Likewise, although there are already several good videos that can be used to enhance awareness, only one – Panos' Voices for Climate Change video – has captions so that hearing impaired persons can also benefit from the information.

Greater efforts need to be made to include signing or closed-captioning in all television public service announcements (PSAs) and at community events so that persons with disabilities can also benefit from these communication efforts.

4.2.2 It's Time to Scale Up

Given the great number of resources that already exist and pilot project examples that have proven results, it was strongly suggested that the PPCR seek to scale-up the successes that other projects have already achieved – especially with respect to communication and public awareness.

4.2.3 An Inventory Is Needed of Who is Doing What

A flip side of the flurry of DRM/CC communication activities and projects that are being undertaken was the point raised by several persons during the consultation that while it was reassuring to know that there was in fact a lot of communication for DRM/CC activities taking place, there was a concern that there might be a lot of duplication of effort. Care must be taken in the strategy to build on what already exists and to add to existing resources, rather than create new materials. If something is already available and is effective, it should be used. An inventory is needed not only of what exists, but who is doing what. Just such an inventory has been started here, but it will need to be updated as the strategy is implemented.

4.2.4 Limited Communication Capacity & Trained Human Resources

The needs assessment has clearly indicated that communication capacity is lacking across all agencies that are to play a role in building climate resilience. Few of the agencies/persons consulted indicated that they had sufficient communication capacity to implement as many communication activities as they believe are needed. Human resources across all agencies are tight and few agencies have trained communication professionals on staff. Those that do are also tightly stretched and cannot respond to all the communication demands they receive.

For the most part therefore, public outreach, design and creation of materials/Power Points and news releases are done by regular staff with limited training in the specific communication skills required to execute such tasks professionally. Communication outputs are therefore often ad hoc and are created only after other priorities are taken care of.

Where communication professionals are on staff, they are mostly responsible for public relations – a tall order on its own to ensure visibility of their agency's work. Few PR professionals have training or experience in communication for development (ComDev), social marketing or behaviour change communication. These areas of expertise are fundamentally different from PR

with skill sets that are focused on designing communication processes to ensure measurable impact and outcomes with regards to changes in KAPs.

4.2.5 Lack of Sufficient Financial Resources for Communication

Most of the organisations indicated that they could do much better communication not only if they had more staff and trained professionals, but also if more financial resources could be found. It was recognized that doing communication well – costs money that is rarely available.

4.2.6 Lack of Strategic Communication Planning within Partner Organisations

The final major weakness identified through the assessment process was that no organisations consulted currently prepare annual strategic communication plans. Communication efforts are largely ad hoc. This means that key partners are not only not yet strategically planning for climate change (which the SPCR hopes to address), but they are also not yet planning how they will integrate communication into their overall CC efforts, because there are no overall communication plans that are prepared at the agency level.

The following national communication strategy and action plan therefore seeks to both capitalize on the strengths identified through the needs assessment process while also addressing the weaknesses that have been identified.

CHAPTER FIVE – KEY MESSAGES NEEDED

This chapter focuses specifically on the key information and communication needs that will require specific messages. Key messages are identified to support the following:

- The key gaps in knowledge, attitudes and practices (KAPs) that exist based on available secondary data;
- The main adaptation practices and mitigation measures that will need to be encouraged to facilitate climate resilience and especially those that will be supported through the SPCR; and
- The main information needs and messages that will be required to support these interventions.

The messages are presented according to each sector as outlined in the situational analysis and fall into two main categories: (1) messages that are ***public relations*** in nature and correspond to what the Government of Jamaica (GOJ) will be doing under the SPCR; and (2) those that are more technical in nature and require specific changes in behaviour, knowledge, or attitudes.

5.1 MESSAGES NEEDED FOR THE WATER SECTOR

People's attitudes to water, and their practices, vary around the island. Those who still have to carry water for their own use are likely to practice water conservation because of the level of effort involved in fetching public water, but they may still perceive water as a "free resource". Those with ready access to water are more aware of its cost, but less aware of water conservation practices that they could adopt and may be less willing to change their behaviour.

Based on the 2005 KAP data, the following key gaps in awareness need to be addressed through specific messages:

Gaps in Knowledge, Attitudes and Practices (KAPs) to be Addressed	*Key Messages Needed*
The real value of water is not fully appreciated. The economic, financial, aesthetic, domestic value of water needs to be emphasized through public education and awareness campaigns. There is still a perception that water should be either free or at least very inexpensive. With Climate Change, water may become scarce and therefore its value will increase. People need to see the link between CC and the likely chance that the cost of water as a resource will increase in the future. All sources of water should be metered.	Water is not a free resource. The true cost of water needs to be understood.
People are not fully aware of how much water they may consume – at home or at work or in production and manufacturing processes. Thus the role of water conservation is not appreciated among many households with ready access to water. Nor is the link between inefficient use and increased cost of water for all.	Be aware of how much water you use.
The level of reporting when a leak is found is not nearly as high as it should be. The sense of social responsibility to report leaks and illegal water connections is low. There is not enough public education on the issue of leaks and the reporting of same. The responsible authority needs to be more proactive in addressing leaks as part of their own water conservation measures. The responsible authority needs to respond actively and more effectively/efficiently to reports on leaks.	Report leaks when you find them.
Little awareness among those with ready access to water of the steps they can take to conserve water and use water more efficiently.	Conserve water.
Farmers are perceiving changes in rain patterns but are not making the link to climate change and the need to adopt drought resistant crops and/or implement irrigation technologies into their production as a result. Irrigation is perceived as a means to improve productivity and crop yields but not as a climate change adaptation method or as a means for more efficient production.	Use drought resistant crops and irrigation for climate smart farming.

The general public needs to appreciate the cost of water infrastructure and the need to protect water infrastructure from vandals. The importance of rain gauges and their role in data collection needs to be better appreciated by the general public. Gauges are often stolen for scrap metal and this undermines the ability of the country to collect climate data.	Protect water equipment from vandals. Report vandals.
People need to be informed that significant scientific work is being done to monitor water resources and also to know more about what government agencies are doing.	The Govt. and NWA, WRA are doing important work to improve water supply
People need to understand the significance of scientific research about water, but need this information communicated in ways that are highly visual and easy to understand –such as mapping and 3D simulation tools	Our scientists are working to help us protect our water resources and are studying how climate change will impact us here.
70-80% of rain fall in a tropical rain forest is recycled through evapo-transpiration. Deforestation causes a huge loss to water resources. As a result reforestation should be emphasized.	Don't cut down trees. We need trees to conserve water.
Change the building codes to mandate the installation of rainwater harvesting structures. A new buildings or development construction should include plans for water harvesting and water conservation measures.	Adopt a new code. Build or retrofit your home or business to harvest and conserve water.
Unfair taxation practices on water harvesting equipment for farmers (liners, tanks, pumps etc.). This should extend to ordinary citizens who want to install such systems. Incentives for persons who install such systems.	Tax breaks can help to retrofit your home or business to conserve water.

Additional PR messages, as follows, will be required to promote the key actions that the SPCR will be undertaking within the sector.

Actions and Strategies that will be specifically implemented under the SPCR:	***Key Messages to Support SPCR Actions***
Support scientific research to model the likely hydrological impacts of climate change on the major water resources systems to assess likely future system discharges and river levels in order to derive design criteria for flood production embankments	Govt. is assessing CC impact on water
Facilitate the development and use of micro-scale water harvesting technologies such as ponds, wells, roof collection systems and land surface catchment systems to enhance the utilization of rainwater as a water resource in both urban and rural areas, especially in vulnerable communities most likely to be affected.	Promotion of micro-scale water harvesting technologies Govt. is helping to address water needs of vulnerable communities
Implement strategies and programmes for the effective management and efficient use of water (including reuse), in view of the anticipated impact of climate change on the water resources sector	Use and manage water efficiently
Improve the management of watersheds through reforestation and other methods such as relocation of settlements to increase the resilience of the watersheds and reduce soil erosion	Protect our watersheds
Expand basic hydrological data collection network, monitor quality and quantity of water and forecast changes due to climate change	Get involved in data collection and monitoring
Address water shortage and distribution needs to minimize impacts during periods of droughts and promote the use of new storage modalities	Govt. is addressing water shortage and distribution needs
School based water harvesting pilot project in priority watershed area	Promotion of pilot school project results
Establishment of the Adaptation Fund to support micro dams, rehabilitating reservoirs, implementation of water harvesting and a small scale gravity-fed irrigation programme in select vulnerable communities.	Promotion of the Adaptation Fund and how it can support CC resilience related to water
Develop a flood master plan; develop and implement 'drought and flood strategies' in long term hydrological basin plans.	Promotion of flood master plan
Incorporate climate change considerations in all water sector plans and policies	Govt. is mainstreaming CC in all water sector plans and policies
Increase investment in micro-irrigation systems; and develop innovative mechanisms and give greater responsibility for the management of these systems to farmers and communities	Promotion of micro-irrigation options

5.2 MESSAGES NEEDED FOR AGRICULTURE AND FISHERIES

5.2.1 Gaps in KAPs among Small Farmers

Although the last climate change KAP study was done in 2005, two important investigations have been done in pilot areas of Jamaica that shed light on farmers' current perceptions and current awareness levels.

Martinez (2010) found that farmers highlighted several unpredictable indirect weather impacts in a set of focus groups conducted for ECLAC. Farmers were particularly aware of weather impacts on their own livelihoods, especially within the last ten years. Tied with the livelihood issues are social issues raised by the farmers. There was a strong recognition that farming is a weather and water dependent activity, and thus if both weather and water become too unpredictable and strongly affected by abrupt climate change events, so too do their livelihoods.

Martinez also found that farmers are especially aware of, and concerned by, the impact of drought on their production.

Table 5.1 Changes Noticed by Farmers between 2000 and 2010
Source: Martinez (2010)

Climate change Indicators	Percentage of Respondents	
	Yes	No
Increased rainfall	45%	42%
Less rainfall	44%	47%
Longer droughts	53%	39%
Increased flooding	34%	55%
Crop season	72%	8%
Changes in crop yield	61%	19%

Similarly, when participants of the survey were asked about local changes they have noticed within the last years 10 years more than 70 per cent of the respondents thought the crop season had changed, with 61 per cent indicating changes in crop yield.

A further study by Gamble[19] (et.al. 2010), also investigated farmer's perceptions of drought specifically in St Elizabeth and particularly wanted to understand local, indigenous understandings of drought. This was cited as important because "There is no universally accepted dentition of *drought".* Different definitions and perceptions have implications for communication of climate change with farmers.

Based on these reviews, the following gaps in KAPs are seen for small farmers.

[19] *Gamble, Douglas, Donovan Campbell, et.al. August 2010. "Climate Change, Drought, and Jamaican Agriculture: Local Knowledge and the Climate Record". Annals of the Association of American Geographers. http:/www.informaworld.com/smpp/title-content+t788352614*

GAPS IN KNOWLEDGE, ATTITUDES AND PRACTICES TO BE ADDRESSED – FOR FARMERS	Key Messages
Greater awareness is needed among farmers of the exact type of impacts (drought, vector outbreaks, flooding, wind damage, storm surge, etc.) they can expect from climate change and how CC will likely impact their livelihoods	Different messages on the different types of CC impacts affecting farm livelihoods
Vulnerable rural communities and small farmers need to be informed of how they can limit CC and how they can also protect their livelihoods and improve food security through improved farming practices such as protected agricultural technology, organic farming, new irrigation technologies, and other best practices for mitigating CC impacts	Vulnerable households will be most affected and need to take concrete steps to improve their livelihoods
There is a lack of awareness of what impact harmful agricultural practices have in turn had on climate change (such as improper land husbandry, slash and burn agriculture, etc.) and what mitigation measures farmers need to put in place to reduce carbon emissions	Farmers and households have to do their part to limit carbon-emissions
There is also a lack of awareness of what possible opportunities CC may bring	CC can also bring new livelihood opportunities for farmers
However, there is also general lack of knowledge of specific, practical, doable steps that farmers can put in place to mitigation climate related impacts and become more resilient.	Specific, instructional information for specific skills training in new technologies and practices
There is also a gap in scientific knowledge – science does not yet know what are the best technology options (such as best crops, best pest control techniques, and so on) to propose to farmers – especially for the long term (for example, some farmers are asking if they should chop down their cocoa trees altogether and go into completely different farming systems – and there is no clear answer as yet).	Govt. is doing more research to identify improved technologies
Likewise, there is a need a need to improve sharing of existing knowledge (both scientific knowledge and farmer/fisher indigenous knowledge so that farmers' needs help set the scientific agenda)	Local knowledge is critical for climate adaptation
Farmers are also unaware of possible insurance options (if any) that are available to them to protect their livelihoods (not only farm buildings and machinery, but also livestock and crop insurance)	Farmers can get insurance

Under the SPCR, the following strategic actions will be implemented and corresponding messages are required.

Recommended SPCR Agriculture and Food Security Strategies	Key Messages
Develop climate resilient cropping systems with a focus on agricultural research (including soil research), to develop crop varieties, tolerant to flooding, drought and salinity, and based on indigenous and other varieties suited to the needs of resource poor farmers.	Climate smart cropping methods are being identified and developed with Govt. support
Strengthen the pest management unit and the veterinary services to facilitate research into development of new or alternative pest management/health practices and techniques aimed at reducing the spread of diseases and losses of crop, livestock and fisheries, due to the impacts of climate change.	Govt. is strengthening and building capacity of pest unit and vet services to promote climate resilience
Conduct vulnerability assessment for the fishing sector and develop appropriate adaptation strategies	Govt. is working with agencies, CBOs and communities to assess vulnerability and risk
Mainstream climate change adaptation strategies across all agricultural sub-sectors, including fisheries and horticulture.	Govt. is mainstreaming CC adaption in all agriculture and fisheries sub-sectors
Enhance land husbandry programme to incorporate climate change adaptation.	Land husbandry program is being enhanced
Strengthen the watershed management capabilities of service providers within the sector.	Forestry, NEPA and RADA are being strengthened to better support improved watershed management
Ensure that individuals within the sector are exposed to workshops, seminars etc., focusing on climate change and its potential impacts to the sector, and adaptation strategies.	Govt. is hosting training and sensitisation sessions for the sector
Map areas prone to various types of disasters associated with climate change.	Govt. is mapping vulnerability, hazard prone and high risk areas
Update the Agricultural Disaster Risk Management plan to incorporate climate change adaptation and updated baseline data.	Govt. is updating ADRM plan annually with community input
Use climate scenarios to guide the diversification/location of agricultural production.	Govt. is support scientific climate modelling for the sector
Identify the differentiated needs and vulnerabilities via gender mapping and other gender sensitive tools to guarantee the effectiveness of the strategic actions.	Govt. is supporting a gender differentiated approach to vulnerability and risk mapping

The SPCR is also taking specific actions to protect terrestrial resources, many of which are associated with agricultural practices.

Terrestrial Resources and Terrestrial Biodiversity Strategic Actions under the SPCR	***Key Messages***
Promote better understanding of the linkage between climate change and natural resource management in relevant institutions.	Linkages between CC and NRM are understood by relevant agencies
Implement integrated sustainable land management measures and strengthen existing soil conservation practices.	Land husbandry and soil conservation enhance climate resilience
Upgrade/expand protected areas and conservation areas to increase the resilience of terrestrial resources;	Protected areas enhance climate resilience when properly managed
Restore and expand 'greenbelt' coastal eco-systems and afforestation programmes and ensure proper management.	Green belt coastal mangrove areas enhance climate resilience and must be restored and protected
Develop climate change scenarios for the forestry sector, and incorporate adaptation strategies for climate change into the forestry management plan.	CC is integral to sustainable forestry management
Establish or improve systems for monitoring and research of terrestrial processes and predicting of CC impacts.	Govt. is monitoring CC impacts
Use consultative strategies to manage existing systems	Communities need to be involved in monitoring and data collection
Develop a comprehensive National Land Use Management Plan which incorporates climate change concerns	Govt. is supporting infusion of CC considerations into NLUMP
Develop and implement a formal mechanism to allow CC considerations to be included into policies and plans – including Forestry Action Plans	Govt. is creating a formal mechanism for including CC into Forestry Action Plans
Integrate climate change considerations into spatial planning (zoning) and land use processes.	Govt. is integrating CC considerations into zoning and land use planning
Develop and implement a sustainable and integrated training and sensitization programme in land management for community groups and other key stakeholders	Communities must play a role in land use management

5.2.2 Existing Knowledge, Attitudes and Practices (KAP) Among Fisherfolk

Little KAP data is available with respect to fisher folk's perceptions about climate change. A 2010 survey by Martinez (2010) reported fishermen as saying that they were doing more work, but were getting less in return. For example, they had to expend more on inputs such as petrol and fish nets, but with less returns. They specifically noted that the cost of going out to sea has become prohibitive.

Table 5.2 Climate Changes Noticed by Fishermen from 2000 to 2010
Source: Martinez, 2010

Climate Change Indicators	Percentage of Respondents	
	Yes	No
Warmer Sea Water	35	7
Increased Coastal Erosion	32	7
Less mangroves	27	7
Loss of Coral Reefs	34	5
Less Abundance of Fish	59	7
Small Size Fish	55	4
Less Variety of Fish	46	8

In terms of health related issues attributed to climate change, at least one group surveyed argued that there are direct health risks from the excessive heat and indirect health risks resulting in behavioural impacts. High blood pressure, asthma, headaches, skin cancer and heat strokes were identified by respondents as the major illnesses suffered due to climate change. Most of the

respondents felt that the heat had increased their risk and vulnerability to health shocks and increased their health related expenditure.

Other issues mentioned regarding the implication of climate change were illegal fishing (such as dynamiting and fishing during closed seasons for certain species). They also noted that outside impacts worsened those caused directly by climate change such as: changes in the cost of input such as petrol; insufficient disposable income or lack of jobs; and generally increased cost of products and services.

Gaps in KAPs among Fishing Folk	***Key Messages Needed***
Awareness that lighter boats – especially fibreglass construction – can help to reduce fuel costs.	Fibreglass boats save energy costs
Fishers can also become employed in fibreglass boat construction as an additional or alternative livelihood.	Constructing fibreglass boats can be a lucrative alternative livelihood
Aquaculture may offer a more sustainable alternative to at sea fishing.	Fish farming can be a good alternative livelihood.
Practices such as dynamiting are illegal and should be reported and prosecuted.	Don't dynamite for fish. Report dynamiting incidents.
More education is needed on the opportunities of lionfish as an interim strategy	Lionfish can serve as an alternative to catch
Fishermen need greater education of the importance of mangroves as fish nurseries and need to be involved in mangrove replanting	Protecting mangroves increases fish stock and fishers' livelihoods
With climate change, fishers will need to respect closed seasons even more to allow fish the opportunity to replenish.	Respect closed seasons Fish need to breed, especially with climate change

5.3 MESSAGES NEEDED FOR THE HEALTH SECTOR

Several gaps in awareness and behaviours affect the health sector for which communication messages are definitely needed. Among these are the following:

Gap GAPS IN HEALTH KNOWLEDGE, ATTITUDES AND PRACTICES	***Message Needed***
Few people appreciate what the impact of CC may have on respiratory illnesses such as asthma.	Climate change will likely cause increases in respiratory illnesses
Few people know that CC will likely impact food prices and thus possibly affect their nutrition levels. Nor do they know how home gardening may be able to help mitigate the effects of food price increases due to CC.	CC will impact food prices so start a backyard garden
Few people are making the link between CC, drought and water scarcity and how water resources may affect sanitation.	CC will affect water supply and quality and thus sanitation
Few people in Jamaica make the connection between CC and increased incidents of vector borne diseases such as dengue, malaria, West-Nile Fever, air pollution, and a variety of water borne and food diseases that are likely to increase with CC.	CC will likely increase vector borne illnesses such as malaria and dengue so prepare
According to the AIACC Working Paper, No. 27[20] few people know what a vector is	Clear messages explaining what a vector is
Few people can recognize the symptoms of Dengue fever	Clear messages indicating what symptoms to be aware of for dengue fever
Few use any form of vector repellent or protection (only 8%)	Use repellent
Few had any home water supply and did not practice any type of vector control protection on water storage drums	Protect your water supply from vectors
The AIACC report also found that 78% of the public felt that vector control was the government's responsibility and they had no individual personal responsibility	Everyone has a personal responsibility to protect themselves from vector borne diseases
There was a strong false sense of security about vector borne illnesses	No one is safe from vectors, unless you take personal control
Although households are supposed to leave their windows and doors open during fogging, 44% of households did not do so	Leave your windows open when fogging is done
There was little awareness of what to do, or who to call, in the event of a health outbreak or epidemic	Know who to call if an outbreak occurs

[20] *Assessments of Impacts and Adaptations to Climate Change. 2007. Working Paper, No.27*

The SPCR outlines the following strategic actions for which health related messages will be needed under the strategy.

SPCR Strategies and Actions	Supporting Messages Needed
Research the impact of climate change on health (including the incidence of malaria, dengue, diarrhoeal diseases, and heatstroke) and the cost to society of increased mortality, morbidity and consequent fall in productivity.	Govt. is supporting research and taking actions to reduce impact of CC related health effects
Develop adaptive strategies against outbreaks of malaria, dengue and other vector borne diseases and invest in preventive and curative measures and facilities;	
Develop adaptive strategies against diarrhoeal and other diseases, which may increase due to climate change, and invest in preventive and curative measures and facilities;	
Understand how climate change impacts human health through exposure of personnel to workshops and seminars dealing with comprehensive assessments of climate change impacts on human health;	
Promote and foster development in the capacity of the relevant institutions to better	Govt. is building capacity of health officials and institutions
In collaboration with WHO/PAHO, sensitize and educate health personnel and the public about climate change related health matters;	
Educating health professionals on the potential impact of climate change & appropriate adaptation strategies in collaboration with PAHO/WHO.	
Educate Health Professionals on the predicted impacts of climate change on the health sector and appropriate adaptation strategies.	
Implement initiatives to ensure that health facilities are resilient to the impacts of climate change.	Govt. is taking steps to improve resiliency of health facilities from CC impacts
Develop climate resilient health facilities – conduct vulnerability assessment of critical facilities to determine vulnerability to extreme weather; ascertain the cost of the adaptation measures; and implement plans to make health facilities climate resilient	
Develop a business continuity plan for the health sector	
Mainstreaming climate change concerns in the health sector plans and policies.	Govt. is mainstreaming CC in health sector plans
Development of a business continuity plan for the health sector. These activities will be implemented largely with funding from PPCR. Over the medium to long term, the following strategic actions will be executed:	
Update national health plans and policies, and fully integrate climate change concerns	
Development of an early warning system for dengue, air and water-borne diseases and other climate-sensitive illnesses.	Promotion of early warning system
Develop a proactive early warning system for dengue and other illnesses impacted by climate change in collaboration with CEHI	

5.4 MESSAGES NEEDED FOR THE TOURISM SECTOR

Messages for the tourism sector are likewise determined through review of proposed adaptation and mitigation strategies and available data pertaining to gaps in KAPS that are known for the sector.

5.4.1 Messages to Support Adaptation Strategies for Tourism

ECLAC (2011) promotes the following adaptation strategies as concrete steps that can be taken to minimize impact in tourism as shown in Table 5.3. Messages for each are also included.

Table 5.3 Potential adaptation strategies for Tourism

Risks	Risk mitigation or transfer options	Key Related Messages
Increased wind speed (Greater intensity of hurricanes)	Increase recommended design wind speeds for new tourism-related structures	Tourism structures need to withstand certain wind speeds
	Offer incentives to retrofit tourism facilities to limit the impact of increased wind speeds	Incentives exist to retrofit
	Retrofit ports to accommodate the expected rise in wind speeds	Ports are being retrofitted for certain wind speeds
	Catastrophe insurance for those government buildings	Make sure your tourism product

	that are used by tourists	is properly ensured
	Insurance for adaptive rebuilding	There are insurance products that can fund retrofitting and building adaptation.
Decreased availability of fresh water (Increased frequency of droughts)	Construction of water storage tanks	Build tanks. Conserve water.
	Irrigation network that allows for the recycling of waste water	Recycle grey waste water.
	Retrofit hotels to conserve water	Retrofit to conserve water.
	Build desalination plants	Consider if desalinisation is a cost-effective option for your tourism product
	Drought insurance	Get drought insurance
Land loss (Sea level rise)	Build sea wall defences and breakwaters	Invest in breakwaters
	Replant mangrove swamps	Replant mangroves
	Raise the land level of low lying areas	Consider land
	Build tourism infrastructure further back from coast	Resist the temptation to build too close to the coast line
	Beach nourishment	Nourish your beach.
	Limit sand mining for building materials	Limit sand mining
	Introduce new legislation to change planning policies, zoning and land use priorities as needed	Respect existing legislation. Participate in reporting and enforcement
Loss of coral reefs	Coral nurseries to help restore areas of the reef that have been damaged due to the effects of climate change	Coral nurseries are worth the investment and will make your reef recover more quickly
	Enhanced reef monitoring systems to provide early warning alerts of bleaching events	Monitor your beach
	Strengthen the scientific rigor and ecological relevance of existing water quality programs	Help collect data for water quality monitoring
	Develop innovative partnerships with, and provide technical guidance to landowners and users to reduce land based sources of pollution	Reduce land-based sources of pollution
	Control discharges from known point sources such as vessel operations and offshore sewage	Stop vessel discharge
	Artificial reefs or fish-aggregating devices	Encourage biodegradable FADs fishers
	Enhancing coral larval recruitment	Support coral recovery
	Enhancing recovery by culture and transportation of corals	Support coral recovery
	Establish special marine zones	Respect marine zones and participate in their management
	Implement pro-active plans to respond to non-native invasive species	Help reduce invasive species. Serve lionfish on the menu. Educate tourists
Extreme weather events	Provide greater information about current weather events	Be alert for extreme weather
	Develop national guidelines	Know the national guidelines to follow for extreme weather events
	Develop national evacuation and rescue plans	Know your role in the national evacuation and rescue plan
	More stringent insurance conditions for the tourism	Comply to insurance

	industry	recommendations for the sector
	Flood drainage protection for hotels	Know and practice flood protection measures
	Accelerated depreciation of properties in vulnerable coastal zones	Protect your investment
	Supporting infrastructure investment for new tourism properties	Support infrastructure investment
Reduction in travel demand Climate Change	Increase advertising in key source markets	Re-position your product
	Fund discount programmes run by airlines	
	Fund discount programmes run by hotels	
	Introduce "green certification" programmes for hotels	Adopt green certification
	Conducting energy audits and training to enhance energy efficiency in the industry	Conduct energy audits. Reduce your energy consumption and costs
	Introduce built attractions to replace natural attractions	Diversify your product
	Introduction of alternative attractions	
	Recognition of the vulnerability of some eco-systems and adopt measures to protect them	Know where vulnerable eco-systems are and how to protect them
	Provide re-training for displaced tourism workers	Retrain your workers
	Revise policies related to financing national tourism offices to accommodate the new climatic realities	Participate in policy review to accommodate CC realities

Additional adaptation measures identified in the 2nd UNFCCC communication will also require key messages:

2nd UNFCCC Adaptation Measures Proposed Under a Tourism Adaptation Strategy that will require communication messages	***Associated Messages***
Raising stakeholder awareness of the workings of both tourism and environment	Tourism is linked to the environment, and the environment is linked to climate change
Stakeholder identification of detailed programme and projects	Tourism programme needs to be stakeholder driven with CC considerations. Invest in CC for your business!
Set up a comprehensive performance framework with targets	Indicators for CC resilience in the sector have to be set
Provide more varied visitor attractions to put less pressure on existing natural resources and stimulate more visitors	Tourism sector is being diversified to be less dependent on climate sensitive resources
Reflect social and environmental costs in the price of tourism products	Tourism has social and environmental costs that need to be accounted
Improve environmental lobbying	The stakes will get higher with CC. Environmental lobbying is needed.
Implement infrastructural changes to protect the environment, e.g., groynes and levees, reforestation, and coastal zone management	Climate resilience will require investment in critical infrastructure
Intensify community tourism activities; and	Community tourism has to be promoted to build new markets outside of coastal tourism
Increase urban tourism.	Similarly, urban tourism also needs to be promoted

5.4.2 Messages to Support SPCR Strategic Actions for Tourism

For the tourism sector, the SPCR will implement the following key strategic actions for which communication messages are required:

Broad Strategies and Actions to be Adopted by the SPCR for the Tourism Sector	***Key Messages***
Develop integrated strategic plans that incorporate climate change considerations and appropriate measures such as water conservation, coastal protection and disaster risk management	Govt. is working with stakeholders to develop strategic adaptation plans
Make mandatory the need for large scale hotels to develop and implement rain water harvesting, resource and waste management, and disaster risk management plans	Rain water conservation, DRM planning, and waste management will be mandatory
Facilitate workshops, seminars and training sessions on climate change to raise awareness in the sector, and train persons in implementing adaptation responses for the risks identified	Govt. is raising awareness and building capacity in the sector
Sensitize the key stakeholders in Tourism Industry of the effects of CC in the language they understand	Break down CC science in sectoral terms. Here's the bottom line of what CC will mean for your profit margin.
Encourage financial institutions to consider climate change impacts in credit risk and project finance assessments	Financial institutions need to develop better CC insurance products and reward Climate smart adopters
Encourage adjustment of insurance premiums for players in the industry who adhere to building and land use planning standards, environmental regulations and standards and other regulatory measures applicable to the sector	
Sensitize banking and other financial institutions to include sectoral climate change scenarios in evaluation of credit risks	
Strengthen land use planning and land use, and environmental laws and review them periodically.	Respect environmental laws
Enforce physical planning guidelines such as coastal setbacks for all new tourism developments	New CC guidelines will be enforced. Get ready or face a penalty
Develop and implement integrated, sustainable and coordinated public awareness and education programmes relating to the impacts of CC on the tourism sector	Govt. is promoting CC awareness raising in the sector
Mainstream climate change considerations in Tourism Sector strategic plans and policies, for example, in comprehensive resort upgrading plans	The Tourism master plan will be revised to reflect CC realities
Implement adaptation strategies by hoteliers and other players in the tourism sector	Big Up champions in the sector

5.4.3 Messages to Support Gaps in Knowledge, Attitudes and Practices within the Tourism

Through the 2005 KAP survey and consultations, additional messages have been identified for the sector and corresponding messages are proposed.

GAPS IN KNOWLEDGE, ATTITUDES AND PRACTICES	**KEY MESSAGES NEEDED**
There are gaps in practices related to CC adaptation within the sector, but this lack of implementation has less to do with lack of awareness and more to do with support for the sector to actually implement CCA as the new way of doing business. The sector needs guidance and technical and financial support to respond to climate change in a sustainable way.	CCA is the new way to do business. Here's how to do it
The sector needs to begin to perceive and position itself as "climate smart" product with climate wise offerings that will appeal to a growing climate savvy market. This can be done through the integration of climate change messages and eco-friendly green labels that reinforce CC messages into DRR for the sector.	Reposition your tourism product – be climate smart
More awareness of what practices and steps can be taken to make existing tourism products more climate resilient – especially those along coastal areas. The sector may not know what steps it can actually put in place.	There are steps you can take to make your product more climate resilient
More political will is needed to ensure that any new tourism construction is built to according to prescribed development orders and with regards to sea level rise potential, drought considerations, water use considerations, hurricane preparedness, and so forth – especially in climate hazard prone areas	Climate change adaptation requires political will and commitment
Not all tourism properties are up to CC standards such as Green Globe certification and Blue Flag. There needs to be reconnection between The continued relevance of good environmental practices and a sustainable approach to tourism. EAST was a specific project which has ended. Green Globe and Blue Flag are not mandatory-they are linked to specific programmes, are voluntary and costly and not really suitable for the many small and medium sized properties in Jamaica.	Consider implementing EAST, Green Globe and Blue Flag standards to prepare

Both the public and the sector need to know what is being done to help make the sector more resilient through such programs as the ***Regional Disaster Risk Management and Climate Change Adaptation Monitoring and Evaluation System for the Caribbean Tourism Sector*** Project.	Govt. is implementing steps to make the sector resilient through specific projects
There is apathy and a reliance on government and not enough on private sector solutions and contributions. This is common to almost every sector – distrust of government systems and programmes and apathy towards them. The wording should therefore reflect this as a general challenge and not one peculiar to the tourism sector.	Govt. can't do it alone. Private sector must play a critical role
There is a lack of willingness in the sector to protect common property e.g. beachfront, coastal resources. They tend to see it as Govt.'s role rather than the private sector and public at large.	Public and private sector both are needed to make common property CC resilient. Govt. cannot do it alone.

5.5 MESSAGES TO SUPPORT THE BUILT ENVIRONMENT, HUMAN SETTLEMENTS AND COASTAL ZONES

5.5.1 Messages needed to support SPCR Strategic Actions

The key messages needed for both the SPCR's stated actions are as follows:

SPCR Strategies for Human Settlement Under the SPCR, the following strategies to make the human settlement sector more resilient are identified:	**Key Messages**
Enforce modern building codes and the use of modern coastal engineering technologies.	Respect the building code
Develop and implement integrated coastal management plans which incorporate climate change adaptation and risk reduction strategies	Govt. is working to develop CR plans for coastal areas
Integrate regional disaster mitigation strategies with national physical planning	Govt. is linking DRM into physical planning processes
Identify and declare "No build/settlement" zones	"no build" zones are needed and they should be located in the following areas
Increase the provision of human, financial and other planning resources and materials, so as to strengthen national and local planning and regulatory capacities	Govt. is increasing financial support to make national and local planning machinery more climate effective
Integrate climate change adaptation and risk reduction strategies in parish development plans and encourage compliance	Parish councils and national machinery are getting ready for CC
Integrating climate change concerns in risk reduction strategies, parish development plans and development planning generally	Planning for CC and DRM is the new way of doing planning
Increase citizen/community participation in the local and national planning process	Get involved in your local planning process
Identify and facilitate the implementation of interventions to increase the resilience of poor and vulnerable households, especially female households, to climate change	Govt. is helping vulnerable households to adapt
Long term plans for the relocation of vulnerable communities: Identify settlements vulnerable to the impacts of climate change Declare 'no settlement zones'	Govt. is especially helping vulnerable households to relocate if necessary
Initiate discussions on adaptation strategies	New technologies and building techniques are being identified to improve settlement resilience
The collection and analysis of data on coastal resources to determine vulnerability and guide development of management plans	Govt. is supporting scientific data collection to inform planning process for CC resilience

5.5.2 Messages Needed to Support Gaps in Knowledge, Attitudes and Practices for Built Environments and Human Settlements

No quantitative sources of data were found during the preparation of the strategy that would provide baseline estimates of knowledge, attitudes and practices (KAPs) related to the built environment and human settlements. However, consultations with stakeholders have suggested the following priority gaps:

Gaps Identified	*Key Messages*
There is little awareness of the revised and modernized building code (still to be approved) and what its implications are – especially for persons in vulnerable communities whose properties will likely not be up to code.	The building code will make me climate and disaster resilient
There is little respect for existing laws that prohibit building in vulnerable areas (such as in riverbeds and flood prone areas). This is especially so among the poor and most disadvantaged informal sectors.	Respecting environmental laws and staying out of hazard prone areas will help make me climate and disaster resilient
Among some of the professional construction firms and business developers, there is blatant disregard not only for building codes and environmental regulations but also for sustainable building practices.	Building code cannot be ignored.
Among architectural professionals, there is as yet little design forethought to planning buildings (at all price levels) that are both aesthetically pleasing, but also climate conscious in terms of water harvesting & conservation design and energy efficiency.	Incorporating CC and DRM elements in building designs is the new market niche in the building sector
Parish council planners also need additional training and assistance to incorporate climate resilience measures and indicators into their local planning processes.	CC and DRM are the new way of doing planning business

5.5.3 Messages Needed to Support SPCR Actions for Coastal Zones

The SPCR clearly recognizes that changes in construction and the national building code, as well as strategies to move people out of hazard prone geographical areas of the island, are fundamental to achieving climate resilience. Strategies under the SPCR for improving resilience with regard to human settlements are thus closely tied to SPCR strategies for coastal zones and the tourism sector as well.

Specific Strategic Actions for Coastal and Marine Resources	*Key Messages*
Improve the existing systems for collecting data and monitoring coastal and/or marine resources for climate change impacts especially in these three vulnerable areas	Govt. is building capacity for data collection and monitoring
Identify a Unit to coordinate activities relating to monitoring and data collecting including climate projections.	
Review and update existing institutional and legislative frameworks relating to marine and coastal resources management	Govt. is updating legislative framework in light of the climate realities that will affect coastal areas
Develop and implement an integrated, sustainable and coordinated programme for educating the Jamaican public; improving awareness on the management of coastal and marine resources and implications of climate change	Govt. is implementing a targeted awareness programme for coastal areas
Conduct island-wide analysis of shoreline stability – to assess vulnerability to coastal erosion and make recommendations in light of predicted climate scenarios, for corrective measures	Govt. is assessing shoreline stability. Find out if you are at risk.
Examine the parameters that influence beach formation and transgression at sites around Jamaica, and develop a methodology to aid in forecasting beach destruction given predicted climate changes	Govt. is increasing research to aid forecasting beach destruction
Construct groynes, sea walls, revetments, breakwaters, and other appropriate coastal engineering structures, to protect against storm surges and coastal erosion, and to protect and preserve beaches, and other economic infrastructure.	Build and protect groynes and other forms of river and coastal stabilisation infrastructure
Implement and manage a wetland ecosystem management.	Wetlands are critical to protect coastal resources. Get involved in protecting them.
Expand a 'greenbelt' coastal afforestation programme with mangrove planting along the shoreline of all the major coasts in Jamaica.	
Conduct vulnerability assessment for the fisheries sector and integrate climate change adaptation and risk reduction strategies in fisheries plans as well as the integrated coastal management plans	Fishing communities are being involved in sustainable coastal management.
Implement beach nourishment initiatives and appropriate coastal infrastructure, to protect natural and manmade assets.	Participate in beach nourishment programmes. Protect our beaches
Use market-based incentives to promote sustainable economic development; eliminate subsidies and incentives that continue to promote development in fragile and hazardous coastal areas.	Market driven incentives will help protect coastal resources.

5.5.4 Gaps in Knowledge, Attitudes and Practices related to Coastal Zones and Vulnerable Communities

Relatively little quantitative information is yet known with regards to awareness among the specific coastal communities of Portmore, Negril and Old Harbour. However, the following gaps likely exist:

Gaps in KAPs Among Coastal Zone Stakeholders (other than fishers)	*Key Messages Needed*
People and businesses in the most vulnerable communities (Portmore, Negril, Old Harbour, etc.) do not yet fully know what the impact of CC and sea level rise in particular is likely to mean for their own private properties.	Portmore, Negril and Old Harbour are special communities that will require special attention in order to become climate resilient because of their coastal situations
More awareness needs to be raised on the importance of maintaining mangroves and sea-grass beds.	Portmore, Negril and Old Harbour need to be more involved in maintaining mangroves that will help to protect their communities
Deforestation in upper watershed areas worsens the effects of CC on coastal resources as does improper waste and chemical disposal. *(Note: this gap is addressed more fully in the agricultural sub-sector strategy under terrestrial resources)*	Coastal resources can be adversely affected by upper watershed waste disposal. These impacts are further exacerbated by climate change.
People need greater appreciation of role that river and coastal stabilisation technologies such as sea walls, breakwaters, gabion baskets, groynes and so on, play in making the livelihoods and properties climate resilient.	Portmore, Negril and Old Harbour need to be more involved in protecting and maintaining stabilisation infrastructure that will help to protect their communities
And they need to play a role in safeguarding and protecting these structures as well as river gauges and sea level gauges.	

5.6 MESSAGES NEEDED TO SUPPORT THE ENERGY SECTOR

The following analysis of gaps in knowledge, attitudes and practices regarding energy are derived from existing secondary sources and the 2005 KAP survey and corresponding messages proposed.

Gaps in KAPs related to Energy Use	*Key Messages Needed*
72.5% of Jamaican's currently see the burning of fossil fuels (FFs) as contributing to CC, but only 48% thought that their use of public electricity utility service contributed to CC emissions	Using JPS contributes to CC
There is little awareness among the general population of what the use of fossil fuels really costs the country as well as individual households and the public sector	Precise messages related the real costs
There is little awareness among the public of the consumption levels among the bauxite/alumina, transport and sugar sectors and what these cost the country	Facts on Bauxite, sugar and transportation energy use
There is little understanding among the general population of what the Energy Policy offers and is set to do or how it compares with the energy policies of other countries (in terms of tax incentives, number of energy providers involved, and so forth)	What the Energy policy offers compared to other countries
There is little awareness among the general public regarding the amount/level of energy that is lost due to inefficiencies in the current system and/or theft	High energy costs are partly due to theft and inefficiencies
There is little understanding of how "net metering" options could benefit average households and businesses who wished to invest in renewable or alternative energy options	How net metering works
There is little awareness among the general population of the various alternative energy options that exist (solar, wind, hydropower, geothermal, biogas, etc.) and how these technologies could benefit Jamaica both in terms of CC and economically	Benefits of alternative technologies
There is also little awareness among the general public about how improvements in building and construction may in turn improve their energy efficiency	Buildings can be constructed to enhance energy efficiency
There is also a perception that alternative energy sources are too expensive or that financing for alternative energy is too expensive	Alternative energy does is not necessarily expensive
There is little awareness of what the Government of Jamaica is concretely doing to enhance Jamaica's energy efficiency and cost effectiveness, especially at the household and individual level.	Messages highlighting GOJ energy achievements
Public does not necessarily make the link between energy and climate change. Energy is thought of mainly in terms of saving money, rather than in terms of becoming more climate resilient.	Using fossil fuels are not only an expensive energy choice, they also lead to climate change
Public does not necessarily make the link between energy and health.	Burning fossil fuels can lead to poor health and respiratory diseases

5.7 MESSAGES NEEDED TO SUPPORT THE INSURANCE AND FINANCIAL SECTOR

The 2005 KAP data identified the following gaps in awareness and behaviours related to insurance and financing.

Gaps in KAPs re: financing and insurance	*Key Messages needed*
Only 15% of adults insure their homes and property. 73.1% are uninsured	Get insured
Little to no knowledge of the "risk" associated with Climate Change among average Jamaican population	Climate change will increase risk to property and persons
Little to no knowledge of possible affordable insurance options for low income earners to protect property and business investments	Insurance options exist
Little to no knowledge of Caribbean Catastrophe Risk Insurance Fund (CCRIF) and its role	The CCRIF may be able to help you
92.1% associate CC with droughts	More extended droughts will bring specific risks
88.3% associate CC with flooding	Flooding is more likely with CC. Get flood insurance.
Little awareness of what building codes are mandated to reduce climate risk or of what the legal repercussions might be of not building to code	Compliance with the building code reduces risk

5.8 KEY MESSAGES TO PROMOTE GENERAL COMMUNITY AWARENESS TOWARDS CLIMATE RESILIENCE

While specific communities will be targeted under the SPCR, there is still need for general messages that pertain to the public at large and especially to community resilience. To identify key messages needed, it is important to look first at the adaptation and mitigation messages that will be promoted under the SPCR and to then look at specific gaps in knowledge, attitudes and practices (KAPs) that are clearly known to have existed since 2005.

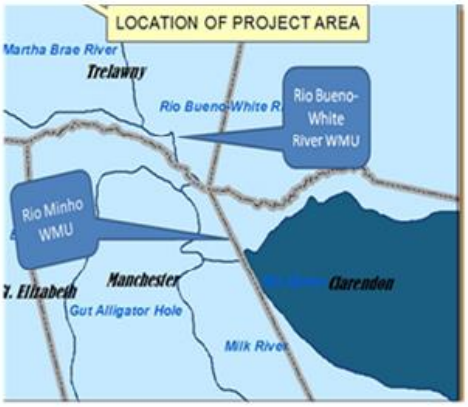
Proposed Adaptation and Mitigation Strategies under the SPCR Towards Resiliency	**Key Messages Needed**
Implement community based disaster risk mitigation plans and climate adaptation plans into overall community development planning	Communities need to PLAN to become more resilient. Get involved with your community CCR and DRM planning process today.
Scale up proven community based adaptation technologies that have been proven to work for water harvesting, built construction, infrastructure	You can prepare. There are proven technologies that will help you adapt.
Link with health communication to promote messages and adaptation messages related to health and water	Make sure you know how climate change will affect your water and your health and know what to do about it.
Explore alternative sustainable livelihood options in at risk and vulnerable communities that will likely be most impacted	Climate change and disasters will impact your livelihood. Find out how you can make your living more resilient.
Find creative ways to clearly illustrate likely climate impacts (as perceived by science) in media that people can easily understand at the individual level and that are not literacy dependent	Learn how to talk 'climate". Understanding climate change is not complicated.
Ensure strategies are put in place to protect the most vulnerable – female headed households(FHHs), the poorest households, children, disabled	Know who is vulnerable in your community and help them get ready for climate change.

Messages needed to address gaps in KAPs for community awareness include:

GAPS IN KNOWLEDGE, ATTITUDES AND PRACTICES TO BE ADDRESSED (2005):	*Key Messages Needed*
There is an overall general feeling of complacency and indifference toward CC and its effects	Climate change impacts you. Get involved.
The one main activity that people (16.5%) felt they could personally do to limit CC was to dispose of waste properly rather than burn garbage	Stop burning garbage and find out what else you can do to reduce climate change.
Discrepancy between perceptions of "community risk" versus "personal risk"	If you live in a community, you are at risk from climate change.
Persons perceive high risk for their communities but low risk to themselves	
Only 15.3% feel that they should make a sacrifice and be inconvenienced to help address CC	Your actions make a difference. Get involved and do your part.
There is confusion about CC terms – climate versus weather, climate adaptation, mitigation, resilience and the link between climate and weather related disasters	Learn how to speak "climate". With a little learning, it's not hard.
Communities are not aware of the various steps and technologies that they may be able to use to become more climate resilient	You can adapt. Technologies exist that can help you prepare.
Communities may not be aware of alternative livelihood options to becoming climate resilient	Climate change is not all bad news. It also brings new livelihood opportunities. Find out how you may be able to make a living through promoting climate resilience.
Communities are not aware of the options available for reducing their risk from disasters (such as through insurance and other tools)	Check out how to reduce your risk with insurance.

5.8.1 Community involvement in Integrated River Basin Development Planning

The SPCR will also be implementing specific pilot demonstrations in three degraded watershed areas for which specific messages will also be needed. However, the main focus will be placed on the Rio Minho watershed management units (WMU) which is classified as one of the most degraded watersheds in the island. The SPCR will affect some 20 communities with an estimated population of approximately 65 000. Some of these communities include: Freeman's Hall, Litchfield, Wait-A-Bit, Lowe River, Spalding, Cascade, Aenon Town, Alston, James Rivers, Chudleigh and Frankfield.



SPCR Pilot Project Areas

These communities will get special attention under the SPCR and will particularly benefit from adaptation strategies around alternative water harvesting methods such as:

- mini-dams,
- reservoirs,
- rainwater harvesting
- gravity drip irrigation systems
- training
- efficient water use technologies to increase water to farmers; and

The key messages that will be needed to support these community activities are largely related to water conservation and have already been identified for the water sector.

5.9 MESSAGES NEED TO SUPPORT BETTER USE OF SCIENTIFIC DATA

Among the public generally, the following gaps in knowledge, attitudes and practices were identified with regards to climate science:

Gaps in Knowledge, Attitudes and Practices with regards to scientific data	*Key Messages Needed*
There is little awareness among the general public that more data is needed in order to plan better for climate resilience. People need to know that collecting scientific data is important for our CC adaptation and they also need to know more about which organisations are involved in collecting the data that is needed.	Govt. is supporting research to for more precise planning
People are generally wary about participating in data collection processes such as the census because they fear that it is mainly for tax collection purposes. This is also the reason why the Ministry of Agriculture has had challenges getting farmers to register. Messages are needed to explain to the public how data collection will be directly relevant to their needs and therefore, they need to comply.	Be counted. Don't be afraid of surveys
The SPCR will be supporting the implementation of sea level gauges and other weather data gauges in several parts of the country, but in the water sub-strategy – it is recognized that sometimes this equipment is vandalised and sold for scrap metal.	Protect equipment that collects weather data. Don't steal or destroy.
Among planning agencies, there is insufficient and/or inefficient use of available data for planning purposes. Training is needed for local planning authorities and all sector agencies in the use of available data for improving planning processes. But so too is the need for scientists to become more involved in planning activities.	Effective planning should be driven by good climate data
People need easier and earlier forms of communicating warnings in the case of hurricanes, storms and flooding events.	Knowing early increases resiliency

Given the challenges and constraints currently being faced with both collecting localised data and with sharing scientific data with those who need it, the SPCR recognises that there is an urgent need to:

Strategic Actions/objectives for Data Management and Risk Information under the SPCR	*Key Messages*
Strengthen the capacity of the Met Service to collect required weather data; to analyze data, and to forecast weather	Met service is being strengthened
Establish Sea Level Gauge networks to secure reliable data on the changes in sea level rise, etc.	Govt. is investing in new data equipment
Develop climate change scenarios for Jamaica which focus identified priority sectors	Priority sectors will benefit through improved data
Develop a comprehensive climate-risk information framework based on national and sectoral climate scenarios developed and risks identified	Climate risks are being assessed
Strengthen or establish cyclone, storm surge and flood early warning systems to enable more accurate short, media and long-term forecasts	Early warning systems will be made more effective
Conduct specialized vulnerability assessments using climate scenarios generated to assess the expected consequences of climate change for each priority sector. The vulnerability assessments will improve the understanding of how climate change impacts on other risks and vulnerabilities within the sectors (for example, the relationship between future rainfall changes and rain-fed agriculture). Further, the vulnerability assessments will enable the convergence of socio-economic data and climate data to more meaningfully devise adaptation strategies.	Vulnerability Assessments are being conducted
Conduct a detailed vulnerability assessment of the health sector that will allow preparation of a plan that outlines the actions necessary to make the key health facilities climate resilient. Low cost but critical actions to enhance resilience in pilot facilities will be implemented based on the data that is collected.	The Health Sector is being strengthened to become climate resilient
Develop a climate information platform that will allow users to create climate scenarios and models	Platform will make climate data easily accessible. Check it out.

Clearly, not all of the above messages can be communicated through the SPCR strategy directly, but this chapter shows that there is no dearth of messages from which to choose. With this range of potential messages now identified, the next chapter then outlines the key components of the overall communication strategy.

CHAPTER SIX –NATIONAL COMMUNICATION STRATEGY AND ACTION PLAN FOR CLIMATE RESILIENCE

In this chapter, we outline how the communication strategy is structured and present its key approaches and components. The chapter is organised as follows:

First, an ***umbrella goal*** for the strategy is proposed that articulates Specific, Measurable, Achievable, Realistic and Time-bound (SMART) outcome indicators for the communication strategy overall. This goal serves as an overarching goal that encompasses all of the subsequent sectors and to which all of the activities outlined in one way or another, work toward.

Second, the ***key broad communications actions*** to be undertaken throughout the strategy are outlined to achieve the overall national communication goal.

Next, a set of over-arching of ***priority fast track activities*** are presented and a detailed action plan for their implementation is provided. These activities are meant to support all of the different segments of the SPCR, but additionally, are also meant to provide a unifying framework for all climate change communication initiatives that may follow later, not only those to be pursued under the SPCR. For each of these, specific sub-goals are outlined that in turn support the overall national communication goal.

To support these priorities there are eight overarching ***communication actions*** that are identified and presented.

For these core priority activities, ***a budget, detailed action*** and ***implementation plan***, and a monitoring plan are presented.

The chapter then closes with an introduction to the various sub-sector strategies which are presented as subsequent, stand-alone chapters or mini-strategies in the appendix. These sectoral sub-strategies include the following:

Sub-Strategies

1. Water
2. Health
3. Agriculture and Food Security (including fisheries and terrestrial resources)
4. Human Settlements, the Built environment and coastal resources
5. Tourism
6. Energy and
7. The finance and insurance sector.

Following these sub-sector plans, additional communication activities are further identified for the core communication pillars in the strategy including: (1) strengthening community awareness; (2) strengthening lay person's understanding of climate change; (3) building enthusiasm through partnerships with performing artists and social media; (4) strengthening formal education; and (5) enhancing mainstream media coverage of climate change issues. The majority of these activities will require leveraging of resources beyond what the SPCR can do directly, however.

6.1 Overall Communication Goal for the National Communication for Climate Change Strategy and Action Plan

For the national communication strategy and action plan, an overall goal is proposed as follows

> *By the end of 2017, there will be at least a 30% increase in awareness of what climate change is and how it will impact most Jamaicans, but there will also be at least a 20% increase in the adoption of specific CC adaptation practices; and a 20% improvement in sustainable climate resilience within the agriculture/fisheries/forestry sector; the health sector; tourism; water; and among communities living in coastal zones and at risk areas.*

This goal clearly echoes the Vision 2030 National Development Plan (NDP)[21]:

> **GOAL #4: JAMAICA HAS A HEALTHY NATURAL ENVIRONMENT**
> National Outcome 14: Hazard Risk Reduction and Adaptation to Climate Change

Building climate resilience also supports several of the other key goals and outcomes identified in the National Development Plan including:

> **GOAL #1: JAMAICANS ARE EMPOWERED TO ACHIEVE THEIR FULLEST POTENTIAL:**
> National Outcome 1: A Healthy and Stable Population
> National Outcome 3: Effective Social Protection
> **GOAL #3: JAMAICA'S ECONOMY IS PROSPEROUS**
> National Outcome 9: Strong Economic Infrastructure
> National Outcome 10: Energy Security and Efficiency
> National Outcome 11: A technology-enabled society
> National Outcome 12: Internationally Competitive Industry Structures
> **GOAL #4: JAMAICA HAS A HEALTHY NATURAL ENVIRONMENT**
> National Outcome 14: Hazard Risk Reduction and Adaptation to Climate Change
> National Outcome 15: Sustainable Urban and Rural Development

6.2 Communication Actions Needed

In order to achieve the main national goal and the steep learning curve that will be involved in climate resilience, as was stated, the following steps are required:

1. First, people need to be correctly informed about the types of climate change impacts that will likely affect them, but then need to be informed in ways that they can clearly and easily understand. Educational and literacy levels are not high among all members of Jamaican society;

2. They also need to know what programmes and technical options exist to help them adapt and prepare at their personal level, at their livelihood level and at their community level;

[21] ***Government of Jamaica. 2009. Vision 2030 Jamaica – National Development Plan. http://www.vision2030.govt.jm/ , Planning Institute of Jamaica (PIOJ), Kingston.***

3. They will also likely need to learn new skills and adopt new practices, behaviours and attitudes to help them cope with climate change;

4. And they need to become enthused and empowered so that they can get involved and play a role in climate change mitigation and preparedness.

To support this awareness raising and learning process, therefore, eight communication actions or trajectories must be pursed as building blocks within the strategy. These include:

1. Building ***community awareness and participation*** through promotion of messages that support specific measurable changes in knowledge, attitudes and practices/behaviours related to DRM and Climate Change resiliency. This must be done through specific community-based communication interventions at the broad general public level, and also through specific approaches in those communities that are being especially targeted under the SPCR through pilot project initiatives. Wherever possible, the community awareness approach will build on synergies with other initiatives in order to leverage resources and to scale up existing communication best practices of which there are several.

2. Enhancement of ***climate change technical knowledge*** for the lay person. The SPCR is implementing considerable support to improve the country's scientific data collection and research capacity in order to improve climate forecasting. Equally important is the translation of scientific data into language that the layperson can understand and use in daily life. The communication strategy must support the work that the climate change studies group at UWI is already doing in this regard, as well as recommend additional ways that communication between the science community and laypeople can be enhanced.

3. Building the ***communication capacity*** of technical staff in all agencies involved in climate resilience.

4. Adoption of tailored technical approach for the needs of ***specific sectors*** in order to address the targeted behaviour change and livelihood needs of the priorities under the SPCR: (1) water; (2) health; (3) agriculture, fisheries and terrestrial resources; (4) tourism; (5) human settlements/built environment and coastal zones; (6) the financial sector – and additionally, (7) the energy sector. Specific communication activities are proposed for each of these technical areas from among a wide wish list of possible activities that are more fully fleshed out in the appended sub-sector strategies.

5. To generate enthusiasm, ***"buzz and sizzle"*** for building climate resilience, a further thrust of the strategy is the promotion of climate messages using performing artists and social media as has already been successfully done in part through the Voices for Climate Change initiative.

6. A further dimension is the promotion of key accomplishments and milestones achieved for all of the SPCR components through ***public relations (PR)***. All of the SPCR components involve specific government interventions that will need to be highlighted as milestones are reached.

7. For sustainability, a further dimension is infusion of climate change awareness into the ***formal education*** sector to support long-term learning for the country's future leaders.

8. And lastly, the final dimension of the strategy is the sensitization of the ***mainstream media*** to support evidence-based journalism coverage of climate change issues and events.

6.3 Supportive Goals for the Specific Sub-Sectors

These above communication actions and sub-sector priorities in turn require their own SMART communication goals that will support the overall national communication goal as follows:

Communication Goal for the Water Sector
By 2017, there will be 10% improved efficiency and a 30% reduction in the use of water resources among residences, businesses, and the agricultural sector through the adoption of sustainable water technologies and sustainable use practices.

Communication Goal - Agriculture
By 2017, at least 50% of the small farm sector – especially small farmers – will understand that "climate smart" farming must be the new way of doing business and will be actively involved in making their production more climate resilient through specific adaptation and mitigation measures.

Communication Goal for Fisheries
By 2017, at least 30% of fishers in at least three of Jamaica's most vulnerable coastal zones areas will be actively engaged in sustainable climate resiliency practices that will also help them maintain a sustainable livelihood.

Communication Goal for Health
By the end of 2017, at least a 30% increase in the number of Jamaica's households (and especially those that are most vulnerable, such as FHHs) will be actively involved in taking concrete steps to protect their health from climate change related impacts.

Communication Goal for Tourism
By 2017, at least 30% of tourism operators will have Environmental Management and DRM plans which address CC issues in place and will be actively implementing at least two CC adaptation measures to make their properties more resilient.

Communication Goal – Built Environments Generally
By the end of 2017, there will be a 10% decrease of vulnerable households living in hazard prone areas and a 5% increase in the number of buildings that have implemented climate resilient (CR) technologies (especially those that are energy and water related) and a five per cent increase in the number of new buildings that are designed and built with CR considerations.

Communication Goal for Coastal Zone Communities
By 2017, stakeholders (fishers, tourism operators, private sector, and households) in at least three of Jamaica's most vulnerable coastal zones (Portmore, Negril and Old Harbour) will be actively engaged in sustainable practices that will help build the climate resiliency of their communities.

Communication Goal for Energy
By 2017, the will be at least a 25% increase in the number of Jamaican households that will have reduced their oil-based energy consumption by 25%.

Communication Goal for the Insurance and Financial Sector
By the end of 2017, there will be at least a 30% increase in the number of Jamaicans who will have some type of insurance product/policy to protect their property and business (including small farmers) and there will be at least 30% of the Jamaican public who know about the SPCR line of credit that will be made available and the trust fund that is to be created for community projects.

Goal for Community Resilience
By the end of 2017 there will be at least six "climate smart" communities in every parish that will have successfully developed a CC/DRM plan (including a livelihood assessment) and will have implemented at least four (4) CC/DRM strategies within the community.

Communication Goal for Improving Lay People's Understanding of Climate Science
By 2017, there will be a 20% increase in the use of relevant local climate data among planning agencies; a 50% reduction in damage caused to data collection gauges and equipment and a 30% increase in awareness and appreciation among the general public of the importance of data collection for Jamaica's climate resiliency effort.

Communication Goal for Building Enthusiasm through Performing Artists and Social Media
By the end of 2017, at least 20% of Jamaicans will attribute their inspiration to adopt at least one key climate behaviour change due to messages promoted by performing artists or through social media.

Communication Goal for Formal Education
By the end of 2017, at least 20% of Jamaica's teachers and 20% of students (at all levels) will be able to articulate what climate change is and why adaptation is important for climate resilience in their own lives.

Communication Goal for Enhancing Mainstream Media Coverage
By 2017, there will be a core cadre of journalists (at least 8), among all mainstream media genres, who are very well versed in climate issues and who have fully adopted an evidence-based approach to reporting climate issues in the news and who are highly pro-active in their coverage.

Diagram 6.1 illustrations how these communication trajectories or pillars work together to enhance awareness for climate resilience.

Diagram 6.1 Communication Actions Needed

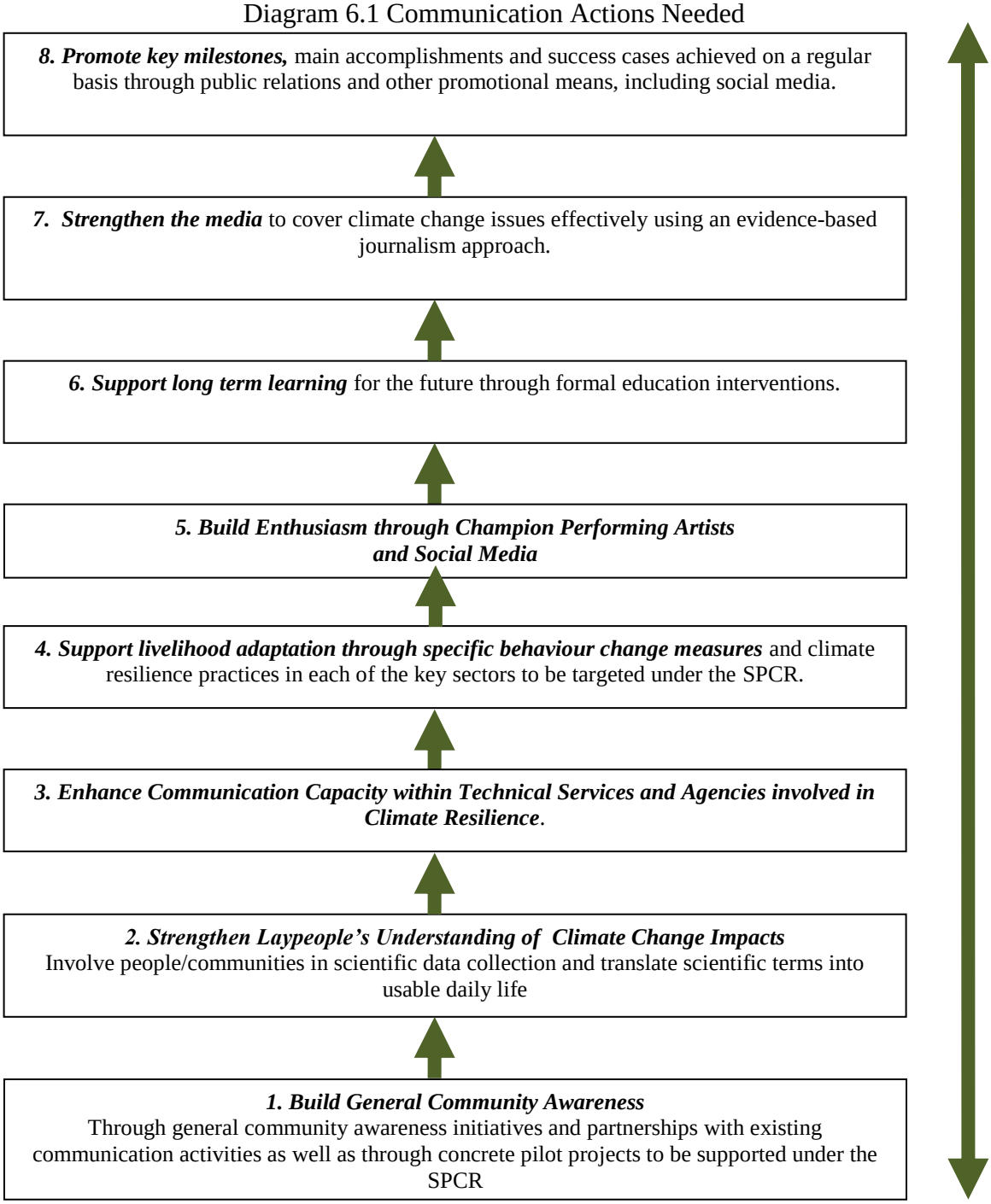


DIAGRAM 6.2
COMPONENTS OF THE NATIONAL COMMUNICATION STRATEGY

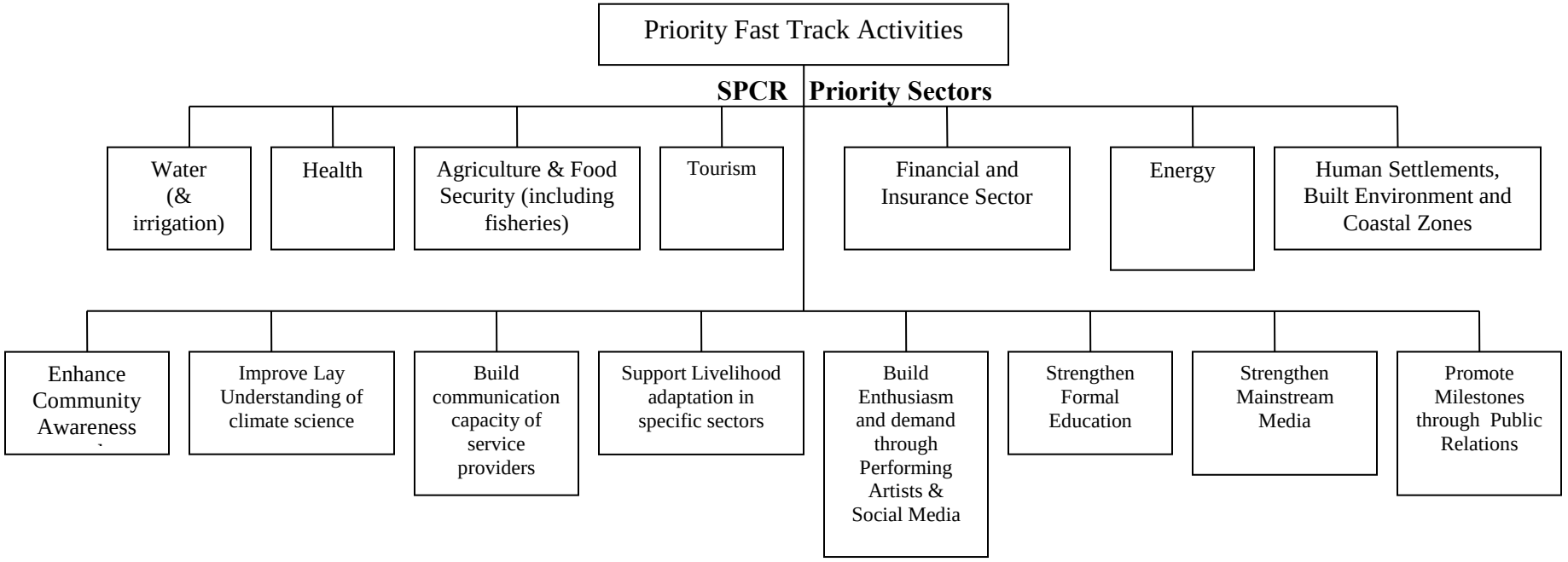


Diagram 6.2. illustrates how these various sectors and communication actions mutually support one another.

6.4 PRIORITY ACTIONS FOR THE SPCR

Participants voting on priority communication activities
National Consultation, April 3rd, 2012
Photo credit: d Shikara Lloyd

Central to the communication strategy and action plan for the SPCR are a set of priority fast track communication activities that were generated through extensive dialogue and with individual projects and agency representatives. While these are to be spearheaded by the SPCR, they should serve as umbrella or over-arching activities that will help to unify all of the country's communication for climate change efforts, not only those being tackled directly by the SPCR itself.

These "fast track" proposals were discussed with participants in the National Consultation on April 3rd. 2012. Participants were asked "to vote" on those that they felt were most important to be implemented in the first phase of the SPCR. Table 6.1 presents the activities in order of priority as selected by the participants.

Interestingly, the three most important priorities, as identified by the participants, were community oriented and focused on the need involve communities in data collection and to showcase the work that has already taken place under previous CC efforts.

Table 6.1 – List of "Fast Track" Priority Communication Activities

Activity	Priority	# of 1st Priority Votes Value 2	#of 2nd Priority Votes Value 1	Total Weight
1. Involve community members in collection of climate change scientific data	1	25	5	55
2. Public Relations to "big up" existing climate champions	2	22	2	46
3. Harmonize and enhance community tools that	3	18	2	38

already exist – don't re-invent				
4. Build communication capacity of technical staff within key sectors in Power Point, Public Speaking, News writing, etc.	4	15	6	36
5. Develop elevator pitch and other communication tools for all members of the public service and train them in communicating CC	5	10	9	29
6. Design Unifying Slogan or Tagline and Logo	5	14	1	29
7. Promote "climate-wise/climate smart" community competition linking with Best Community model	6	9	9	27
8. Repackage existing CC media/materials and widen distribution – "scale up"	7	7	11	25
9. Recommend that at least 2 communication staff members be hired to support the SPCR (1) PR; (2) behaviour change communication	8	3	14	20
10. Create Climate Change Communication Task Force	9	3	9	15
11. Foster CC champions in the mainstream media. Update MACC tool kit, train media and develop roster of CC experts	9	1	13	15
12. Develop 3D Visual Simulation tools for all sectors	10	1	12	14
13. Support messages from the private sector	11	3	6	12
14. Launch SPCR around a major milestone project activity	12		8	8
15. Promote champion "artists for climate change"	12	2	4	8
16. Regular PR highlights of government's climate change milestones	132		6	6
17. Include rolling indicator table on portal	14		2	2
18. Feed PR into RSS feeds	15		1	1

These priorities are incorporated into the eight communication actions that form the building blocks of the strategy overall.

6.5 COMMUNICATION ACTION ONE – BUILD COMMUNITY AWARENESS – FAST TRACK PRIORITIES

Additional communication activities to enhance community awareness are included in the appendix – not all of which can be undertaken by the SPCR. But the following activities listed here have been identified for special fast track implementation under the SPCR's specific purview.

6.5.1 Harmonize Community Tools

As was indicated in the needs assessment, there is already a wealth of climate change educational and communication material. At least two print based "community tool boxes" for climate change and DRM exist already. These are the community tool box prepared by Christian Aid and the Caribbean Natural Resources Institute (CANARI) and another earlier version prepared by the

Association of Development Agencies (ADA). ADA has also prepared a community energy tool box.

The IWCAM has also generated an excellent resource for communities through its "Community Based Resource Assessment (CBRA) Tool". This is a regional tool kit to which Jamaica's own pilot project has contributed and IWCAM may have resources for further up-scaling in its own Phase II.

The GEF Small Grants Programme for community adaptation has produced a video highlighting its accomplishments called "Project Tell It". ODPEM and JSIF also have a series of training modules and tools for communities.

For this reason, instead of recreating new print-based resources, efforts and resources should instead be put towards recreating the print-based tips and advice as audio-visual or radio clips that could serve as Public Service Announcements (PSAs). A series of stand-alone PSA modules based on the tips included in the existing print toolkits could be created to reinforce this content and to extend the information to wider audiences (and especially those with disabilities) via YouTube, DVD distribution and other on-line mechanisms. These would be generated as joint products with all of the various partners that currently have materials.

6.5.2 Repackage Existing CC media/materials and scale-up distribution

In addition to the community tool kits that already exist, there is also a great deal of other training material that may not be literally labelled as "climate focused" per se, but in one way or another when it is viewed through a climate lens, does in fact promote climate resilience.

For example, Jamaica has had over 60 years of land husbandry and watershed management projects. The Ridge to Reef Watershed (R2RW) project is one alone that produced a great many posters, jingles and booklets to promote enforcement of environmental laws – many of which are also relevant to Climate Resilience (CR) messages. Under the set of SPCR legislation activities, these materials could be revisited and are likely still relevant.

The regional IWCAM project has also produced excellent resources that should be considered for scaling up.

Likewise, the USAID PARE project produced a series of posters to reduce burning of garbage and bush fires. These too do not need duplication but could be reprinted and distributed more widely.

The Rural Agricultural Development Authority (RADA) has another whole set of materials related to agriculture and fisheries which could also be expanded to wider audiences as does the Public Education division within NEPA.

The preparation of this national communication strategy and action plan has revealed only a portion of what might exist and could be harnessed for climate resilience. A more extensive inventory needs to be conducted to fully account for what might be usable. The national consultation exercise clearly indicated that several other resources would likely also be extremely useful.

In short, these existing examples should be revisited and repackaged/distributed under a new slogan and logo. Stickers with the slogan and logo can be printed and used to re-brand the materials under the climate resilience brand (see activity 6.12.1 for more about this activity).

Reprinting of materials will also depend on whether or not original graphic art files still exist if new copies are to be printed. This may be the case for some, but not all.

Partners would also have to be invited to participate and would have to agree to the promotion of their products under the new climate resilience brand. Based on the response of participants in the national consultation however, a positive response should be eagerly anticipated.

6.5.3 Promote Climate Smart Community Competition

Using the slogan that is to be developed, it is also proposed that the SPCR partner with the highly successful BEST[22] (Better Environments for Social Transformation) Community Competition. This is an Annual National Competition and Programme aimed at the sustainable development of communities and Jamaica. It encourages community self- help activities in a variety of areas.

The main goals and objectives of the Competition and Programme are:

- To strengthen and improve local communities on a sustainable basis.
- To foster civic engagement, and self- reliance, increased partnerships, participation, service to communities and voluntary contributions.
- To improve the lives of people by providing meaningful opportunities to serve and meet their most pressing needs as part of a community.
- To instil a sense of pride, better values, attitudes and self- worth, to unite members in a common cause that would lead to the needed community actions, spiritual, educational, physical, social and economic development and pride in place and accomplishment.
- To strengthen the partnerships, the organizational networks and groups that can facilitate, coordinate and integrate sustainable community development.
- To link professional, technical, educational and religious persons and organizations and members of the business sector with communities to help with training, education, carrying out various activities and making available technical, financial and "in-kind" resources to them to achieve their goals.

It is clear that the goal of community climate resiliency is directly in keeping with the above goals and objectives of the BEST programme.

The BEST programme is open to all of the island's 783 Community Development Committees (CDCs)[23] as identified by the SDC. The CDC is the core governance unit that the GOJ is seeking to strengthen for community DRM and climate resilience, so it is a perfect fit to try and partner with this initiative to promote CR.

[22] http://jamaicachm.org.jm/PDF/March2008.pdf
[23] http://www.jis.govt.jm/news/108-youth-sport-culture/29568-deadline-for-best-community-competition-is-march-2012

At present, prizes are awarded for the Best Kept Community Facilities; Most Beautiful community; Most Improved Agricultural Practices; Best Community Spirit and Self-reliance; Youth Development; Best Kept Educational Institution; and the Best Cultural and Heritage Programme. However, new climate resilience indicators and adaption practices can also be created to brand "climate wise or climate resilient" communities as well.

This activity is one that could be put into play for 2013 even before the SPCR will even have results to showcase from its own community pilot activities.

6.6 COMMUNICATION ACTION TWO – STRENGTHENING LAY PERSONS' UNDERSTANDING OF CLIMATE CHANGE SCIENCE

Under the SPCR, considerable resources are being given to enhance the quality of scientific data collection for climate forecasting. In addition to the core activities that the SPCR will be implementing to support the scientific community, it is also important that the following communication actions are pursued.

6.6.1 Involve Community Members in Collection of Climate Change Scientific Data

The SPCR makes provisions for improving data collection as part of its strategic actions for data management. But there is need to involve community members in the data collection process as well. This activity will require input from all of the sectors, but is especially pertinent to the health, agriculture, forestry, water, fisheries and coastal zone sectors. Each of these sectors requires significant collection of quality data in order for Jamaica to make credible climate projections and forecasts for the future.

This recommendation stems from a four-fold recognized need that:

1. Scientific agencies cannot do all the data collection that is required. Community assistance will aid the quantity of data that can be collected and if proper training is undertaken & will also aid the quality of data obtained;
2. Being involved in data collection will also help to educate those who collect it. The collection process, in and of itself, can enhance awareness and community education as long as communities are educated about what indicators and criteria to look for;
3. Involving communities – and key target audiences – (fishers, farmers, etc.) will help to safe guard data collection equipment. For example, it was reported that rain gauges (to be implemented under the SPCR) are sometimes captured and sold for scrap metal. The placement of tidal gauges may also suffer from this practice. Educating and involving communities may help to safeguard these investments.
4. A common complaint during the needs assessment exercise was that "climate science" does not communicate in a way that common people can understand. Involving community people in data collection may help to partially bridge this communication gap as well.

6.6.2 Develop 3D Simulation tools for Critical Sectors

Mona Geo-Informatix and the Jamaica Social Investment Fund (JSIF) have created a 3D simulation tool to graphically illustrate and simulate the impact of a variety of disaster events. This current tool has limited variables and is geared primarily to illustrate impacts at the

household level, but similar parameters are needed to illustrate impacts for the tourism and agricultural sectors. The existing JSIF tool is quite basic and presently just offers and a "taste" (so to speak) of what is possible.

The strategy recognises that this is not an inexpensive activity and that the cost increases as the number of parameters increase. However, of all the communication activities that could alone be best used to visualize climate impacts, the 3D tool stands out. The individual interface that the tool offers is uniquely placed to literally" bring to life" the reality of climate change at the household level; at the farm level; at the business enterprise level; and at the tourism operator level – or any other sectoral level that is deemed critical to motivate in the short term.

3D Simulation tools, especially those that are appropriately calibrated to specific climate indicators at the local level, should go a long way in helping key audiences (farmers, vulnerable communities, tourism operators, etc.) in each of these sectors literally "see" what likely climate impacts will be for them personally.

6.6.3 Include "Rolling Indicator Table" on Climate Information Platform

The SPCR has already prioritised the need for a climate platform that will increase access to knowledge of CC risks and seek to provide readily available and accessible information about climate change data, knowledge and good practices. At present, such information is often either unavailable or exists in formats that are not readily understood or usable by the various end-users.

This problem is further exacerbated by the absence of a designated coordination mechanism for communication climate change information, and the dispersed manner in which information is now stored. The development of a risk information platform aims to address this problem.

The main objective of the platform will be to provide Jamaicans with access to a common medium for sharing information and learning in order to facilitate better adaptation to climate change risks. In addition to providing information about CC to the general public, the platform will also provide guidance to decision-makers and planners; and serve as a tool for awareness building and decision-making at the national, sectoral and local levels.

The SPCR indicates that the development of the platform will be based on intensive assessments of end-user needs and updated climate scenarios. The platform will allow users to access information/data related to:

- Climate scenarios - developed with SPCR support including changes in the climate parameters
- Climate model/outputs
- Historical climate observations – rainfall, temperature, sea-level rise
- Natural disaster data – frequency, magnitude, geographic location, impact (social, economic, environmental)
- Crop suitability projections
- Adaptation practices
- Level of awareness
- Climate change impacts, sectoral and spatial impacts - agriculture, water resources, coastal and marine ecosystem, etc.

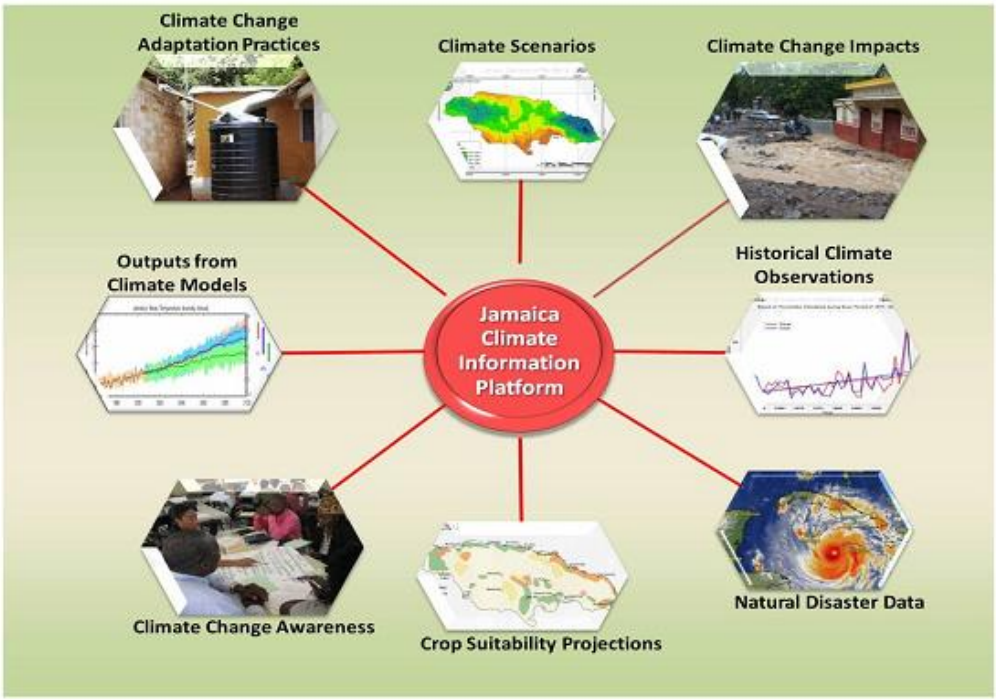


Figure 6.2 – SPCR Climate Platform Model

It is envisaged that the design of the portal will be based on the experiences gained by working with target communities in Investment 2 of the project. In particular, the assessment of the vulnerability of the agriculture, water and infrastructure sectors based on current and future scenarios will provide critical inputs based on a stakeholder engagement process. Importantly, the platform will build on and draw from existing climate and disaster-related data and information systems. To facilitate easy access to the information, it is planned to establish nodes with existing networks such as the post offices, public libraries, People's Co-operative Banks, ODPEM telecommunication network; the Public Broadcasting Services, mobile phone providers and the Jamaican Information Service.

However, as envisaged in the SPCR document (see Figure 6.2), the platform does not include any tools or mechanisms for monitoring and evaluation. This was identified as a critical oversight by several of the persons consulted during the needs assessment process for the strategy's creation. They suggested that a rolling index of targets would be a very important addition to the platform that would allow visitors to the site to see exactly how the country is doing as compared to the climate indicators that are to be set.

The addition of a rolling index to the platform would have the following advantages.

a) It would allow anyone in Jamaica (and elsewhere) to see – at a glance – how the country is doing (vis-à-vis criteria to be established) as it implements the SPCR and all other CC related projects.

b) The tool would also greatly enhance transparency with regards to monitoring and evaluation as implementation takes place. It would help to highlight where resiliency is being achieved comparatively easily and where the country faces challenges that need to be addressed.

c) Such a tool would also aid evidence-based journalistic reports of Jamaica's progress as it implements.

d) And lastly, a rolling index would also communicate results with the general public.

Table 6.2 – Sample Rolling Index
Climate Resilience Indicators – Progress Achieved

Indicator	Target for 2015	Status Achieved as of Today
Number of Community CC/DRM plans prepared	10 per parish	2
Number of Communities having achieved climate smart status	3 per parish	0
Number of homes with rain water harvesting	50 per parish	3
Number of household practicing vector control	30% of households	5
Number of wetlands replanted	20	0

A fully designed rolling index would have to be designed against successful models that might already exist, but at its very basic, it would be expected to include a variety of climate related targets that the country is trying to achieve and might look something like Table 6.2 above.

In addition to this very basic tabular format, several other audio/visual indices can be considered. The following website presents a few options for consideration.

http://www.webdesignerdepot.com/2009/06/50-great-examples-of-data-visualization/

Keeping the index current and updated will require the full participation of various sub-sectors as they implement their own activities. For this reason, measures to update and keep the index current are discussed within the monitoring and evaluation plan.

6.7 Communication Action Three – Build Communication Capacity within Key Sectors – Priority Actions

The needs assessment process clearly identified the need to build communication capacity and to structure mechanisms for monitoring communication activities as they are implemented under the national framework. These recommendations include: (1) building communication capacity within the technical agencies to spearhead climate resilience; (2) creating an elevator pitch and training technical staff to "speak climate change"; (3) making recommendations to hire specific communication professionals to support implementation of the strategy; and (4) creating a voluntary communication for climate change task force or advisory group that would give further assistance for implementation.

These recommendations from the needs assessment process were further endorsed as high priority activities at the national consultation and are now presented briefly.

6.7.1 Build Communication Capacity of Technical Staff

All agencies consulted indicated that their organisations were understaffed with regards to communication. Across the board, the tasks of preparing news releases, delivering power point presentations and using media to document field results too often fall to technical staff that has had little formal communication training. Few departments have the PR capacity that they desire.

Because of funding constraints within many agencies, it is not likely that new communication staff members will be hired, but technical staff felt that with some amount of professional training in communication they would be able undertake these tasks more efficiently. Training in PowerPoint presentations, public speaking, photography, news release writing, and dealing with the media effectively were mentioned as key training needs by most agencies. These could be offered to all agencies as short courses through an agency such as CARIMAC.

6.7.2 Sensitize & Equip Public Service and Technocrats to Speak "Climate Resilience"- Elevator Pitch Tools

The SPCR clearly recognizes the need to train public servants at all levels of government with regards to climate change. Much of this training will be specific to the respective technical areas of government for which they are responsible.

However, the needs assessment process indicated that there is an immediate need to provide government officers – and especially key technocrats – with clear and simple language that they can use to explain CC issues to their publics.

A relatively simple short set of definitions should be prepared for common use by all public sector workers along with a short "elevator pitch" that can be easily learned. An "elevator pitch" is marketing term that is used to describe an explanation or response that one can give in the time it would take an elevator to come from a top floor to the ground.

6.7.3 Designate at Least Two Communication Professionals to Assist the SPCR

There is need for a minimum of two people with two different types of communication expertise to assist the SPCR in executing the strategy.

One person should be a public relations (PR) specialist whose main responsibility would be to design and promote the PR component of the strategy and the key government messages that will be needed.

A further communication professional should also be hired in addition to the PR specialist. This person's expertise should be in Communication for Development (ComDev), Behaviour Change communication or in Social Marketing. This expertise is needed because several of the communication activities that are proposed in the strategy are will be instructional in design and are meant to promote behaviour change. This is a completely different type of communication from PR and in order to ensure that these components of the framework, and especially those under the SPCR, are implemented properly, the expert eye of a ComDev or behaviour change specialist is further needed – even if such activities are largely to be led by partner agencies.

6.7.4 Create Communication for Climate Change Task Force

Although a National Climate Change Thematic Working Group already advises the SPCR, there is need for an additional "communication for climate change advisory group." As the National Climate Change Thematic Working Group is currently constituted, it does not have sufficient communication expertise to thoroughly guide or comment on the communication components that are to be implemented. Communication experts should be drawn mainly from the technical partner agencies that are to implement the SPCR (if available) and from other key communication agencies that are not currently represented on the Thematic Working group.

Having a Communication for Climate Change task force would also help to stream line the scheduling of the different communication activities as they are implemented by the different partner agencies.

It is envisaged that representatives on the task force would serve as focal points from each sector and would also be able to contribute to monitoring of communication activities as they are implemented. Representatives could be identified from among some of the following agencies:

1. Office of Disaster Preparedness and Emergency Management (ODPEM_
2. Water Resources Authority (WRC)
3. National Irrigation Commission (NIC)
4. Forestry Department (FD)
5. Rural Agricultural Development Authority (RADA)
6. National Environmental Education Committee (NEEC)
7. CARIMAC
8. Panos
9. Association of Caribbean Media Workers (ACM)
10. Association of Development Agencies (ADA)
11. Creative Production and Training Centre (CPTC)
12. PACT
13. NEPA Pub Ed Department
14. Ministry of Tourism
15. Ministry of Health
16. The GEF Small Grant Programme
17. Jamaica Information Service (JIS)
18. Press Association of Jamaica (PAJ)
19. As well as communication persons from donor representatives

The following tasks are identified for the task force:

a) Meet voluntarily as needed (but at least quarterly) to review progress of communication activities being implement
b) Review communication progress reports and make recommendations if needed
c) Assist thematic working group review communication proposals and reports for transparency purposes
d) Make communication recommendations to the Ministry, CC Department and to PIOJ

A more fully developed set of TORs for the task force is included as Appendix G

Very important – given the importance given to communication by all accounts through the situational analysis and needs assessment process, communication capacity requirements need to be assessed at least annually. Agencies may mean well, and try their best, but targets and level of input may need to be revised and adjusted based on actual implementation. And/or changes in staffing, new training needs identified, and so on. In short, communication capacity needs to be monitored on an annual basis in conjunction with actual targets reached. These need to be milestones that receive due recognition in their own right.

6.8 COMMUNICATION ACTION FOUR – SUPPORT LIVELIHOOD ADAPTATION WITHIN KEY TECHNICAL SECTORS

The sub-sector strategies included in the appendices detail a complete set or wish list of communication actions that could be implemented to fully support behaviour change in all areas. These should be referenced for further information on related objectives and indicators. But from among this extensive menu, the following set has been selected as core activities to be supported under the SPCR's purview:

TABLE 6.3 SELECT SECTORAL BEHAVIOUR CHANGE COMMUNICATION ACTIVITIES

Water	Create new PSA and Print messages on water conservation and irrigation for farming sector
	Create new messages on creative and affordable financing options for investing in irrigation for farmers
	Create new messages on harmful practices that damage water resources
	Broadcast/air messages accordingly
Agriculture	Produce specific messages (PSAs for radio and TV) on the key risks and impact of CC on agricultural production as well as how agriculture itself can sometimes contribute to Climate Change
	Produce short five (5) minute video clips to promote awareness of specific improved practices for CC mitigation
	Produce an instructional video technology package on improved organic farming practices with discrete segments for each tip so that clips can be viewed individually, down loaded, and so on.
	Broadcast Air messages accordingly
	Promote messages on SPCR's work in pilot watersheds
Fisheries	Produce posters and brochures with adaptation messages for fishing communities
	Promote the ADRM planning process through use of an instructional video and community DRM Planning exercises
	Conduct community media dialogue (with both media and fishers) in key at risk fishing areas to identify actions needed to encourage DRM planning

Health	Creation of training Toolkit for health educators
	Training of community "eye reporters" especially in high risk communities to encourage reporting of health outbreaks and for early warning messages
	Create a CC health mascot that can promote vector messages
	Host Community training sessions in most vulnerable communities
	Print CC health info on consumer packaging for products made in Jamaica (such as Grace Kennedy, Best Foods, etc.)
Tourism	Develop PSAs to make the sector and the public aware of the importance of Environmental Management and DRM plans for the tourism sector
	Host tourism sector community meetings and radio or TV shows and invite tourism reps to respond to the public regarding CC issues
	Develop a 3D simulation tool for the sector that will illustrate CC impacts and also illustrate CC adaptation solutions
Human Settlements and Built Environments	Prepare short (30 min) video to explain to communities in simple terms why no settlement and no build zones are needed in some areas of the country
	Expand the Mona Geo-Informatix 3D simulation tool to illustrate why certain types of structures and geographical zones are subject to higher risk
	Prepare popular versions (PowerPoint) of a modernized building code that can be easily understood by private construction companies, project managers, developers, architects and by local government planning approval officers.
Energy	Create new messages on alternative energy sources and technologies
	Set up twitter account to tweet energy saving tips and create text message list serve as well for phone text messaging
	Replicate – extend the tool kit produced by PSOJ to all businesses
Insurance & Finance Sector	During the pre-hurricane season, promote PSAs to encourage insurance coverage and to inform people why their home/property/business needs to be insured and what the risks are
	Develop PSAs to promote the SPCR trust fund for climate change

6.9 COMMUNICATION ACTION FIVE – BUILD ENTHUSIASM THROUGH PARTNERSHIPS WITH "CHAMPION" ARTISTS AND SOCIAL MEDIA

Through the "Voices for Climate Change" project, a number of Jamaican performing artists have already helped to generate a great deal of buzz about climate change. The SPCR should take advantage of the traction that has already been achieved and should continue to support the "Voices" initiative. While several communication activities to be considered with performing artists are listed in the appendix, the following key initiatives should be directly supported by the SPCR. These are:

1. Linking with existing artist competitions such as "Digicel's Rising Stars show, the "All Together Sing" programme, "Dancing Dynamites" and with the Jamaica Cultural Development Commission (JCDC) Festival Competition to promote CC songs and messages
2. Identifying artists to serve as CC Ambassadors
3. Promotion of CC ambassadors via phone texting and twitter
4. Linking CC messages through artists' Facebook pages
5. Featuring artists on regular talk shows (TV and radio) explaining how they supporting climate resilience

6.10 COMMUNICATION ACTION SIX – SUPPORT FORMAL EDUCATION

Enhancing curricula and strengthening the formal education sector is critical, but is recognized as a longer-term activity and will require resources beyond what the SPCR can accommodate as is indicated by the detailed set of communication actions for formal education that is also included as an appendix. However, the SPCR is uniquely placed to initiate this process and should do so by

1. Partnering with existing teacher training curricula initiatives to infuse CC into teacher training programmes; and

2. Supporting the NEEC to re-examine environmental curricula through a climate "lens**" to** explore how CC can be infused into existing curricula for students.

6.11 COMMUNICATION ACTION SEVEN – STRENGTHEN THE MAINSTREAM MEDIA

Two sets of communication activities to strengthen the mainstream media's coverage of climate change have been pulled from a broader set of options for implementation by the SPCR. These include:

6.11.1 Updating MACC Media Tool Kit – Creation of a Jamaican Module

Promoting evidenced-based journalism is critical for proper reporting on climate change issues. Evidence based journalism demands that journalists:

- clearly understand the terminology of climate change;
- understand the facts of climate change (globally and as they pertain to Jamaica);
- utilise trusted sources of data and climate research; and
- have access to credible local and regional experts that they can quote to substantiate their reporting.

The MACC project created a media tool kit for journalists and also provided training at the regional level. However, the kit now needs to be updated as it does not address all of the above components, nor is it specific to the Jamaican situation. Furthermore, not enough Jamaica journalists benefitted from the regional training and there is need to deepen the training reach.

Given that the original MACC media tool kit was created by the 5Cs with the ACM and other partners, it is suggest that it be updated in partnership with these agencies. It is their publication.

For the SPCR it is instead suggested that the MACC tool kit be professionally reviewed and that an updated module for the Jamaican context be created. This module would provide the latest CC data and forecasts that can be reliably made. It should also include a summary of all the CC projects that have been (or are being) implemented since 2005 with a list or table of results or expected impacts

Very importantly, the Jamaican module should include a roster of local and regional CC experts that agree to be available to the media for comments and quotes.

A local contact list of persons working for climate resilience would also be very useful.

6.11.2 Creation of a Media Award to Promote Climate Media Champions

The sub-strategy for mainstream media in the framework also speaks to the creation of an award to encourage greater coverage of climate change issues by the mainstream media. This activity is broken down in detail under the sub-strategy for the media but was identified as an important activity to fast track under the SPCR. So, it is included in the detailed action plan presented here.

6.12 COMMUNICATION ACTION EIGHT – PUBLIC RELATIONS AND PROMOTION

Promotion of key milestones and establishing high visibility for the SPCR is a critical pillar of the strategy. The following communication activities are identified as priorities.

6.12.1 Design Unifying Slogan or Tagline

One of the most important first orders of business under the new strategy should be the creation of a unifying tagline or slogan and the creation of a logo that will 'brand' climate change in the minds of the public at large.

It is recognized that there already have been communication projects that have successfully branded slogans related to CC. The "Voices for Climate Change" education programme is one that has been identified as a main champion to be promoted under the SPCR. Likewise, the E.U. /GOJ CCADRR project has also pioneered a slogan for its activities and is unrolling its activities under the tag line "Time to Adapt".

While these efforts should be commended, it is important to recognize that they are project specific and with the end of the project, they will likely also expire. What Jamaica needs is a slogan that will not be specific to the SPCR alone, but which will rally all CC efforts towards the common end that the country is trying to achieve.

Table 6.4– Initial Slogan/Tagline Suggestions

Slogan/Tag Line	Sector Add On
Let's be climate wise!	Let's be climate "water" wise! Let's be climate "energy" wise! Etc.
Climate Smart!	Farming, water, tourism, business, etc.
Climate Wise!	Farming, water, tourism, business, etc.
Climate Strong	Farming, water, tourism, business, etc.
Climate Ready	Farming, water, tourism, business, etc.
Climate sense mek cents!	Climate sense mek "farming" (water, health, etc.) cents!
Climate Change – Ready Up Wi Selves!	i.e., mek wi climate ready wi water; farming; health, energy etc.
Mek wi climate wise wi selves!	i.e., mek wi climate ready wi water; farming; health, energy etc.
Mek wi climate strong wi self!	i.e., mek wi climate strong wi water; farming; health, energy etc.
Climate change! Wi mus ready!	
Wi likkle but wi climate tallawah!	Climate "tallawah" water! Climate "tallawah" farming!
Climate wise wi…..	Water, agriculture, insurance, health, tourism…..
Surprise! Be climate Wise!	
Stay steady and be climate ready!	

Jamaica needs a "climate brand" that all projects, people and climate change activities can easily resonate with and want to gravitate to. The slogan/tag line should be short and catchy and must be

easily applicable to climate change activities across the island. It should generate enough traction that all CC initiatives, not only those under the SPCR, will want to promote their activities under this banner even if they have their own project specific slogan messages that they wish to use to make their individual efforts stand out from the crowd so to speak.

Having a unifying slogan will also help to revive the solid results of past communication efforts (even some that are 10 years old or more) that produced good climate change adaptation/mitigation results, even though they may not have been framed in a climate change narrative. There are countless examples of such initiatives. Several past USAID projects such as Ridge to Reef Watershed (R2RW), Protected Areas and Rural Enterprises (PARE), Environmental Audits for Sustainable Tourism (EAST) and the Coastal Waters Improvement Project (CWIP) all produced materials that have significance for climate resilience. Likewise, other initiatives by the Canadian International Development Agency (CIDA) such as the Trees for Tomorrow project and the Environmental Action (ENACT) project as well as the EU/FAO Food Security Initiative are just a few projects which – if reviewed through a climate lens – have in one way or another contributed to climate resiliency through the practices and technologies they have promoted. Regionally, the IWCAM project also holds great potential for climate change.

The materials these initiatives produced should be revisited.

It is also important to point out that the slogan should express an aspiration that will exceed the life of the SPCR. In other words, it should be a climate change slogan for the country to live by well into the future. It should serve, in effect, as a banner that all projects and efforts will want to aspire to. It should be professionally designed and thoroughly pre-tested with several different audiences to make sure that it is commonly understood by all segments of the Jamaican population and can be used by all projects.

It was felt by several persons consulted that the tagline/slogan should be infused with a strong Jamaican cultural brand and its image. This is also in keeping with Vision 2030's intent to maximize and infuse the Jamaican image and brand into all goals and objectives.

Several suggested taglines have emerged upon review of the needs assessment, through individual consultations and through break out group work at the national consultation. Table 6.4 above lists the suggestions compiled to date. Clearly this initial brainstorming has revealed several basic ideas but it is strongly recommended that the final slogan should be created by a marketing professional that specialises in branding.

6.12.2 Graphic Logo (and promotional items)

Once the slogan has been pretested and finalized, the next step is to visualize the slogan through the creation of a logo and/or visual brand that is as equally culturally relevant and promotional.

This is important for several reasons. Jamaicans need a simple, highly visual brand that will be quickly recognizable and immediately brings the slogan/tagline to mind – without the aid of literacy. An "image" is needed that can be identified by all Jamaicans, of any background (class, age, economic sector, educational level, etc.) that will clearly correspond to the slogan and inspire people to want to become climate resilient.

Creation of a visual logo will also allow the creation of simple stickers that can be applied to all existing materials that the SPCR hopes to scale up. In other words, rather than redesign existing

materials (posters from past projects and the like), they can be "re-launched so to speak" simply by adhering a sticker with the new CC logo and slogan. In this way, the SPCR will not only be able to successfully promote its own activities, but will also provide a mechanism for showcasing, profiling, and capitalising on all other positive contributing efforts – past and present – that lead to climate resilience. Once again, a marketing/graphic artist professional needs to be contracted for this singular activity. With the logo brand designed, promotional items can also be produced to promote CC awareness. Some of the more appropriate types of promotional items to consider include sports/water drinking bottles, bottle coolers, and eco-friendly tote shopping bags.

6.12.3 Launch of the SPCR

The next priority activity for the SPCR should be the hosting of a high profile formal launch, with the Minister, along the lines of what was undertaken for the CCADRR project. However, this should be coordinated with the announcement of at least one milestone SPCR activity. Such an activity might be the legislative policy review results or another key accomplishment about which the public should be informed.

6.12.4 Public Relations Promotion to "Big Up" Existing Climate Champions

Because of all the various good examples of projects and pilots that have already been started or which are already on-going, there is no shortage of experiences to profile even before the SPCR gets into full swing itself. There are several climate champion projects and organisations that can already be showcased and which should be show-cased on a regular basis, and certainly within the first year of the SPCR before it yields its own accomplishments that it can profile.

This exercise would greatly help to extend enthusiasm among several partners even if they are not going to directly benefit from financing under the SPCR.

Once a logo and slogan are developed, a series of climate champions should be promoted in the media. These should be along different themes – perhaps one theme per month – or around specific environmental calendar dates (see Table 6.5).

For Example – for the Month of March, Climate Wise Water Champions could be featured if the slogan were to be developed along these lines:

Our Climate Wise Water Champion of the Month – The Water Education for Teachers (WET) programme….

The same thing could be done for:

- Climate Wise Energy Champions
- Climate Wise Business Champions
- Climate Wise Farming Champion
- And so forth.

For each month, a press release about the project/champion's activities and contribution to climate resilience should be promoted and a short 30 second radio Public Service Announcement (PSA) should be produced and broadcast in partnership possibly with the Jamaica Information Service (JIS), the Jamaican Public Broadcasting Corporation (JPBC); and with the Private sector

support. Private sector support for these messages should also be sought to round out the financial cost of production and broadcast.

6.12.5 Regular Public Relations to Promote Government's CC Milestones

In addition to the climate champions that will be highlighted, it is of course also essential to promote key milestones that the SPCR achieves as it is implemented. One of the key gaps that was reported during preparation of the Voice's log-frame exercise was that the public had low levels of awareness about what the Government of Jamaica (GOJ) was in fact doing about climate change.

TABLE 6.5 – ENVIRONMENTAL CALENDAR DATES
http://www.nepa.govt..jm/events/2012_ENVIRONMENT_PLANNING_CALENDAR.pdf2012

International Decade for Action: Water for Life 2005 – 2015	
Event	**Calendar Day** *** are fixed annual dates**
a) Earthquake Awareness Week	January 8-14 (subject to confirmation)
b) World Wetlands Day	February 2*
c) World Forest Day	March 21st*
d) World Water Day	March 22*
e) World Meteorological Day	March 23*
f) Caribbean Spiny Lobster Closed Season	April 1 to June 30
g) World Health Day	April 7*
h) Earth Day	April 22*
i) International Compost Awareness Week	2nd week of May
j) International Day for Biological Diversity	May 22*
k) Disaster Preparedness Month	June 1-30
l) Atlantic/Caribbean Hurricane Season	June 1-November 30
m) National Environmental Awareness Week	June 3-9
n) World Environment Day	June 5*
o) World Oceans Day	June 8*
p) World Day to Combat Desertification & Drought	June 17
q) Hurricane Season	June to November 30*
r) World Population Day	July 11*
s) International Ozone Day	September 16*
t) International Coastal Clean-up Day	3rd Saturday in September
u) Maritime Week	September 25-30
v) World Tourism Day	September 27*
w) World Habitat Day	1st Monday in October
x) National Tree Planting Day	October 5
y) National Wood & Water Day	October 6
z) International Day for Natural Disaster Reduction	2nd Wednesday of October
aa) World Food Day	October 16
bb) Fire Safety Awareness Week	October 22-27
cc) Earth Science Week	3rd week of October
dd) Science and Technology Month	November 1-30
ee) GIS Day	3rd week of November
ff) World Town Planning Day	November 8
gg) International Mountain Day	December 11

The SPCR will have a tremendous number of key activities and contributions that it must let the Jamaican public know about. While there will be several SPCR activities for each of the main pilot sectors (health, tourism, water, science and data management, agriculture and food security), there are also other cross-cutting activities which will deserve special attention and promotion. These include:

a) the creation of the climate change platform – when it is ready to be launched;
b) the creation of the climate fund; and
c) key outputs from the legislative review..

Each of these activities will demand their own unique promotion process and audiences. The discrete suggestion set of communication activities proposed for each are indicated in the PR implementation plan and distribution plan which follows this section.

It is also strongly noted and suggested that all PR done for the SPCR should be done in close collaboration with the EU-CCADRR project and its PR plan in its first year of implementation.

6.12.6 Regional Reporting of Accomplishments

Under the SPCR, PR efforts should also link to regional media and directly to the 5Cs so that Jamaica's successes can be show-cased in regional media as well. News releases should be sent to representatives of the Association of Caribbean Media Workers (ACM) for example, who – if invited to subscribe to the platform's RSS feeds – will also be automatically updated whenever new content is generated.

Links to the 5C website should also be created on the SPCR platform, but the 5Cs should also be encouraged to publish whatever news releases are generated through the project's efforts.

6.12.7 Feed PR into RSS Feed Link on Web-site

Another key component of the PR strategy for the SPCR is to ensure that all news releases are also linked to RSS Feeds. This should be a fairly obvious recommendation, but bears reinforcing so that a RSS link is built directly into the SPCR climate change platform and to ensure that all news releases are also posted on the portal.

The term "RSS" stands for "Really Simply Syndication[24]", or is sometimes referred to as Rich Site Summary. It's an XML-based content format for distributing news, headlines, content, and so forth, to a wider group of consumers. Most popular news sites and blogs provide RSS feeds for viewers to subscribe to.

Interested persons can then subscribe to them. By so doing, they will get automatic updates whenever anything on the site is changed. .

Instead of relying on viewers to bookmark the site and return at a later date, their RSS reader keeps your site fresh in their minds.

By inviting the media to subscribe to the sites RSS feed as well, they too will also be informed whenever there is new content on the site and when news releases are posted.

6.13 SUPPORT CLIMATE MESSAGES FROM THE PRIVATE SECTOR

A further fast track activity that was identified through the national consultation for consideration by the SPCR is designed to encourage greater involvement of the private sector. Segments of the private sector are engaged in promoting climate resiliency among its members. To date, many of these initiatives are focused on energy efficiency, rather than other CR practices that the SPCR would like to promote.

[24] *Meerman Scott, David. 2010. The New Rules of Marketing and PR. John Wiley & Sons, Inc.*

However, the sector is a critical partner and when key efforts are made they should also be promoted as climate champions. The Private Sector Organisation of Jamaica (PSOJ) for instance has developed an energy efficiency tool kit and has supported at least two training programmes for its members. They would like to do more. One key idea is to use the tool kit to create instructional video clips that could be made available on the PSOJ website. An on-line course would be much easier for most members to take advantage of.

In addition to this particular intensive kit, however, the PSOJ is also a critical channel for promoting CR messages among its constituents and a close partnership will need to be fostered to reach this body. This will be especially important when the fund becomes available as it is hoped that the private sector will take advantage of these resources to foster their own resiliency.

In the meantime though, there are also private sector entities in the water and alternative energy sector who already play a keen role in public awareness. The last Green Expo which focused on climate change, for example, featured several independent providers who were actively involved in education – not only in marketing their technologies and services.

Many of these would no doubt also be keen to promote their work and their own messages under the CR slogan and brand that will be developed for the climate change communication framework.

6.14 Users' Guide to the Rest of the National Strategy and Action Plan

The rest of the strategy document is organised as follows:

Chapter Seven lists the priority activities, key partners, indicators and a preliminary budget for the core activities to be implemented under the SPCR.

Chapter Eight provides a more detailed work plan schedule for implementation and reviews management and distribution considerations.

Chapter Nine briefly provides suggestions for monitoring and evaluation.

With these components included, the national communication strategy and action plan is complete.

Following the strategy and action plan itself, the appendices then present more detailed specific sub-sector strategies with additional activities to support the key pillars of community awareness, building enthusiasm with performing artists, enhancing formal education and strengthening mainstream media.

These more detailed strategies have been generated in light of the fact that if climate resilience is to be achieved, it must be driven by stakeholders in each of the sectors to be affected. However, most of the agencies and potential partner organisations consulted clearly indicated that they largely do not create strategic communication plans of their own. As such, the sub- strategies provided are offered as jumping off points that partner agencies can use to structure their own climate change communication activities. They are not cast in stone but should be used as iterative and flexible tools for further planning depending on what partners want to do and how they wish to collaborate further. Implementation of additional communication activities will also depend on the availability of additional resources – outside of the SPCR.

All of the subsequent strategies likewise reiterate specific overall goals, communication objectives and impact indicators that are directly relevant for their respective technical foci.

It is important to note that in some cases the delineation among the above sectors is somewhat artificial. For example, the agricultural sector is one of the largest consumers of water. However, communication activities related to irrigation are not addressed directly in the agricultural sector strategy but are instead addressed under the water strategy. Similar over-lapping occurs with activities identified for the fisheries sector and coastal areas, among others.

For this reason, rather than duplicating key components, where necessary, reference is instead made to the relevant sub-sector strategies where the corresponding activities are included. Where possible, cross-references are flagged and users are asked to refer to these complementary sections.

For the most part, for each sector, a similar template is followed. In each case, the following components are included:

1. Identification of an Overall SMART Communication Strategy Goal(s) for each sector
2. Articulation of SMART Communication Objectives/Outcome Indicators to Support the Overall Goal(s)
3. Messages needed to address Key Gaps in "Knowledge, Attitudes and Practices" (Gaps in KAPs) and to support Key SPCR interventions
4. Opportunities for Synergies with Complementary Projects
5. Description of Key Actors, Partners and Stakeholders

   Primary audiences
   - Such as Vulnerable Groups – At Risk Households, at risk youth, aged, disabled groups and people with special needs

   Secondary Audiences (partner agencies and entities that need to be involved to reach primary audiences (gate keepers) such as public service agencies, civil society groups (non-governmental organisations, community based organisations, faith based organisations, service clubs, etc.) as well the private sector
6. Identification of Key Communication Activities to Support each objective with potential partners
7. Potential implementing partners and partner projects, and
8. The ideal time frame for implementation.

CHAPTER SEVEN– ACTION PLAN AND PRELIMINARY BUDGET

Till now, the document has focussed on assessing the communication needs associated with climate change and has generated a plethora of possible messages and communication activities that can support climate resilience. Generation of this extensive "wish list" is all fine and well, but hard decision making is involved when budget realities must be faced and roles and responsibilities for implementation determined.

This is the purpose of this chapter. In this section, the key communication activities proposed for the SPCR are re-listed together with the key agencies and partners that should be involved in implementation. The chapter estimates the rough costs that will be involved to execute all of the SPCR activities proposed thus far and suggests which key partner agencies and projects should be involved in implementation.

The chapter begins with a general budgetary discussion and then presents a log frame that delineates the cost estimates and rough timeline to be associated with each of the priority activities.

7.1 Budget Discussion

The SPCR makes budgetary provision for $US600,000 for communication and public awareness from the IDB and World Bank, with an additional $700,000 from the Government of Jamaica – for a total of $US 1,300,000.00 to be employed over the lifespan of the SPCR. While these are substantial resources, they will not be sufficient to cover all of the activities that are listed throughout under all the sub-sectoral strategies that are included as appendices, nor are they quite sufficient to cover the entire core activities recommended for implementation under the SPCR.

In total, for the core activities listed here, the cost estimates come to approximately $US 1,483,000.00 if the salaries of the two recommended communication specialists are to be included under SPCR resources. If however, their salaries can be covered through separate sources of funding, the overall budget then amounts to $1,183,000.00 – well within the scope of SPCR resources. Likewise, if resources for summative evaluation are covered under the general auspices of the SPCR, then these costs can be kept within the resources allocated for communication under the SPCR.

For this reason, the budget provided here is suggested as preliminary. The SPCR may wish to cherry pick which exact activities it deems are most important and adjust the budget accordingly.

To assist in determining the cost of additional communication activities for each sector, a general costing sheet is provided as Appendix H. These estimates are based on quotes that were requested from a minimum of 20 different communication service providers.

These estimates provide general information for PSA (radio and TV) production, print production, closed captioning expenses, website production and most other costs that would likely be associated with their implementation.

The chapter now presents the general action plan and budget estimates for the core SPCR activities that are most strongly recommended. Chapter Eight provides a more detailed management and implementation plan with specific scheduling timelines.

7.2 Action Plan for Priority Activities and Preliminary Budget					
Overall Goal: *By the end of 2017, there will be at least a 30% increase in awareness of what climate change is and how it will impact most Jamaicans, but there will also be at least a 20% increase in the adoption of specific CC adaptation practices; and a 20% improvement in climate resilience within the agriculture/fisheries/forestry sector; the health sector; tourism; water; and among communities living in coastal zones and at risk areas*					
Communication Actions	**Measurable Indicators**		***Partners & co-projects***	***Time Line to Begin***	***Budget Estimate***
	Output Indicators	***Process Indicators***			
Action 1: Enhance Community Awareness for Climate Resilience					
Harmonize Community Tool Boxes	Video and radio clips to extend print based messages in existing kits	Consultant hired to review existing tool boxes with various partners Additional media outputs developed (radio and TV) Closed captioning included on video messages Kits are repackaged Materials are reprinted if necessary Kits are distributed to communities Kits are used	ADA GEF-SGP CWG- UWI ODPEM IWCAM	First six months	$30,000 inclusive of video clips and closed captioning
Repackage existing CC materials and scale up	Inventory Repackaged kits	Consultant hired to conduct inventory Materials are selected and approved Permission is given for re-packaging/printing Materials are printed if necessary Demand for kits is high from community groups	ADA GEF-SGP CWG- UWI ODPEM NEPA SDC ODPEM IWCAM	1st six months	$25,000
Promote climate smart community competition	Annual competition is held	Criteria are determined for communities to implement Climate Wise category is developed Competition is launched Judges are identified Quality of entrants received Prizes are obtained Private sector provides support	NEPA, SDC, ODPEM, Met Office GEF-SPG Private sector services in the water and energy sector	All five years	$4000 annually for prizes $4000 X 5+ $20000
Action 2: Enhance Layperson's Understanding of Climate Science					
Involve communities in data collection	Communities trained in generating data	Indicators are determined Collection tools are designed Community members are trained Quality of data is acceptable	CGWG, various SPCR partners, MET office	4th quarter	$40,000

Develop 3D simulation tools for critical sectors	3D simulation tools	Additional parameters and indicators are identified by partners for inclusion on the tool(s) Geoinformatix is hired Proto-types are developed and tested Proto-types are launched Proto-types are used	JSIF, Mona GeoInformatix, MAFF, Ministry of Tourism Insurance sector	3rd quarter	$100,000 (note: additional funding support will be needed outside of the SPCR)
Include Rolling Indicator Table on Climate Platform	Index included on Website	Webmaster designs index for portal CC department inputs data as received and updates index Implementing partners provide regular data for updates Number of hits on the index	Portal/platform webmaster	Done with portal creation – single effort	$1000
Action 3: Enhance Communication Capacity of Technical Services					
Build Communication Capacity of Technical Government Staff	Number of training courses held Number of training reports completed Number of public service staff trained	Short courses in different communication skills are created for public sector employees Courses are offered Level of participation	CARIMAC Panos	Years 1-2	$40,000 for design of courses and for trainee participation
Recommend Staffing for communication specialists	2 staff are hired (PR & ComDev)	TORS are confirmed Adverts are placed to hire Number of qualified applications received Personnel are hired Staff do their jobs as intended	MLWECC CCC Task Force Met office PIOJ	1st quarter	$30000 annually X2 times 5 years: $300000
Develop Elevator Pitch Tools	Elevator pitch prepared Reports of sessions for practicing the pitch	Drafts of possible pitch are prepared and tested Training is held to introduce it Number of PS staff trained Feedback from staff when using the pitch	MLWECC Climate Department CCC Task Force Met office PIOJ	1st- 2nd quarter	Part of the job of the Communication staff to be hired
Create Communication for Climate Change Task Force	Task force creation Task force reports of meetings	Number volunteer reps who agree to serve; Number of meetings held Number of inputs task force provides to the thematic working group Quality of inputs received	Various sectoral representatives plus possibly CARIMAC, Panos, JIS, etc. CC Department	Within the first six months and operating throughout implementation	Should be no cost for this

Action 4 – Support Behaviour Change in Specific Sectors					
Water Sector					
Create new PSA and Print messages on water conservation and irrigation for farming sector and for water harvesting	# of radio/TV PSAs and messages produced on water conservation and the importance of efficient irrigation	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;	NIC JAS IICA MoAF Commodity boards Greenhouse Association IWCAM	# of radio/TV PSAs and messages produced on water conservation and the importance of efficient irrigation	$30,000.00
Create new messages on creative and affordable financing options for investing in irrigation for farmers	# of radio/TV PSAs and messages produced for creative financing arrangements	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;	PSOJ MoAF	# of radio/TV PSAs and messages produced for creative financing arrangements	$30,000.00
Create new messages on harmful practices that damage water resources	# of radio/TV PSAs and messages produced on water conservation	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;	NEPA NWC NIC WRA Rural Water Supply Limited RADA MoWH Police	Year 1	$30,000.00
Agriculture					
Produce specific messages (PSAs for radio and TV) on the key risks and impact of CC on agricultural production as well as how agriculture itself can sometimes contribute to Climate Change	Number of PSAs produced for specific key messages to support the main goals and gaps in awareness	PSAs aired Responses to the PSAs Requests for more information	MoA JOAM CARDI IICA RADA FAO 4H CARIMAC Panos SRC All relevant agencies	1	$30,000
Produce short five (5) minute video clips to promote awareness of specific improved practices for CC mitigation	Script produced; Video segments produced	# of people engaged in the production process; Draft script produced; Script pretested Rough footage recorded; Pretesting completed Video clips launched Video actively being used with farming communities Videos posted on YouTube		1-2	$40,000
Produce an instructional on improved organic farming practices with discrete segments for each tip so that clips can be viewed individually and down loaded.	Script produced; Video segments produced	# of people engaged in the production process; Draft script produced; Script pretested	As above, but also with JOAM	2	$40,000

		Rough footage recorded; Pretesting completed Video clips launched Video actively being used with farming communities Videos posted on YouTube			
Promote messages on SPCR's work in pilot watersheds	PR messages – news releases produced	# published/aired	JIS CPTC Radio and TV statins	3-5	To be done by communication specialists to be hired
Develop a 3D simulation tool that will visually illustrate climate change impacts on farm under different crop production scenarios	Tool produced	Number of times tool used with farmer groups Extension officers trained in tool	MoA Mona Geo informatix UWI	2-3	$100,000 (more funding needed outside of SPCR
Fisheries					
Produce posters and brochures with adaptation messages for fishing communities	# of brochures produced; # of posters produced	Materials produced on time and within budget; Materials pretested; Materials distributed appropriately	MAFF ENGOs ODPEM CCA NEPA Pub Ed UNEP	2-3	$20,000
Promote the ADRM planning process in fishing communities through use of an instructional video and community DRM Planning exercises	Video produced Training sessions planned and held Training Reports Completed ADRM community plans	ADRM plans are developed using participatory methods and used at the community, parish and national level	FAO MoAF SDC ODPEM CCAM Fisheries officers	Years 2-5	$40,000
Conduct community media dialogue (with both media and fishers) in key at risk fishing areas to identify actions needed to encourage DRM planning	#of meetings held #of stories published # of actions identified for follow-up implementation	Quality and level of participation from both fishers and media reps			$20,000
Health					
Creation of training Toolkit for health educators	Tool kit developed	Consultant is hired to prepare the tool kit Cooperation is received by the consultant	MofH Paho CEHI	Year 1	$10,000
Training of community "eye reporters" especially in high risk communities to encourage reporting of health outbreaks	Number of training sessions held Number of community eye reporters trained	Number of eye reports of outbreaks and stories generated on community health issues	Panos CARIMAC Mainstream Media	Year 2 and 3	$10,000
Create a CC health mascot that can promote vector messages	Mascot created and promoted	Number of community visits made by mascot	Panos MoH NEEC Paho	Year 2	$5000

Host Community training sessions in most vulnerable communities	Training reports Contact numbers promoted or Hot line and web link established	Number of participants in training, actions taken post-training period # of hits on site #of hot line calls	MoH Panos/Voices	Year 1 & 2	$10,000
Print CC health info on consumer packaging for products made in Jamaica (such as Grace Kennedy, Best Foods, etc.)	# of labels that include CC health related information and warnings	Number of Jamaican companies that come on board and promote messages.	PSOJ Specific companies MOH	Year 2	$20,000
Tourism					
Develop PSAs to make the sector and public more aware of the importance of environmental management and DRM plans	Number of PSAs produced with specific tips for private sector businesses PSAs posted on JTB and JHTA website and on YouTube	Number of downloads of materials from website Calls and requests for more information			$30,000
Host tourism sector meetings/press briefings and invite sector reps to respond to questions from the public	Number of shows done	Number of sectoral participants Number and quality of questions	MoT TB ODPEM CDEMA NEPA PSOJ TPDCO Panos-Voices CARIMAC	1-3	$20,000
Develop 3D simulation tool to illustrate CC and DRM impacts on the sector	Tool produced	Tool used in individual tourism properties Number of tools distributed	Mona Geoinformatix MoT TB ODPEM CDEMA NEPA PSOJ TPDCO	1 to 5	$100,000 (with Additional funding to be sourced externally)
Human Settlements and Built Environments					
Prepare short (30 min) video to explain to communities in simple terms why no settlement and no build zones are needed in some areas of the country	30 minute video produced	Video producer contracted Script developed; video is widely used and distributed	NEPA SDC GEF Small Grant Fund	1	$20,000
Expand the Mona Geo-Informatix 3D simulation tool to illustrate why certain types of structures and geographical zones are subject to higher risk	3D simulation tool produced	Mona Geoinformatix contracted; Simulator pretested Tool used	Mona Geoinformatix JSIF	2	Already identified above

Prepare popular versions (PowerPoint/brochure) of a modernized building code that can be easily understood by private construction companies, project managers, developers, architects and by local government planning approval officers..	2000 copies of 30 page popular version printed	Consultant hired to prepare booklet Booklet produced on time and within budget Booklet distributed through appropriate channels Number of requests for document	UTECH MBA NEPA Ministry of Local Government	3	$10,000
Energy					
Create new messages on alternative energy sources and technologies	# of radio/TV PSAs and messages produced on energy saving	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;	SEAJ MoME JPSco ADA ODPEM PCJ MoTransport CURE NHT JNBS PSOJ UTECH CARIMAC social media programme	1	$30,000
Set up twitter account to tweet energy saving tips and create text message list serve as well for phone text messaging	#of twitter messages sent #of persons on list serve	#of followers	As above and also with CARIMAC social media programme Digicel and/or LIME	1	$300 Communication Staff to manage and update regularly
Replicate – extend the tool kit produced by PSOJ to all businesses	Number of tool kits produced	Number of kits distributed to the sector	PSOJ Chambers of Commerce	2	$50,000
Insurance and Financial Sector					
During the pre-hurricane season, promote PSAs to encourage insurance coverage and to inform people why their home/property/business needs to be insured and what the risks are	PSA campaign	Campaign designed and produced in written form	Jamaican Insurance Sector CCRIF Master Builders IAJ DBJ PCB PSOJ MiCRO	2-3	$20,000 annually for a total of $80,000
Develop PSAs to promote the trust fund for climate change	Develop specific PSAs for the campaign	TV public service announcements	4 TV PSAs produced	2	$20,000 per year over 3 years for a total of $60,000

Include private sector entities in climate champion PR campaign above	Number of private sector "champions" that are profiled	PSOJ Various trade organisations	All five years	With above CC Champion PR program	No charge. News releases to be produced by communication staff
Action 5: Create Buzz and Enthusiasm with Performing Artists and Social Media					
Link with existing artist competitions such as "Digicel's Rising Stars show, the "All Together Sing" programme, "Dancing Dynamites" and with the Jamaica Cultural Development Commission (JCDC) Festival Competition to promote CC songs and messages	Number of artists that enter and are showcased through these events	Number of shows that get on board to promote CC messages Content analysis and quality of routines generated Number of viewers/listeners reached	Panos NEEC Met Office JCDC	1-5	$50,000 over 4 years
Identify a couple of artists to serve as CC Ambassadors	At least 2 artists contracted to serve as CC ambassadors # of outputs produced/held with ambassador endorsement	Artists are willing and eager to participate	Panos-NEEC JFM JAVAA EMSPVA PSCPA-UWI LT Met Office MLWECC	2-5	Should be no charge for this
Promote CC ambassador messages via phone messages, texts or tweets	Cell phone server supports list serve; Number of persons on the list; Regular/timely messages sent	List serve established Artists "tweet" about Climate Change with their fans	As above but also with Digicel and Lime	2-5	$1000
Individual artists to promote CC messages on their own Facebook pages or websites	Number of CC messages actually promoted by individual artists	Number of artists that promote CC messages on their own Number of hits on these individual pages		2-5	No charge
Feature artists on regular talk shows (TV and video) explaining how they are engaging with CC	Number of talk shows that uptake the opportunity to feature the artists on their programs	Quality of CC sharing done by the artists on the shows; Number of calls into the shows	Panos NEEC Met Office TVJ JIS Other stations	2-5	No charge
Action 6: Strengthen Formal Education					
Partner with existing teacher training curriculum initiatives and training centres to infuse CC into teacher training programmes and develop materials to support same.	Teacher training curriculum is reviewed and revised Number of programmes with CC infusion	Number of partners engaged in the process; Number of different teacher curricula enhanced Number of teacher trainees who go through the new curricula	WET NEEC UNESCO UWI JTBE Min of Edu Teachers Colleges	1	$30,000
Re-examine the NEEC environmental curriculum with a "CC lens" and explore ways in which CC messages can be infused into existing curricula	Suggestions organized for how CC can be incorporated into existing curriculum	Curriculum reviewed by NEEC Additional teaching notes prepared or tool kit developed, if needed		1-3	$50,000 for consultant and production/printing costs

	Consultant hired to revise Teacher's CC Toolkit produced that is linked to curriculum Toolkit/additional teaching notes prepared Minutes of workshop sessions to introduce teachers to the CC tool kit	Workshops/training sessions held with teachers Teachers incorporating CC materials into their weekly teaching plans			
Action 7: Strengthen Mainstream Media					
Update/Jamaicanize MACC Media Tool Kit	Revised tool kit/Jamaican module produced	Consultant hired to revise/produce Jamaican kit Tool drafted Tool pretested/reviewed by appropriate committee Roster of experts agrees to be involved Tool is finalised and printed Tool is distributed Tool is uploaded to various sites	Press Association of Jamaica CARIMAC ACM Panos Caribbean All media houses Experts for Roster	1st year	$5000 for consultant $300 printing costs
Create Media Award	Number of awardees	Award is designed and launched Number of media professionals nominated Level of participation Coverage received	Press Association of Jamaica CARIMAC ACM Panos Caribbean All media houses	Annual event	$4000 annually for prizes $4000 X 5+ $20000
Action 8 – PR Promotion					
Design a Slogan/tag line	Slogan designed	Consultant is hired Drafts are submitted Drafts are pretested Final slogan approved	Hired communication PR person	1st quarter	$5000
Design Graphic Logo	Graphic logo Promotional items			1st quarter	$5000 for logo design $6000 for promotional items
Launch SPCR programme	Press kit/news releases Launch report	Launch is organised Invitations are sent High participation is achieved Wide coverage is received		June 2012	$5000
PR to Promote Climate Champions	News releases	Climate champions identified monthly News releases prepared Wide coverage received		Monthly	Part of PR staff duties

PR to Promote GOJ Milestones	News releases	Govt. milestones reached News releases prepared Wide coverage received		As milestones achieved	
Report accomplishments regionally to 5Cs and regional media	News releases	GOJ milestones reached News releases prepared Wide coverage received		As milestones are achieved throughout	
Establish RSS Feed Link	RSS link on website	Web-master designs RSS feed links Links established when the portal is ready Number of subscriptions to the feeds	Portal/platform webmaster	Done with portal creation – single effort	$300
Create a banner for exhibits and shows	banner	Graphic artist designs banner Banner is printed	Graphic artist CCC task force	One off event	$300
Create Media Award	Number of awardees	Award is designed and launched Number of media professionals nominated Level of participation Coverage received	Press Association of Jamaica CARIMAC ACM Panos Caribbean All media houses	Annual event	$4000 annually for prizes $4000 X 5+ $20000

CHAPTER EIGHT - DETAILED IMPLEMENTATION SCHEDULE & ACTION PLAN

In this chapter, management considerations and an implementation schedule are proposed.

As has already been suggested, the management and coordination of the various communication activities should be overseen by the two communication specialists are recommended to be hired, but it is also envisaged that the core sectoral activities will be led by the respective partner agencies to be involved. The two specialists should have responsibility for overall coordination, but would work to support the work of implementing partners in key sectoral agencies.

As has also been indicated, it is anticipated that implementation will also be greatly assisted through the creation and support of a Communication for Climate Change Advisory Group.

The TORS for the consultancy call for clear delineation of "roles and responsibilities" for the implementation of communication tasks. In the strategy, for the key activities and key sub-sector activities, mention is instead made of the key agencies that are to play a role in implementation and in most cases the first agency indicated is the lead agency for the task. For the most part, this logically follows the lead sectoral partner agency responsible for sectoral implementation.

Determining which agency is to actually lead, however, should be negotiated through the Communication for Climate Change Task force and should therefore be an iterative process.

No more clear indication of "roles and responsibilities" is given herein. Rather, based on the national consultation it is understood that there is openness among the key agencies to lead the respective directions, based on their mandates.

Based on these recommendations, a detailed action plan and implementation schedule is provided in log in matrix format here. The discrete tasks that will be needed to execute each of the priority SPCR communication activities are listed and a quarterly time frame for implementation is suggested. Also included in the work plan are discrete steps and tasks associated with management, monitoring and evaluation of the strategy.

8.1 Detailed Action Plan and Time-Line for Priority Activities to be Funded Under the SPCR																							
Communication Action 1 – Build Community Resilience through Awareness		**Year 1**				**Year 2**				**Year 3**				**Year 4**				**Year 5**			
		1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Harmonize Community Tool boxes	1. Develop TORs for consultant to review existing tool boxes with various partners			■																	
	2. Develop TORs and SPECs for additional audio-visual clips to enhance the tool kits			■																	
	3. Hire producers to produce video clips				■																
	4. Hire producers to produce radio clips				■																
	5. Pretest radio and video outputs with focus groups					■	■														
	6. Include closed captioning as needed							■													
	7. Produce audio-visual materials							■													
	8. Repackage kit								■												
	9. Distribute kit through appropriate channels									■	■	■									
Repackage existing CC materials and scale up	1. Develop TOR for inventory consultant			■																	
	2. Hire consultant				■																
	3. Conduct inventory					■															
	4. Select key materials for reproduction																				
	5. Reproduce materials with permission of partners						■														
	6. Distribute kits through appropriate channels/partners							■	■	■											
	7. Monitor use										■	■	■	■	■	■	■	■	■	■	
Promote climate smart community competition with BEST/SDC/NEPA	1. Liaise with SDC, NEPA and BEST partners to agree on collaboration				■																
	2. Identify criteria for determining community climate resilience				■																
	3. Identify prize money for competition				■																
	4. Launch category within BEST annual competition					■					■					■					■
	5. Identify judges to assess nominations					■															
	6. Judge applicants accordingly						■	■				■	■				■	■			
	7. Select winners							■					■					■			
	8. Participate in award ceremony								■					■					■		
	9. Prepare and distribute news releases announcing winners								■					■					■		

COMMUNICATION ACTION 2 – ENHANCE LAYPEOPLE'S UNDERSTANDING OF CLIMATE SCIENCE		Year 1				Year 2				Year 3				Year 4				Year 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Involve Communities in Data Collection processes	1. Design data collection tools with key partners																				
	2. Train community representatives																				
	3. Follow-up and monitor data collected																				
Develop 3D simulation tools for agriculture and tourism	1. Criteria are determined and variables identified for inclusion in the simulation scenario																				
	2. Mona Informatix is contracted to design the 3D simulators																				
	3. Create proto-types																				
	4. Test prototypes																				
	5. Revise prototypes as needed																				
	6. Launch final tools developed																				
Rolling index for website	1. Determine rolling baseline and target criteria to be included on the rolling index. To be done with key partners																				
	2. Webmaster designs index for portal																				
	3. Index is put on the portal																				
	4. Platform is promoted with attention to index provided																				
	5. Update index as SPCR unfolds and progress occurs																				
	6. Monitor hits and checks to site																				

COMMUNICATION ACTION 3 – ENHANCE COMMUNICATION CAPACITY OF TECHNICAL SERVICES		Year 1				Year 2				Year 3				Year 4				Year 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Hire PR specialist	1. Develop TORS	■																			
	2. Advertise TORS	■																			
	3. Review candidates		■																		
	4. Contract PR specialist		■																		
Hire ComDev specialist	5. Develop TORS	■																			
	6. Advertise TORS	■																			
	7. Review candidates		■																		
	8. Contract PR specialist		■																		
Build Communication Skills of Technical Public Servants in Key Partner agencies	1. Identify specific skills and training needs among partners				■																
	2. Contract Communication training provider to design short courses based on skills needed					■															
	3. Create courses						■														
	4. Offer courses to specific agencies on-line							■													
Develop Elevator Pitch	1. Drafts of possible pitch prepared by CC Department's communication staff	■																			
	2. Design training sessions to introduce the pitch to officers		■																		
	3. Organise and promote the training (find venue, etc.)		■																		
	4. Identify persons to be trained		■																		
	5. Host training			■																	
	6. Write training reports			■																	
	7. Follow up				■				■				■				■				■
Communication Task Force/Advisory Group	1. Confirm TORs for task force	■																			
	2. Identify appropriate persons to serve	■																			
	3. Invite representatives	■																			
	4. Conduct quarterly task force meetings or as needed	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	5. Prepare reports	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

COMMUNICATION ACTION 4 – SUPPORT BEHAVIOUR CHANGE IN SPECIFIC SECTORS (Please see the respective sub-strategies in the appendix for more details)		Year 1				Year 2				Year 3				Year 4				Year 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Water Sector	Create new PSA and Print messages on water conservation and irrigation for farming sector																				
	Create new messages on creative and affordable financing options for investing in irrigation for farmers																				
	Create new messages on harmful practices that damage water resources																				
	Broadcast/air messages accordingly																				
Agriculture	Produce specific messages (PSAs for radio and TV) on the key risks and impact of CC on agricultural production as well as how agriculture itself can sometimes contribute to Climate Change																				
	Produce short five (5) minute video clips to promote awareness of specific improved practices for CC mitigation																				
	Produce an instructional video technology package on improved organic farming practices with discrete segments for each tip so that clips can be viewed individually, down loaded, and so on.																				
	Broadcast Air messages accordingly																				
	Promote messages on SPCR's work in pilot watersheds																				
Fisheries	Produce posters and brochures with adaptation messages for fishing communities																				
	Promote the ADRM planning process through use of an instructional video and community DRM Planning exercises																				
	Conduct community media dialogue (with both media and fishers) in key at risk fishing areas to identify actions needed to encourage DRM planning																				
Health	Creation of training Toolkit for health educators																				
	Training of community "eye reporters" especially in high risk communities to encourage reporting of health outbreaks																				
	Create a CC health mascot that can promote vector messages																				
	Host Community training sessions in most vulnerable communities																				
	Print CC health info on consumer packaging for products made in Jamaica (such as Grace Kennedy, Best Foods, etc.)																				
Tourism	Develop PSAs to make the sector and the public aware of the importance of Environmental Management and DRM plans for																				

	the tourism sector																					
	Host tourism sector community meetings and radio or TV shows and invite tourism reps to respond to the public regarding CC issues																					
	Develop a 3D simulation tool for the sector that will illustrate CC impacts and also illustrate CC adaptation solutions																					
Human Settlements and Built Environments	Prepare short (30 min) video to explain to communities in simple terms why no settlement and no build zones are needed in some areas of the country																					
	Expand the Mona Geo-Informatix 3D simulation tool to illustrate why certain types of structures and geographical zones are subject to higher risk																					
	Prepare popular versions (PowerPoint) of a modernized building code that can be easily understood by private construction companies, project managers, developers, architects and by local government planning approval officers..																					
Energy	Create new messages on alternative energy sources and technologies																					
	Set up twitter account to tweet energy saving tips and create text message list serve as well for phone text messaging																					
	Replicate – extend the tool kit produced by PSOJ to all businesses																					
Insurance & Finance Sector	During the pre-hurricane season, promote PSAs to encourage insurance coverage and to inform people why their home/property/business needs to be insured and what the risks are																					
	Develop PSAs to promote the trust fund for climate change																					
	Develop and distribute print materials to promote the trust fund																					

COMMUNICATION ACTION 5: BUILD ENTHUSIASM AND BUZZ THROUGH CHAMPION ARTISTS AND SOCIAL MEDIA	Year 1				Year 2				Year 3				Year 4				Year 5			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Link with existing artist competitions such as "Digicel's Rising Stars show, the "All Together Sing" programme, "Dancing Dynamites" and with the Jamaica Cultural Development Commission (JCDC) Festival Competition to promote CC songs and messages																				
Identify a couple of artists to serve as CC Ambassadors																				
Promote CC ambassador messages via phone messages, texts or tweets																				
Individual artists to promote CC messages on their own Facebook pages or websites																				
Feature artists on regular talk shows (TV and video) explaining how they are engaging with CC																				

COMMUNICATION ACTION 6 – SUPPORT LONG TERM LEARNING THROUGH FORMAL EDUCATION (SEE CORRESPONDING APPENDIX FOR MORE DETAILS)	Year 1				Year 2				Year 3				Year 4				Year 5			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Partner with existing teacher training curriculum initiatives and training centres to infuse CC into teacher training programmes and develop materials to support same.																				
Re-examine the NEEC environmental curriculum with a "CC lens" and explore ways in which CC messages can be infused into existing curricula such as geography class, health classes, science class, agriculture, and so forth.																				

COMMUNICATION ACTION 7 – STRENGTHEN COVERAGE THROUGH MAINSTREAM MEDIA		Year 1				Year 2				Year 3				Year 4				Year 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Update/revise MACC tool kit for media	1. Create consultancy TORS			■																	
	2. Advertising for consultant			■																	
	3. Hire consultant to revise kit				■																
	4. Identify persons to serve on roster of experts				■	■															
	5. Have experts sign consent form					■															
	6. Produce draft module or revised tool kit					■	■														
	7. Peer review module or tool kit with						■														
	8. Revise kit based on reviews							■													
	9. Print kit								■												
	10. Distribute kit								■												
	11. Prepare and distribute news release to promote tool kit									■	■										
Create Champion Climate Media Award	1. Identify partners to help design the award				■																
	2. Establish criteria for nominees				■																
	3. Determine date for award launch					■															
	4. Launch award through news release and promote through main media channels					■															
	5. Identify judges					■															
	6. Determine winners						■	■													
	7. Announce awards								■				■				■				■
	8. Host award ceremony								■				■				■				■

COMMUNICATION ACTION 8 – PROMOTION THROUGH PUBLIC RELATIONS		Year 1				Year 2				Year 3				Year 4				Year 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Design Slogan	1. TORS for consultant prepared																				
	2. Bidding for Consultant conducted																				
	3. Consultant selected																				
	4. Slogan draft slogan produced and pretested																				
	5. Slogan finalized based on pre-test results																				
	6. Slogan adopted and used by partners																				
Design Graphic Logo	1. TORS for graphic artist prepared																				
	2. Bidding for graphic artist conducted																				
	3. artist selected																				
	4. draft logo produced and pretested																				
	5. draft logo finalized based on pre-test results																				
	6. logo adopted and used by partners																				
Produce promotional materials	1. Quotes are received from various promotional firms for the production of water bottles, tote bags and water bottle coolers																				
	2. Materials are designed and proto-types tested																				
	3. Final materials are approved																				
	4. Materials are produced																				
Launch SPCR	1. Press kits are prepared																				
	2. Venue is determined																				
	3. Participant list is generated																				
	4. Invitations are sent out																				
	5. Launch is held																				
PR programme to "Big up" climate champions	1. Identify monthly "champions" to highlight according to the environmental calendar																				
	2. Prepare news releases to profile champions																				
	3. Follow-up with media to ensure coverage																				
	4. Identify private sector partners to be included and include their messages – as appropriate																				
	5. promote news releases through website																				
PR to Promote GOJ accomplishments	As needed, prepare news releases to showcase GOJ milestones and coordinate with environmental calendar as much as possible																				

Report Accomplishments to 5Cs and regional partners	As needed, prepare news releases to report to regional partners																					
Ensure portal includes RSS links	1. In conjunction with webmaster for creation of the platform, design RSS feeds for website																					
	2. Monitor number of subscribers																					
	3. Regularly post updates and distribute news items through the RSS																					
Participate in Environmental Events	1. Design and develop a banner																					
	2. Design portable display booth for events																					
	3. Produce display materials																					
	4. Regularly participate in environmental events such as Green Expo and other environmental calendar dates																					

CHAPTER NINE - MONITORING AND EVALUATION

A core component of the strategy must be monitoring and evaluation as communication activities are implemented. This section briefly describes how the monitoring and evaluation processes should be implemented.

It is noted that, the main tasks associated with regular monitoring of communication activities should be done in close collaboration with the reporting requirements that will be required of all the SPCR components.

9.1 Quarterly Reporting

Quarterly reporting should be required of:

1. The communication specialists who will oversee and facilitate implementation of the communication activities;
2. The Communication for Climate Change Task Force;
3. As well as reports from key implementing partners in the different sectors who will be responsible for reporting back to the Task Force and to the specialists.

All of these reports should feed into a single quarterly report on communication that is in turn submitted to the SPCR/PPCR project coordinator at PIOJ.

9.1.1 Content of Quarterly Reports for Monitoring

To truly assess both the effectiveness and efficiency of the communication activities as they are implemented, the quarterly reports should be guided by the specific criteria and indicators that have been proposed in the overall strategy and the sub-sector strategies. In each case, the following criteria should be reviewed:

- Are the activities contributing to the overall communication goal as stated?
- Are the activities contributing to the specific objectives as stated?
- To what extent are process indicators being respected and achieved?
- To what extent are stated output indicators being achieved?

Process and output indicators will illustrate how effectively the activities are being implemented as the action plan unfolds and will suggest whether or not activities are being done on time and within budget. They will also help to indicate how well the activities are being received and what level of participation is being generated through their implementation.

Ideally as well, an annual sharing of "lessons learnt" with regards to communication experiences should also be reported and included quarterly and summarized annually.

Quarterly reports should also be used as updates for the "***rolling index***" on the website, once it is established.

9.2 Annual Reporting

Annual reports to the SPCR project coordinator should be prepared using the quarterly reports.

9.3 Summative Evaluation and Assessment of Final Impacts

Great care has been taken in the strategy to provide detailed outcome indicators for assessing the impacts of the communication activities to be implemented. These outcome indicators are in fact articulated as the SMART goals for each sector and correspond to specific desired changes in behaviour, practices, knowledge and beliefs that the SPCR strategy should address.

At the end of the project, an independent outside evaluation should be conducted of all the communication activities implemented in order to determine however effective the strategy has in fact been, and to what extent specific climate resilient practices have been adopted in each sector.

A work plan is presented below that outlines the specific tasks associated with the above recommendations for monitoring and evaluation.

9.4 Conclusion

With the evaluation and monitoring recommendations now outlined, the Communication for Climate Resilience National Strategy and Action Plan is now complete.

9.5 MONITORING & EVALUATION		Year 1				Year 2				Year 3				Year 4				Year 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
A) Regular quarterly reporting of progress against all relevant activities	1. Communication Task force meets quarterly or as needed																				
	2. Communication partners submit quarterly reports on their activities																				
	3. communication reports are shared																				
	4. updates to rolling index																				
	5. quarterly lessons learnt																				
B) The pre-production monitoring and evaluation tasks are already built into the above work- plan above																					
C) Final evaluation	1. 1. TORS for evaluation firm drafted																				
	2. 2. Bidding for evaluation solicited																				
	3. 3. Evaluation consultant contracted																				
	4. 4. Evaluation methodology designed in conjunction with AC and national focal points																				
	5. 5. Evaluation process conducted with national focal points																				
	6. 6. Draft final evaluation report submitted																				
	7. 7. Draft evaluation report presented to stakeholders in regional workshop																				
	8. 8. Final evaluation report prepared																				

APPENDICES

Appendix A – Terms of Reference (TORs) for the Communication Consultancy

The specific TORs to prepare the communication strategy and action plan included the following tasks:

1. Review existing climate change communication documents, reports to assess their relevance and completeness in the context of new and emerging projections on climate change.

2. Consult with key stakeholders (including the disabled and other vulnerable groups) and conduct an assessment of climate change communication needs especially with respect to the key sectors identified under the PPCR

3. Facilitate sectoral focus group discussions and ensure that the key climate change Knowledge, Attitudes and Practices (KAP) issues are considered for each sector and the required communication strategies identified to ensure greater awareness.

4. Design, facilitate and execute a communication strategy workshop that will through a participatory process, and drawing on: a) previous work done by other organisations b) the outputs of the national, sectoral and parish/regional workshops, c) initiatives being carried out by other organisations and d) the inputs of workshop participants, agree on the outline of the five-year communication strategy and action plan

5. Prepare a draft 5-year communication strategy. This should include but not necessarily be limited to:

    a) Clearly defined goal(s), strategies, objectives and outcomes
    b) A comprehensive listing of various strategies to be adopted, and strategic communication activities/initiatives to be implemented over a five year period in order to achieve objectives and goals identified at (a) above. This should include but not be limited to climate resilience initiatives under the SPCR and other climate change projects being implemented;
    c) A communication strategy implementation plan (outlining roles and responsibilities of various partners to be engaged in the implementation of the strategy)
    d) An estimated budget and financing plan for the implementation of the strategy and action plan;
    e) Clearly defined outputs, process and outcome indicators for measuring success and behaviour change;
    f) And a monitoring and evaluation plan for the communication strategy and action plan.

6. To give effect to the strategy outlined in 5 above, formulate a communication Action Plan inclusive of key communication messages, and identification of target audiences and a media strategy or strategies.

7. Revise the strategy and Action Plan as appropriate, following presentation to key stakeholders for review and feedback.

Expected Deliverables in the Consultancy

The expected Deliverables were:

1. A detailed methodology, work plan and implementation plan within five working days after commencement of assignment.
2. A draft five-year communication strategy and action plan including:
    a. clearly defined goal(s), strategies, objectives, and outcomes;
    b. complete scheduling of various strategic communication activities/initiatives to be implemented over a five year period;
    c. a communication strategy implementation plan (outlining roles and responsibilities of various partners)
    d. an estimated budget and financing plan for the implementation of the strategy;
    e. clearly defined outputs, process and outcome indicators for measuring success and behaviour change;
    f. a monitoring and evaluation plan for the communication strategy and action plan.
3. Workshop report on stakeholders' feedback and recommendations in response to the draft report presented.
4. A final five-year climate change communication strategy and action plan document adjusted to reflect the changes recommended after the review of the draft by the PPCR Steering Committee and key stakeholders.

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APPENDIX C
COMMUNICATION NEEDS ASSESSMENT
Pilot Programme in Climate Resilience (PPCR)

Name:_____

Organisation:_____

Contact Information: _____

1. What specific climate change projects and initiatives is your agency currently working on? (Project name/description)

2. Are communication and public awareness efforts part of your work to support your project activities? (1) yes (2) no

3. If yes, briefly describe what communication activities you now use:
_____

_____
4. Who are your main (primary) audiences (clients, stakeholders) that you are trying to reach?

5. What clear changes in knowledge, attitudes and practices (KAPs) are your current efforts hoping to achieve through your current project activities?

a) _____

b _____

c)_____

6. What ***additional*** gaps in knowledge, attitudes and practices (as it relates to climate change adaptation, mitigation and resiliency), would you like to address over the next five or so years and beyond the scope of your current project? What ***key messages*** do you feel are most critical for your clientele/stakeholders and what information needs are most important?

7. What will happen if these information needs are not addressed?

8. Have you developed a strategic communication plan to achieve these goals?
(1) Yes (2) No

9. What main communication channels/ media and methods do you currently use to support your efforts? (traditional and new social media)

10. Who is responsible for implementing your communication efforts?

11. Who are your partners, if any?

12. Are your communication efforts budgeted for and resourced properly? Do you have sufficient human and financial resources to implement the communication activities you would like to implement or to do them as efficiently and effectively as you would like?

(1) Yes (2) No

13. Do you feel your agency has sufficient communication capacity to achieve the communication and public awareness goals you are trying to accomplish? If so, please explain. If not, please indicate what types of further communication training, staffing and resources would help you to achieve your communication goals.

(1) Yes (2) No

If no, please explain what else is needed:

_____

_____

Thank You!

On behalf of the PIOJ and the Pilot Programme for Climate Resilience (PPCR)

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Communication Consultant
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Phone: 878-5326

APPENDIX D

PERSONS & CLIMATE CHANGE PROJECTS CONSULTED

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Project Manager
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Email: mheadley@forestry.govt..jm
Project Contact: Constance Tyson Young
Phone: 564-1073
Email: cyoung@foresry.govt..jm
Project(s): Capacity Building for Sustainable Land Management in Jamaica

2. Natalie Fearon – Manager of the Public Education and Corporate Communication Branch
National Environment and Planning Agency (NEPA)
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Toll Free: 876-1-888-991-5005www.nepa.govt..jm
pubed@nepa.govt..jm
nfearon@nepa.govt..jm
Project(s):

a) Proposed Restoration Works to Mitigate against beach erosion in Negril

b) A study of the impact of climate change vulnerability on Jamaica beaches

c) Analysis of Island-wide shoreline stability

d) Rehabilitation of Coral Reefs

e) UNESCO-NEPA Strengthening Sea level observation network and coordination activities in the Caribbean

3. Mr. Douglas Walker
Chief Executive Officer
National Irrigation Commission (NIC)
191 Old Hope Road
Kingston 6
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Also met with Mr. Rampair, Ms Patricia Tyrell and Ms Maxine Brown
nic@cwjamaica.com
email: douglasw@nicjamaica.com
olivew@nicjamaica.com
Project(s):

a) FAO Technical Cooperation Programme on Promoting Rain Water Harvesting and Small Scale Irrigation in south St Elizabeth

b) National irrigation development programme

4. Mr. Horace Glaze
Senior Director – Preparedness
Office of Preparedness and Emergency Management (ODPEM)
2-4 Haining Road (5)
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Email: hglaze @odpem.org.jm
Project(s):

a) Building disaster resilient communities project

b) Natural hazard management in urban coastal areas

c) Climate wise communities – strengthening livelihoods and infrastructure in Jamaica

5. Met with Mr. Herbert Thomas (hthomas@wra.govt..jm) and with Geoffrey Marshall (gmarshall@wra.govt..jm) Shonel Dwyer (shonel_dwyer@yahoo.com), Angella Graham (agraham@wra.govt..jm); and Rochelle Archer James (rarcher@wra.govt..jm)
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email: bfernandez@wra.jov.jm or commander@cwjamaica.com
Project(s):

a) Water programme for environmental sustainability towards adaptative measures to human and climate change impacts;

b) Rain water harvesting project

c) Climate change modelling for sea level rise on water resources in the Clarendon plains

6. Omar Chedda
Private Sector Organisation of Jamaica (PSOJ)
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www.psoj.org
omarc@psoj.org
psojinfo@psoj.org
Project(s): Capacity building of Caribbean private sector environmental and energy management capabilities

7. Dr. Michael Taylor & Dale Rankin
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rally876@gmail.com
rhodenew@gmail.com
Project(s):

a) National network of automated on-line climatological stations and data management platforms

b) Project "Tell It" disseminating Caribbean climate science and stories

c) Caribbean modelling initiative – addressing Caribbean Climate change

8. Marlon Beale
Jamaica Conservation and Development Trust (JCDT)
29 Dumbarton Avenue
Kingston 10
920-8278-9
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email: jamaicaconservation@gmail.com
Project(s): Reducing climate change driven erosion and landslide risks through sustainable agriculture for safer slopes

9 & 10. Dr David Smith and Dr. Barbara Carby
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Cell for DS: 383-2367
Project(s):

a) Enhancing knowledge of comprehensive disaster management

b) Follow-up training on the RiVAMP methodology

11. Ms Cavell Rhiney and also Dr. Marina Young
Rural Agricultural Development Authority (RADA)
Ministry of Agriculture and Fisheries (MOAF)
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977 1158-63
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Project(s): FAO irrigation project
Also discussed RADA requirements in general.

12. Ingrid Parchment
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iparchment@yahoo.com
Project(s):

a) Increasing Community Adaptation to ecosystems resilience to climate change in the Portland Bight

13. Clifford Mahlung
Meteorological Service (MET Office)
Ministry of Water, Land, Environment and Climate Change (MWLECC)
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Kingston 10
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Project(s):

a) 2nd national communication to the UNFCCC

b) Establishment of sea level gauge network

15. Gail Hoad
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Project(s): *Climate Change Adaptation and Disaster Risk Reduction (CCADRR) project*

16. Hyacinth Douglas
Global Environment Facility (GEF) – Small Grants Projects
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Cell: 276-5844
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Project(s):
Several GEF small grants projects:

a) Development of a nature trail within the Bogue Forest Estate and application for solar energy (HUDO);

b) Communication, climate change, and biodiversity (MOCHO)

c) Glengoffe Climate Change Adaptation Project (Glengoffe CDC)

d) Application for Renewable Energy (Foundation for International Self Help – FISH)

e) Reducing carbon emissions through the use of solar energy technology in Protected Agriculture (Mafoota Agricultural Cooperative Society, Ltd.)

f) Reducing carbon emissions through the use of solar energy technology in Protected Agriculture (Sweetwater agricultural cooperative society Ltd.)

g) Land and preservation measures to combat climate change pressures in the Cockpit country's Martha Brae watershed (Bunkers' Hill CDC)

8. Karyl Aitchenson, Dianne Dormer and Dorlan Burrell
ACDI/VOC, Room 206
Phone: 702-6950; 878-6950
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Project(s): MAJIC - Marketing and Agriculture for Jamaican Improved Competiveness

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Project(s): Establishing the Caribbean Maritime Institute (CMI) as a learning centre for renewable energy producing wind energy/potable water

20. Dr. Parris Lyew-Ayee and Ava Maxam
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Project(s): When the Sea Rises. 3D simulation tools

21. Ms. Denise Tulloch (Senior Research Officer – Biofuels)
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23. Robert Kerr – Project Officer (FAO ADRM project)
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Joan	Buchanan	Trinityville ADC	Agriculture		840-9036
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APPENDIX F

Existing Best Bet Options for Small Scale Agriculture Source (Spence, 2008:29)						
Type of Mitigation Practice	Appropriate for which type of disaster	Hazard prone/vulnerability areas	Main benefits	Farming scale applicability	Disadvantages	Inputs and costs
Guinea Grass Mulching	Drought Moisture deficient Wind erosion	South St. Elizabeth Relatively flat or mild sloping land in moisture deficient agro-ecological zones	Moisture conservation Weed control Reduction of wind erosion Improvement of soil structure Improvement of organic matter in soil	Small scale under 10 hectares	Labour intensive	($US 80 per hectare) Land to grow guinea grass for mulching
Minimum Tillage	Drought Rainfall related soil erosion	Drier coastal agro-ecological zones with stable soil structure Moderately wet upland AEZs with stable soil	Reduced fossil fuel use Reduced soil erosion Increase in soil biodiversity Reduced pesticide and nitrogen leaching Soil moisture conservation	Small scale farming under 5 hectares	Labour intensive	Labour Digging tools
Drip irrigation	drought	All drought prone areas in AEZs with flat to gentle slopes	Improved yields all year round Better crop quality More efficient use of water resources\lower irrigation cost compared with sprinkler irrigation	Appropriate for all farm sizes	costly	Cost of irrigation hose (expensive); cost of pumps; cost of water storage facility
Fire breaks	Drought induced bush fires	AEZs where bush fires are a threat	Reduced crop-loss from bush fires Added protection against wind damage in storms Reduced soil moisture loss through shading and wind reduction	All farming sizes	Establishment of fire resistant vegetative barriers, Labour for pruning and maintaining barriers	Cost of planting material for barriers; Labour to establish barriers
Rainwater harvesting and storage	drought	All AEZs with annual rainwater deficits	Year round production Increased yields Improved crop quality	Appropriate for small to medium scale farms (10 hectares and less) that are involved in high value crops such as vegetables, fruits and condiments	Currently likely too high for most small farmers	Water tanks and community water catchment schemes
Aquifer recharge	Drought and flood impact reduction	All annual/seasonal moisture deficient AEZs but especially those involved in large scale monoculture on plains	Drought mitigation Flood mitigation Mitigation of saline intrusion Water quality maintenance Sustainable water supply	Larger scale farmers under 50 hectares	Cost of drilling and channelling of water to recharge hole	Drilling equipment for bore holes or identification of appropriate sink holes

			Prevent of well collapse			
Timing of crop establishment and use of appropriate crops for different seasonal rainfall seasons	Drought	All annual/seasonal moisture deficient AEZs but especially those involved in the production of annuals	Drought mitigation Reduced loss from droughts and bushfires Maximization of soil moisture resources	Small scale farming (5 hectares or less) involved in using Almanac to plan cropping schedules	Crops appropriate for rainfall conditions may not be most high return costs	Need reliable rainfall and hydro-meteorological data
Seasonal breeding of livestock	Drought impact reduction	All flatland to gently sloping AEZs with seasonal moisture deficit	Drought mitigation Reduced loss from droughts Synchronization between nutritional requirements and feed availability	Large scale farms (50 hectares or less) – large scale dairy/beef farms	Need to still supply feed during drought months	Need reliable rainfall and hydro-meteorological data
Planting of drought-tolerant crops	Drought impact reduction	Upland and lowland AEZs with rainfall deficit	Drought impact reduction Crop loss reduction \maximization of soil moisture use	Small and large scale	Drought tolerant planting material such as cassava Cost of planting material	Need markets for such crops
Raised beds and network drains	Flooding	Flatland AEZs with poor drainage and moderate to high annual rainfall	Reduction in the depth and area of flood impact, reduced crop loss from flooding, regulation of soil moisture	Small and large scale farms under varied cropping systems	Maintenance of drains and ditches	Labour cost Possible employment of equipment to dig drains and trenches
Contour planning of Matt and King Grass	landslides	Extremely steep AEZs with high rainfall and slope angels of 45-50 degrees	Slope stabilization Soil loss reduction Sustainable crop production on steep slopes Increased water infiltration Sustainable water supply	Small scale hillside farming involved in mixed-cropping	Seasonal cutting back and maintenance of hedges	Contour construction Provision of plating materials
Contour planting of pineapples	Landslides	Extremely steep AEZs with high rainfall and slope angles of 45-50 degrees	Slope stabilization Soil loss reduction Sustainable crop production on steep slopes Increased water infiltration Sustainable water supply	Small scale hillside farming involved in mixed-cropping	Cost of seedling materials Replenishment of crop after reaping of pineapples	Cost of inputs Construction of contour rows
Check dams	Landslides and floods	Extremely steep AEZs with high rainfall and slope angles of 45-50 degrees	Slope stabilization Soil loss reduction Sustainable crop production on steep slopes Increased water infiltration Sustainable water supply Flood control in lower part of stream and reduction of water velocity	Small scale hillside farming involved in mixed-cropping	Repair of weakened section of dam Maintenance of vegetation cover on stream bank especially in proximity to dam	Cost of dam construction material
Hedgerow Alley	Landslides	Moderate to steep AEZs with	Slope stabilization Soil loss	Small scale hillside	Seasonal cutting back of	Cost of seedlings

Cropping		seasonally high rainfall and loose soil structure	reduction\sustainable crop production on steep slopes Increased water infiltration Sustainable water supply Reduced demand for yam-sticks as sections of hedge can be allowed to 'grow out' and harvested as yam sticks Reduced chemical fertilizer demand if leguminous plants used as hedgerows	farming involved in mixed-cropping or monoculture cultivation of tubers (yams)	hedgerow and replenishment of thinned areas	Transport Field training
Incorporation of tree management into land management (cut back techniques)	Landslides Flooding Strong winds	All AEZs in Jamaica	Slope stabilization Soil loss reduction Sustainable crop production on steep slopes Increased infiltration Reduced loss from hurricane winds More efficient harvesting of food tree crops	All scales of farming that involve fruit tree crop production	Costs of providing equipment and training	Chain saw provision Training in proper pruning and cutting back techniques Long ladders Seedling to support other components of food tree cultivation
Raised floors for poultry production	flooding	Lowland AEZs that are vulnerable to flooding and where poultry production is practiced	Poultry loss reduction from flooding Better ventilation of poultry house \more efficient harvesting of waste	All scales of poultry production	Regular removal of wastes	Appropriate flooring material that will allow adequate ventilation that will dry up moisture and minimize ammonia gas from faeces and deep litter systems Support for flooring Cost of provision of seedlings Transportation training
Cultivation of low profile crops less prone to wind damage	Strong winds hurricanes	All AEZs in Jamaica	Reduced wind damage Maximization of land area	More suitable for smaller farms but can be employed on larger farms as well	Lower profile crops may not be as profitable as those traditionally grown	Identification and preparation of site Cost of inputs
Triangular bracing for bananas	Strong winds hurricanes	Sloping lands that are susceptible to strong winds and where bananas are grown extensively	Reduced damage/loss to banana from wind impact	Small farms under 10 hectares	Regular checking of the system to ensure effectiveness and to prevent bruising of banana stem	Provision of bamboo brace and metal cables and/or rubber rings large enough to encompass bananas Cost of labour

						to implement Cost of bamboo if not locally grown
Removal of foliage from immature bananas	Strong winds hurricanes	All AEZs where bananas are grown	Absence of foliage allows plant to remain upright during strong winds resulting in reduced banana loss from hurricane impact and sustained banana production	Suitable for smaller famers owing to high manual demand	Cost of labour Cost of fertilizer required immediately after impact Use of fertilizer immediately after impact	Labour costs fertilizer

APPENDIX G
DRAFT TERMS OF REFERENCE FOR COMMUNICATION FOR CLIMATE CHANGE FOR AN ADVISORY GROUP/TASK FORCE

Background and Rationale

Communication and enhanced public awareness to address key gaps in Knowledge, Attitudes and Practices (KAPs) are absolutely essential to ensure that Jamaica does indeed achieve its desired goals and objectives for climate resilience. This is fully recognized by the PIOJ and provision has been made for a comprehensive communication strategy and action plan to support climate resilience. To facilitate this process, a national communication strategy and action plan has been developed that maps out the various partners and agencies that are involved in communication for Climate change.

Within this national strategy, there are many communication activities that need to be monitored so that the country makes the best use of its communication resources (both human and financial) to achieve climate resilience. Not all will be implemented under the PPCR. Others will be led by other partner agencies and donors. However, a mechanism is needed to ensure that they can be harmonised and streamlined to avoid duplication. It is also important that all of the communication activities to be implemented first articulate clear indicators for measuring success and impact and that these results are monitored as milestones are achieved.

To guide the overall PPCR project, a thematic working group for "Hazard Risk Reduction and Adaptation to Climate Change" has been established. This group consists of high level representatives from several key agencies and provides feedback to the overall PPCR planning committee.

However, their areas of technical expertise do not necessarily include communication expertise. In order to ensure that the communication elements of the PPCR and implementation of the overall strategy receive the proper attention they deserve, it is suggested that a Communication for Climate Change advisory group or task force is also established to give assistance to broader thematic working group with regards to the communication components.

This group could build on the model established by the National Environmental Education Committee (NEEC), but should also include communication representation from the following additional sectors:

1. The built environment sector;
2. The energy sector
3. The water sector
4. The health sector
5. The tourism sector
6. The agricultural and fisheries sector and
7. Other key technical areas of relevance to the PPCR.

The tasks of the CCC working group would be as follows:

1. Review quarterly reports of communication components/sub-projects of the PPCR that would feed into overall PPCR reporting procedures;
2. Give guidance and input to the overall Thematic Working Group on an as needed basis with regards to communication matters;
3. Review communication products and messages produced
4. Help to ensure that the coordination of various climate change events go smoothly and that scheduling constraints are minimized
5. Provide technical advice to the communication staff to be hired to oversee implementation;
6. Provide additional transparency in the vetting of communication proposals/tender/consultants as may be required;
7. Help to determine which agencies should lead specific communication activities and which should provide supportive or funding roles
8. Help to monitor and evaluation communication components;
9. Serve as judges for possible communication competitions that may be implemented under the PPCR; and
10. Serve as communication focal points within their own agencies/ministries with regards to PPCR activities.

Participation on the CCC task force is voluntary. It is expected that the task force would like meet once per quarter.

APPENDIX H – PRICE SHEET FOR KEY COMMUNICATION PRODUCTS

Item	Quantity	Total Cost $J
Promotional Items: Sports water bottles	100	28,700.00
Eco-friendly shopping/tote bags	250	98,250.00
Beer coolers	250	98,250.00
Production of 30 Sec TV PSA (two day shoot and edit)	1	$250,000
Production of 60 Sec TV PSA	1	$450,000
Production of 30 Radio PSA	1	5000.00
Production of 60 Radio PSA	1	10,000.00
Prime time TV PSA broadcast (one-off) 60 sec	1	77,800.00
Prime Time TV PSA broadcast (one-off) 30 sec	1	56,000.00
Prime time radio PSA broadcast (one-off)	1	6000
Prime time radio PSA (30 sec – one off broadcast)	1	4000
DVD covers	1	50.00
DVD labels (design and print)	1	200.00
Closed caption costs per minute	1	1000
Signing	1 day	9600.00
Graphic Design and Printing Logo design (basic)	1	60,000.00
Billboard design	1	18,000.00
Vehicle taxi wrap and print	1	25,000.00
Signage (21X10 fabrication sign and 1 year rental)	1	350,000.00
11X17 poster design and print full colour	200	16,600.00
2 side or 3 side brochure design and print	1	166.00
Adhesive bumper sticker design and print (8 9	100	6500.00
stickers	5000	185,000
Banner production	1	10000.00
Mascot Costume Design	1	20,000.00
Interactive Website Design	1	1,000,000.00

SUB-SECTOR STRATEGIES

APPENDIX I - SUB-STRATEGY FOR THE WATER SECTOR

Over all Communication Goal:
By 2017, there will be 10% improved efficiency and a 30% reduction in the use of water resources among residences, businesses, and the agricultural sector through the adoption of sustainable water technologies and sustainable use practices.

Objectives and Indicators to achieve the goal:

1. By the end of 2017, there will be a 10% increase in efficiency in water use among households and business and a 10% increase in adoption of water conservation practices.

2. By the end of 2017, at least 20% of Jamaicans will appreciate the true "cost" of water and will be able to explain the main services involved in providing water to all Jamaicans. They will be able to explain the water cycle and the steps and services that are involved in making water available.

3. By the end of 2017, there will be at least a 20% increase of public reporting leaks or damages to water infrastructure when they occur and a 20% reduction in incidences of vandalism to water infrastructure.

4. By the end of 2017, there will be a 30% increase in the number of farmers implementing sustainable irrigation technologies and practices to improve water efficiency and production.

Key Messages:

1. Water is not a free resource
2. Be aware of how much water you use
3. Conserve water
4. Report leaks
5. Use water saving technologies
6. Retrofit your home or business for water harvesting
7. Grow drought resistant crops
8. Use appropriate irrigation technologies in farming
9. Protect water infrastructure and equipment
10. Don't cut down trees. Trees conserve water
11. Get involved in water data collection

Key Strategies and Approaches

In addition to the promotion of key messages to support the above goals and objectives, it strongly recommended that the following communication strategies be adopted for the water sector:

- Build on the key synergies that have already been generated through the various water-related public awareness activities that have taken place so far;
- Support community involvement in water data collection and monitoring and evaluation of water resources and foster link with water/climate researchers
- Encourage community adaption through new water conservation/harvesting categories in the BEST competition
- Promote government's activities and progress through regular public relations events and messages
- Support the Panos Voices for climate change community based programme and its work with performing artists to promote climate smart water messages
- Collaborate with WET to infuse water messages into mainstream educational curriculum
- Support community-private sector partnerships to encourage adoption of water conservation and harvesting technologies among households, businesses and the farming sector

Primary audience(s):

- Adults/households using water
- Businesses using water
- The farming sector and farming groups who need water for production

Potential Partners:

- National Water Commission
- Water Resources Authority
- National Irrigation Commission
- Rural Agricultural Development Authority
- The Water Education for Teachers programme
- Ministry of Water and Housing
- Rural Water Supply Limited
- NEPA

- Regional and International Donor Groups
- Ministry of Agriculture and Fisheries
- Ministry of Education
- Private Sector Association of Jamaica
- Jamaica Agricultural Services
- Agricultural Commodity Boards
- Inter-American Institute for Cooperation in Agriculture
- CARDI
- Voices for Climate Change (Panos)
- CPTC
- NEEC
- Digicel
- LIME
- Social Development Commission
- National Housing Trust

Opportunities for Synergies & Collaboration

Fortunately, there are several excellent communication approaches that can be built on to promote adaptation and resiliency in the water sector. These include:

- O**bservance of World Water Day** March 22nd which is supported by several organisations including WRA, NIC, NWC, FAO, and others.

- ***Walk-a-thons and Community Activities*** supported by the Jamaica Conservation and Development Trust (JCDT).

- ***The Jamaica Environmental Action Awards (JEAA)*** *c*ompetitions For Water Conservation sponsored by the Jamaica Environmental Trust (JET).This is an annual award aimed at protecting and preserving Jamaica's natural environment, including water conservation, as well as for energy conservation, sustainable agriculture, biodiversity conservation, environmental awareness, and so on

- ***Booklets and Publications*** The Water Resources of Jamaica's ***FACT BOOK – Jamaica's Water …. Every Drop Precious*** is a very concise resource with facts that should be in every school, classroom and Parish Council offices.

- ***Teacher Education – Formal Education*** Jamaica already has a very successful water education programme literally called "WET[25]: ***Water Education for Teachers***" that is being implemented in partnership with WRA, NEPA, the Ministry of Education and several teachers' colleges around the island.

- **FAO's Irrigation Project under the EU Food Facility**
  The FAO[26] – through the European Food Facility, already has a proven track record of promoting irrigation systems including drip irrigation and reservoirs and water harvesting technologies. Their work should form a foundation for any further irrigation promotion with the MoAF.

- ***Rain Water Harvesting Video - NIC***
  At least one video on water harvesting technologies has been produced by the Public Broadcasting Corporation of Jamaica (PBCJ) on behalf of the NIC called "***Rain Water Harvesting Systems***".

[25] *UNESCO International Hydrological Programme and the Project WET International Foundation. 2008. Water and Education (WET): General Guide for Teachers of Latin America and the Caribbean. Project WET – Water Education for Teachers. Bozeman, Montana, USA., and UNESCO, Paris.*

[26] *FAO's Irrigation Project. http://www.fao.org/isfp/country-information/jamaica/en/*

Proposed Communication Activities for the Water Sector

Over all Communication Goal:

By 2017, there will be 10% improved efficiency and a 30% reduction in the use of water resources among residences, businesses, and the agricultural sector through the adoption of sustainable water technologies and sustainable use practices.

Objective	Potential Communication Activities	Type of Communication Activity	Output indicators	Process Indicators	Partners & Other Projects	Year of implementation
1. By the end of 2017, there will be a 10% increase in efficiency in water use among households and business and a 10% increase in adoption of water conservation practices.	Create new messages on water saving tips for homes and businesses and new messages on the true cost of water	Message design and development water saving tips	# of radio/TV PSAs and messages produced on energy saving	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;	WRA, NWC NIC MoW&H NEPA PSOJ	Year 1
	Create new messages on creative and affordable financing options for rain water harvesting technologies (households, businesses and farmers)	Message design and development on financing options and rain water harvesting technologies available	# of radio/TV PSAs and messages produced for rain water harvesting	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;	PSOJ NHT JAS	Year 3 (after Adaptation Fund is established)
4. By the end of 2017, there will be a 30% increase in the number of farmers implementing sustainable irrigation technologies and practices to improve water efficiency and production.	Create new messages on water conservation and irrigation for farming sector	Message design and development on water saving tips	# of radio/TV PSAs and messages produced on water conservation and the importance of efficient irrigation	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;	NIC JAS IICA MoAF Commodity boards Greenhouse Association	Year 1
	Create new messages on creative and affordable financing options for investing in irrigation for farmers	Message design and development on financing options	# of radio/TV PSAs and messages produced for creative financing arrangements	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;	PSOJ MoAF	Year 3 and 4
3. By the end of 2017, there will be at least a 20% increase of public reporting leaks or damages to water infrastructure when they occur and a 20% reduction in incidences of vandalism to water infrastructure.	Create new messages on harmful practices that damage water resources	Message design and development on harmful practices that degrade water resources and which will make climate change impacts that much more damaging	# of radio/TV PSAs and messages produced on water conservation	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;	NEPA NWC NIC WRA Rural Water Supply Limited RADA MoWH Police	Year 1
	Create new messages to prevent vandalism of water infrastructure.	Message design and development on social responsibility for maintaining water infrastructure	# of radio/TV PSAs and messages produced on the protection of water infrastructure	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;		Year 1 and 2
For all objectives	For all of the above, create related print materials	Print production – posters, brochures	Number of posters and print products produced	Materials designed on-time and within budget, appropriate	Panos-Voices	As above

	(brochures, bumper stickers, flyers, etc.) to support PSA reach		to support PSA reach	distribution channels utilized	NEPA Private Sector	
	For all of the above, utilize new social media channels (twitter, Facebook, etc.) to promote key messages	Social Media	#of social media links made and messages sent through SM channels	Messages sent on a timely-basis – and for key dates (e.g., World Water Day, etc.)	Digicel LIME Utech-Carimac web students	Year 2
	For all of the above, use mobile phone text message alerts to get message out	Text Messaging	#of messages sent through text list-serves, #of persons reached	Messages sent on a timely-basis – and for key dates (e.g., World Water Day, etc.);	Digicel Lime	Year 2
	Produce video on pilot results from the water projects implemented under the SPCR	video	Video produced	Video production team hired Video produced on time and within budget Video is broadcast Copies distributed Video shown in several forums	CPTC Carimac Panos	Year 4
Communication Strategies for the sector	Support the WET programme to create modules linking climate change with water so that CC is infused into school learning	Teacher training and school education	Number of modules developed on CC; number of teachers trained; number of teachers implementing CC in WET related schools	Interest in CC applications to WET is keen, consultant is hired to develop modules, module prepared on time,	WET Ministry of Education NEPA NEEC	Start in Year 1 and throughout all years
	Support the Panos Voices for Climate Change program especially at the community level, with the mainstream media and in support of the performing artists programme	Voices Campaign	Number of joint initiatives done with Voices	Voices programme promotes water messages, artist champions promote water messages	Voices and its partners	All years
	Support community based research & monitoring of water resources and link water conservation to BEST competition	Community data collection activities and promotion of community conservation and harvesting activities		Number of communities/people involved in data collection Number of communities entering BEST water conservation competition category	SDC NEPA Private sector	From year 2 onwards

APPENDIX J - SUB-STRATEGY FOR THE AGRICULTURAL & FISHERIES SECTOR

***Important Caveat**: It is noted in this sub-strategy that the agricultural sector is a major consumer of water through irrigation. However, strategies to address agricultural water use are included under the water sub-strategy and are not addressed here. Similarly, it is acknowledged that new and improved energy applications are needed for both agricultural and fisheries production, but these measures are discussed under the sub-sector for energy, rather than in this section.*

It is further acknowledged that there are several different sub-sectors to the agricultural sector which includes protected agricultural, apiculture, livestock production, horticulture, short term vegetable production, cocoa, coffee, banana, and coconut production to name just a few. The strategy does not go into the level of technical detail that is required for supporting communication for all of the adaption practices that will be needed in each of these diversified levels of production. The development of specific communication activities for each of these sub-sectors should be done by the MAFF.

*Rather, the communication activities proposed here are targeted "very broadly" to support crop production and terrestrial land use strategies, and to a limited extent – livestock production and fisheries**. It is not meant to be an exhaustive examination of the sector's CC needs as a whole.***

With regards to protecting livestock, other than the raised poultry house technology identified by Spence (2008), no other technologies for livestock were identified through the consultations conducted in the course of preparing the overall strategy This does not mean that they do not exist, just that they were not identified through the investigations that were conducted. Hence, adaptation strategies for climate resilient livestock production are largely not addressed.

What is important here, however, is greater appreciation for the role of agriculture in climate mitigation – particularly with regards to improved land use and watershed resources as they pertain to reducing Jamaica's climate footprint. Poor agricultural practices can be one of the most important contributors to carbon emissions.

Towards a Communication Strategy for the Farming and Fishing Sectors

Overall Communication Goal - Agriculture

By 2017, at least 50% of the small farm sector – especially small farmers – will understand that "climate smart" farming must be the new way of doing business and will be actively involved in making their production more climate resilient through specific adaptation and mitigation measures.

Main Communication Objectives & Outcome Indicators

1. By 2017, to have at least 50% of farmers be able to articulate: (1) what Climate Change is; (2) why it is happening (including the impact of their own negative farming practices on carbon emissions such as slash and burn agriculture, deforestation); and (3) what impact CC is likely to have on their production in the future.

2. By 2017, to have at least 40% of the overall farming population in Jamaica exposed to new and improved CC-friendly agricultural practices that have been developed jointly among research institutions such as RADA, Bodles-MOA, SRC, CARDI, in order have at least a 30% increase in the number of farmers actively implementing at least two climate smart practices such as water harvesting, drip irrigation methods, water conservation, protected area agriculture, improved crop production methods, improved pest control, improved livestock production, or other technologies to make their production more resilient as well as a 30% reduction in harmful agricultural practices that degrade upper-watersheds and impact coastal water resources through improved land husbandry and reforestation practices).

3. By 2017, to have 30% of farmers engaged in monitoring climate change impact indicators (incidences of pest outbreaks, fungus or mould outbreaks, temperature changes, etc.) on their own farms and own areas and transmitting this data back to scientific centres.

4. By 2017, to have at least a 20% increase in the number of farmers with some level of insurance.

5. By 2017, to have at least a 30% increase in the number of farming communities who have completed local ADRM community plans for inclusion in their parish DRM plans and under the national ADRM plan

General Thrust of the communication and public awareness under the SPCR for Agriculture & Fisheries

Under the SPCR, with regards to public awareness, demonstration plots have been identified as one of the key methods and approaches for learning:

> *"emphasis will be placed on the education of key stakeholders, including subsistence and commercial farmers, and professionals in the sector regarding current adaptation technologies and strategies, and how they may effectively implement these strategies. Demonstration plots, demonstration projects, and the* ***creative sharing of lessons learnt by farmers*** *will be utilized in the education and communication processes. Added*

emphasis will be placed on engaging females, in education and adaptation initiatives, given their important roles in the sector and households."

The funding of these demonstration activities in the short to medium term phase will be primarily by the PPCR and the Climate Change Adaptation and Disaster Risk Reduction project (CCADRRP), funded by the EU/UNEP/GOJ. Both programmes have components focussing on mainstreaming climate change concerns into sectoral policies and plans, climate change capacity building and awareness raising.

However, demonstration plots alone will not be enough to truly enhance resilience. From the above SPCR strategic actions, and from the corresponding situational analysis and review of available resiliency options, it is clear that a central tenet of the strategy for agriculture must be to focus on livelihoods. Vulnerable groups and most vulnerable livelihoods within the sector need to be identified. Messages need to be put within a "livelihood framework" – rather than stressing climate change per se. In other words, the angle or hook to be taken when communicating CC to the fishing, livestock, farming and forestry sectors needs to be framed within the context of sustaining livelihoods, making a living and earning an income – if it is going to be well received by the main target audiences.

The strategy must also start with those best practices that are already known and proven, while research is done to identify new crop varieties and pest control strategies that are more climate resilient and new fisheries options are proven. Until these recommendations are available, however, known strategies such as those identified by Spence (2008) should be encouraged for the small scale agricultural sector.

In addition, efforts must be made to show both farmers and fishers the ***benefits*** of "climate smart" production and that climate smart production must be the new way of doing business. Indeed, promotion of "climate smart" practices is the globally recognized term for climate adaptation in the sector and is the term used by FAO, CTA, IICA and most main global agricultural research. Farmers need to be ***incentivized*** to see how switching to climate smart strategies may give them a competitive livelihood edge. The national consultation noted that new – and lucrative – opportunities may emerge due to climate change. A few strategies in this regard include:

- Moving into protected agricultural production that offers climate and water control, as well as the possibility to be temporarily removed during storm events.
- Moving into nursery production so that farmers can be reequipped with seedlings in the event of storm events
- Through farmer groups – collective investment in post-harvest storage facilities that can be run by alternative energy so that crops and livestock can be reaped prior to storm events and sold for high profit afterwards. In Jamaica, when poultry is often decimated – groups such as the Jeffrey Town Farmers Association (JTFA) have fared well because they have solar and wind powered storage facilities that allow them to butcher and freeze their poultry prior to storm events

- For fisheries, adopting improved Fishing Aggregated Devices (FAD) fish pots that will reduce ghost fishing and also going into production of improved FADs;

- Also for fisheries, moving into fish-farming; or moving into lightweight boat construction that will improve energy efficiency and thus increase profit margin.

These recommendations are by no means exhaustive. There are other climate smart practices that can be promoted and shown to have considerable benefits to farmers and fishers alike. These will no doubt be determined as the SPCR unrolls.

Another key pillar of the strategy must also be to equip and build the climate literacy and communication capacity of rural service providers – especially extension staff at RADA, the 4H, fisheries officers, commodity board extension officers and the like, as the front line soldiers in communicating climate resilience with the rural base.

At the same time, the strategy must also seek to employ the use of ICTs (Web 2.0 tools, mobile phones, and on-line services) and new social media in order to minimize actual face-to-face extension communication and to encourage virtual extension exchanges. These methods are particularly important for communicating early warning information to both farmers and fishers.

The Farmer Field School (FFS) approach has been institutionalised within RADA's extension approach in some parts of the island. The FFS methodology should be widened to include the "Farmer Climate School" as has been done in other countries.

Where possible, the strategy should engage farmers and fishers in the collection and communication of data using jointly established climate criteria. In the case of agriculture, these indicators will likely involve changes in: (a) rainfall; (b) pest infestations; (c) fungal diseases; (d) soil fertility; (e) incidences of invasive species; (f) livestock diseases; (g) pollination; (h) incidences of slash and burn; and so on. In the case of fisheries, these indicators will likely involve changes in: (a) fish stock availability; (b) fish stock locations; (c) sea grass removal; (d) coral bleaching; and (e) illegal fisheries practices.

As much as possible, the strategy must be built on existing strengths and opportunities for synergies. Partnerships must be formed with other projects and with partner agencies for the implementation of communication activities to avoid duplication and to leverage existing resources and lessons learnt. Chief among these partnerships must be the:

1. The work that Jamaica Social Investment Fund (JSIF) is doing with Mona Geo-Informatix through 3D simulation software

2. Building on work already started by IWCAM

3. Building on community media potential such as the work that has been done through the Trinityville Women Farmers' drama group and the Jeffrey Town Farmers' Association radio station (JET-FM)

4. The GEF Small Grants Programme Implemented by the UNDP

5. The GEF-UNDP Project "Capacity Building for Sustainable Land Management"
6. The FAO Community Agricultural Disaster Risk Mitigation Planning project "Strengthening Community Preparedness and Resilience to Natural Disasters in Selected Vulnerable Areas of Jamaica OSRO/RLA/102/BEL"
7. "Harnessing the Potential of Our Plants for Health and Wealth by the Application of Biotechnology" project at the Medicinal Plant Research Group, Biotechnology Centre, UWI
8. The FAO and EU's Food Facility Project – Irrigation Component, Backyard Gardening Component and Protected Agriculture component
9. The National Irrigation Commission (NIC) National Irrigation Development Programme (NIDP)
10. USAID and the Green House Growers' Association's "It's Better Inside-Protected Area Agriculture" Programme and video
11. The MAJIC "Crop Research and Forecasting" initiative
12. MAJIC's Vulnerability Assessment programme
13. MAJIC's Training of Extension Officers in Climate Change programme for Agriculture
14. Training of Extension Officers in Communication for Development through FAO-CARIMAC's Communication for Sustainable Development Initiative
15. RADA's Early-Warning Communication to Farmers through Text-Messaging
16. Web-based Agricultural Tips
17. ODPEM's tips for farmers on their website
18. The Caribbean Agro-meteorological Initiative (CAMI)
19. The World Bank's Agricultural Risk Management Group's training course "Risk Mitigation for Small Holder Agricultural Production in the Caribbean"
20. FAO Technologies and Practices for Small Scale Agriculture (TECA).

Finally, the strategy must build on proven community based communication practices such as community radio and community drama/role play.

These activities form the pillars for what the communication strategy here can realistic address within its five year (2012 to 2017) period.

Key Messages

- Climate smart farming is the new way to do business in agriculture
- Vulnerable farm families need to prepare for CC

- Find out if your farm is in a hazard zone and what your climate risks may be
- Farmers must take steps to reduce carbon emissions
- Climate change can bring new farming opportunities
- Farmers' local knowledge is critical for climate resilience
- Learn what specific changes you can make for your own farming system
- Find out how to protect your crops from climate related pests
- Participate in farming training days to learn more climate smart tips
- Make sure your farm is part of your local ADRM plan

Primary audience(s):
Farmers and farming families – especially those that are most vulnerable (such as Female-headed farm households) and most likely to be adversely impacted by climate change and weather related effects on their production

Secondary Audience (s) and Possible Partners:

- Ministry of Agriculture, Forestry and Fisheries
- Rural Agricultural Development Authority (RADA)
- Jamaica Agricultural Society (JAS)
- Jamaican Organic Agricultural Movement (JOAM)
- Jamaica 4H
- National Irrigation Commission (NIC)
- Food and Agriculture Organization of the United Nations (FAO)
- Inter-American Institute for Cooperation on Agriculture (IICA)
- Caribbean Agricultural Research and Development Institute (CARDI)
- The Caribbean Institute of Media and Communication (CARIMAC's) Centre for Communication for Development
- Jeffrey Town Farmers Association (JTFA) and JET-FM
- Coffee Industry Board
- Cocoa Industry Board
- Banana Industry Board

- Various Recognized farmer groups and associations
- Farmer Credit Unions and Cooperatives
- Agricultural Supply Stores
- Agro-Grace
- United Nations Environmental Programme (UNEP)-European Union's "Climate Change Adaptation and Disaster Risk Reduction" project
- World Bank's Agriculture Insurance project (for possible insurance for Coffee producers, banana producers, and other agricultural commodities)
- Met office
- NEPA
- Forestry
- Research Institutions such as NCU, CASE, UCC, UWI, UTEC

Proposed Communication Activities for Agriculture

Overall Communication Goal

By 2017, at least 50% of the small farm sector – especially small farmers – will understand that "climate smart" farming must be the new way of doing business and will be actively involved in making their production more climate resilient through specific adaptation and mitigation measures.

Corresponding Objective & Outcome Indicators	Potential Communication Activities	Type of Activity	Output indicators	Process Indicators	Partners & Projects	Year
1. By 2017, to have at least 50% of farmers be able to articulate: (1) what Climate Change is; (2) why it is happening (including the impact of their own negative farming practices on carbon emissions such as slash and burn agriculture, deforestation); and (3) what impact CC is likely to have on their production in the future. 2. By 2017, to have at least 40% of the overall farming population in Jamaica exposed to new and improved CC-friendly agricultural practices that have been developed jointly among research institutions such as RADA, Bodles-MOA, SRC, CARDI, in order have at least a 30% increase in the number of farmers actively implementing at least two climate smart practices such as water harvesting, drip irrigation methods, water conservation, land husbandry, protected area agriculture, improved crop production methods, improved pest control, improved livestock production, or other technologies to make their production more resilient as well as a 30% reduction in harmful agricultural practices that degrade upper-watersheds and impact coastal water resources through improved land husbandry and reforestation practices).	Produce specific messages (PSAs) on the key risks and impact of CC on agricultural production as well as how agriculture itself can sometimes contribute to Climate Change	PSAs	Number of PSAs produced for specific key messages to support the main goals and gaps in awareness	PSAs aired Responses to the PSAs Request for more information	MoA JOAM CARDI IICA RADA FAO 4H CARIMAC Panos SRC All relevant agencies	1
	Produce short five (5) minute video clips to promote awareness of specific improved practices for CC mitigation	Production of Promotional video clips (5 minutes each) for discrete CC tips for farmers	Script produced; Video segments produced	# of people engaged in the production process; Draft script produced; Script pretested Rough footage recorded; Pretesting completed Video clips launched Video actively being used with farming communities Videos posted on YouTube		1-2
	Produce an instructional video technology package on improved organic farming practices with discrete segments for each tip so that clips can be viewed individually, down loaded, and so on.	Production of instructional video clips (5 minutes each) for discrete CC tips for farmers	Script produced; Video segments produced	# of people engaged in the production process; Draft script produced; Script pretested Rough footage recorded; Pretesting completed Video clips launched Video actively being used with farming communities Videos posted on YouTube	MoAF FAO JOAM	2
	Promote the above videos through farmer demonstration days	Farmer Demonstration days; one-on-one communication	# of demo days	RADA and JAS officers actively engaged in using	RADA 4H	2-4

				videos # of farmers present at demo days Requests for more information		
	Broadcast videos on relevant Jamaican television stations and distributed to farmers groups	Broadcasting and distribution of DVDs	Number of times program is aired Number of DVDs distributed	Number of requests for copies of DVDs, number of calls after broadcast	CPTC JIS TVJ Etc.	2
	With the Jeffrey Town Farmers (JET-FM) promote a radio campaign on CC messages with practical tips for the farming population	Community radio promotion	# of radio clips produced by JET-FM	Partnership with JET-FM established # of JET programs that promote these messages; # of calls/hits for further information	JET-FM MoA CARIMAC Panos	2
	Develop a 3D simulation tool that will visually illustrate climate change impacts on farm under different crop production scenarios	3D simulation tool	Tool produced	Number of times tool used with farmer groups Extension officers trained in tool	MoA Mona Geo informatix UWI	2-3
	Promote Farmer "climate" Schools to encourage farmer peer learning through on-farm demonstrations	Farmer field schools	Number of FFS hosting climate schools	#of extension officers trained in CC # of farmers trained # of farmers joining Sustainability of groups	RADA MAJIC project 4H JAS MoA FAO	3-5
	Recreate RADA tips that are now in print into video/audio clips and post on line	On line video clips	#of Video clips for all CC farmer tips	Clips produced on time Number of hits	RADA MoA CARDI CARIMAC Panos FAO	2-3
	Repackage and produce existing videos and materials on all CC topics and distribute to all farmer groups around the island	Repackaging	#of pre-exiting materials included #of packages produced	Willingness of prior materials to be involved		3
3. By 2017, to have 30% of farmers engaged in monitoring climate change impact indicators (incidences of pest outbreaks, fungus or mould outbreaks, temperature changes, etc.) on their own farms and own areas and transmitting this data back to scientific centres.	Provide community and farmer training in agricultural data collection and monitoring.	Training sessions in data collection	# of training sessions designed and held # of farmers trained	Training is well received Farmers collect and submit data regularly Data is used by scientists for climate modelling	UWI Climate Studies Group	2-4
4. By 2017, to have at least a 20% increase in the number of farmers with some level of insurance.	Promote crop insurance products through farmer climate fields via flyers and video clips	Promotional video on crop insurance (15 Minute)	video produced flyers produced	Farmer insurance products are created Insurance products are	Jamaica Insurance Association	4

		Flyers/brochures		financed and purchased	JAS MoA ODPEM	
5. By 2017, to have at least a 30% increase in the number of farming communities who have completed local ADRM community plans for inclusion in their parish DRM plans and under the national ADRM plan	Promote the ADRM planning process through use of an instructional video and community DRM Planning exercises	Video ADRM community plans	Video produced Training sessions planned and held Training Reports Completed ADRM community plans	ADRM plans are developed using participatory methods and used at the community, parish and national level	FAO MoAF SDC ODPEM	Years 2-5

Overall Communication Goal for Fisheries
By 2017, at least 30% of fishers in at least three of Jamaica's most vulnerable coastal zones will be actively engaged in sustainable climate resiliency practices that will also help them maintain a sustainable livelihood.

Main communication objectives& and outcome Indicators

1. By the end of 2017, there will be at least 20% in the number of fisher folk who can explain how CC is likely to impact fish stocks and thus their livelihoods. Among these there will be at least a 5% increase in the number of more sustainable practices such as the use of biodegradable fish pots; mangrove replanting; use of solar powered storage facilities; among other recommended practices still to be identified and a 30% decrease in illegal dynamiting and other harmful practices along with a 20% increase in the number of cases reported.

2. By the end of 2017, at least 30% increase in the number of fisher folk who will be aware of alternative livelihood options (such as fish farming) that they may be able to pursue in order to survive and at least 15% of fishers who will be actively involved in alternative livelihood activities such as fibreglass boat construction, aqua culture.

3. By 2017, to have at least a 30% increase in the number of fishing communities who have completed local ADRM community plans for inclusion in their parish DRM plans and under the national ADRM plan

Key Messages Needed for Fisheries

- Fiberglass boats can save energy costs and are good adaptation measure
- Use biodegradable FADS to prevent ghost fishing
- Consider fish farming as an alternative livelihood
- Consider fiberglass boat building as an alternative livelihood strategy
- Don't dynamite for fish
- Report incidences of dynamiting on coral reefs
- Catch lionfish as an alternative livelihood
- Protect and replant mangroves
- Retrofit storage facilities with renewable energies to store fish for longer
- Practice safety at sea and respect early warnings

Primary audiences:
Fisher folk and their families

Households in coastal communities
Local private sector in coastal communities
Tourism interests in coastal communities

Secondary Audience(s) and possible partners:

- Ministry of Agriculture and Fisheries, Fisheries Extension Officers, Environmental NGOs working with fishing communities and with protected areas fishing associations; outlets that sell fishing equipment, National Environmental Planning Agency (NEPA), United Nations Environmental Programme (UNEP)-European Union's "Climate Change Adaptation and Disaster Risk Reduction" project.

Communication Activities for Fishers

Overall Communication Goal

By 2017, at least 30% of fishers in at least three of Jamaica's most vulnerable coastal zones areas will be actively engaged in sustainable climate resiliency practices that will also help them maintain a sustainable livelihood.

Corresponding Objective and Outcome Indicators	Potential Communication Activities	Type of Communication Activity	Output indicators	Process Indicators	Partners and Projects	Year
1. By the end of 2017, there will be at least 20% in the number of fisher folk who can explain how CC is likely to impact fish stocks and thus their livelihoods. Among these there will be at least a 5% increase in the number of more sustainable practices such as the use of biodegradable fish pots; mangrove replanting; use of solar powered storage facilities; among other recommended practices still to be identified and a 30% decrease in illegal dynamiting and other harmful practices along with a 20% increase in the number of cases reported.	Community meetings with fishers using media products and messages produced to promote CCA and DRM	Community meetings	# of community meetings held Community reports and minutes	# of participants in attendance Quality of participation; Demand for more information and further activities	MAFF ENGOs ODPEM CCA NEPA Pub Ed UNEP	1-2
	Link/meet with fisheries department at the Ministry of Agriculture and NEPA to learn what measures and steps are being planned for fishing communities for the creation of messages	Meeting	# of meetings with govt. reps held # of meeting reports/minutes	Clear adaptation activities are identified for promotion; Govt. supports and welcomes the opportunity to promote the actions through Voices		1
2. By the end of 2017, at least 30% increase in the number of fisher folk who will be aware of alternative livelihood options (such as fish farming) that they may be able to pursue in order to survive and at least 15% of fishers who will be actively involved in alternative livelihood activities such as fibreglass boat construction, aqua culture.	Link to UNEP economic studies on fisheries and also with NEPA to see what messages currently exist and how Voices can partner	Web link with UNEP and NEPA	#of web links established	#of hits on site		2-4
	Produce posters and brochures with adaptation messages (improved fish pots) for fishing communities	Print production	# of brochures produced; # of posters produced	Materials produced on time and within budget; Materials pretested; Materials distributed appropriately		2-3
	Produce music/song/jingle for fishing communities	Audio recording	#of audio songs produced	Materials produced on time and within budget; Materials pretested; Materials distributed appropriately	As above but also with CPTC or Panos, Artists, DJs	3
3. By 2017, to have at least a 30% increase in the number of farming communities who have completed local ADRM community plans for inclusion in their parish DRM plans and under the national ADRM plan	Promote the ADRM planning process through use of an instructional video and community DRM Planning exercises	Video ADRM community plans	Video produced Training sessions planned and held Training Reports Completed ADRM	ADRM plans are developed using participatory methods and used at the community, parish and	FAO MoAF SDC ODPEM CCAM	Years 2-5

			community plans	national level	Fisheries officers	
	Conduct community media dialogue (with both media and fishers) in key at risk fishing areas to identify actions needed to encourage DRM planning	Community meeting	#of meetings held #of stories published # of actions identified for follow-up implementation	Quality and level of participation from both fishers and media reps		

APPENDIX K - SUB-STRATEGY FOR THE HEALTH SECTOR

Towards a Communication Strategy for the Health Sector

Based on the gaps in knowledge, attitudes and practices, and based on the priority actions that have been developed for the SPCR, the following overall communication goal, and communication objectives with measurable outcome indicators are proposed for the health sector.

Overall Communication Goal
By the end of 2017,there will be at least a 30% increase in the number of Jamaica's households (and especially those that are most vulnerable, such as FHHs) that will be able to actively involved in taking concrete steps to protect their health from climate change related impacts.

Main Communication objectives & Indicators

1. By the end of 2017, 50% of Jamaicans especially the more vulnerable householders will be able not only be able to describe the measures to mitigate against vector borne diseases (such as using bed nets, removing vector breading grounds, protecting water supply, etc.) but will be actively adopting recommended practices.

2. By the end of 2017, 50% of Jamaicans' attitudes will have changed towards accepting personal responsibility for the environmental health of their personal surroundings

3. By the end of 2017, at least 10% of Jamaican households will have some sort of home garden to improve their nutrition levels in the event of CC-related rises in food prices

4. By the end of 2017, 50% will know what to do, and who to call in the event of a health epidemic

Strategies and Actions for Implementation

To achieve the above objectives, a four pronged or four-tiered communication approach is needed.

A) Capacity Building Health Personnel at all levels

First, by the end of 2013, 100% Health educators will need to be trained and certified in delivery of health education messages will be actively involved in relating to climate change. This would:

- involve training workshops for health staff

- Developing educational material for health educators (Using COMBi or other communication strategies staff

B) Mainstream Media Promotion to the General Public

Promotion of health messages through PSAs and other Television and radio media

C) Community Awareness
And, as is the case for all the sectors, a very intensive community awareness initiative needs to be mobilized with several key partners and especially targeted at vulnerable communities

D) Formal Education Promotion
Links made with Ministry of Education to infuse CC health communication into curricula and into formal classes.

Primary audience (s):
General public, schools, and Householders and especially most vulnerable households (such as Female-headed households (FHHS), poor, unemployed and those with disabilities, and farmers)

Secondary Audience (s):
Ministry of Health, Public Health Clinics, Red Cross, NGOs working in water sanitation, Jamaica Social Investment Fund, Caribbean Food and Nutrition Institute (CFNI), Rural Agricultural Development Authority (RADA) businesses, schools, links with other health related fairs such as Blood Drive Campaign, CEHI, Parent Teachers Associations, Parish Councils, Ministry of Education

Key Messages Needed:

- Climate change will likely cause increases in respiratory illnesses
- CC will impact food prices and thus nutrition – grow your own food
- CC will impact water quality and quantity – and therefore health and sanitation
- CC will bring greater vector-borne diseases such as malaria and dengue
- Be on the look out for dengue and malaria – know the symptoms
- No one is safe from climate vectors. Everyone has a role to play in climate health
- Use repellents.
- Get maximum benefit - Leave your window open when flogging is going on
- Know who to call in the event of an outbreak
- Listen out for health alerts

Proposed Communication Activities for Health

Overall Communication Goal

By the end of 2017,there will be at least a 30% increase in the number of Jamaica's households (and especially those that are most vulnerable, such as FHHs) who will be able to actively involved in taking concrete steps to protect their health from climate change related impacts.

Objectives	Potential Communication Activities	Type of Communication Activity	Output indicators	Process Indicators	Partners	Year
Mainstream Media Promotion						
1. By the end of 2017, 50% of Jamaicans especially the more vulnerable householders will be able not only be able to describe the measures to mitigate against vector borne diseases (such as using bed nets, removing vector breading grounds, protecting water supply, etc.) but will be actively adopting recommended practices. 2. By the end of 2017, 50% of Jamaicans' attitudes will have changed towards accepting personal responsibility for the environmental health of their personal surroundings 3. By the end of 2017, at least 10% of Jamaican households will have some sort of home garden to improve their nutrition levels in the event of CC-related rises in food prices	Promotion of messages through an overall jingle developed to promote messages support the above messages using radio and TV	Music jingle	Jingle produced	Jingle aired	Panos TVJ CPTC CARIMAC MoH JIS	Year 1 & 2
	Public Service Announcements prepared for key health messages	PSAs	PSAs produced	PSA's aired	Panos TVJ CPTC CARIMAC MoH JIS	All years
	Print CC health info on consumer packaging for products made in Jamaica (such as Grace Kennedy, Best Foods, etc.)	Promotional labeling	# of labels that include CC health related information and warnings	Number of Jamaican companies that come on board and promote messages.	PSOJ Specific companies MOH	Year 2
Community-Based Strategies						
1. By the end of 2017, 50% of Jamaicans especially the more vulnerable householders will be able not only be able to describe the measures to mitigate against vector borne diseases (such as using bed nets, removing vector breading grounds, protecting water supply, etc.) but will be actively adopting recommended practices. 2. By the end of 2017, 50% of Jamaicans' attitudes will have changed towards accepting	Exhibits at health fairs	Fairs/exhibits	Number of fairs and exhibits held	Number of people visiting health booths at fairs	MoH Panos/Voices	All years
	Community training sessions in most vulnerable communities	Community training with health workers	Training reports Contact numbers promoted or Hot line and web link established	Number of participants in training, actions taken post-training period # of hits on site #of hot line calls	MoH Panos/Voices	Year 1 & 2

personal responsibility for the environmental health of their personal surroundings 3. By the end of 2017, at least 10% of Jamaican households will have some sort of home garden to improve their nutrition levels in the event of CC-related rises in food prices	Use of traditional visits. Door to door visits by health workers.	Face to face visits by health workers	Number of health workers trained in CC and involved in conducting door to door visits	CC messages become part of health workers' regular education activities	MoH	All years
	Create a CC health mascot that can promote vector messages	Mascot creation	Mascot created and promoted	Number of community visits made by mascot	Panos MoH NEEC Paho	Year 2
	Partner with Voices' climate artist champions to promote key messages	Voices artist promotion	Number of communities visited by artists	Number of artists involved	Panos MoH	Year 1 & 2
Formal Education Strategies						
All objectives and messages	Preparation of print flyers, posters, stickers, book covers for schools reflecting health and CC messages and post on website	Posters Flyers Stickers Book covers for schools	#of promotional materials produced	# of calls to action that can be directly linked to material Material distributed	Panos CARIMAC MoH MoE NEEC	Year 2
4. By the end of 2017, 50% will know what to do, and who to call in the event of a health epidemic	Establishment of a hot line, or promotion of existing hot line numbers/contact information at the Public Health department, for VB reporting and a web link	Hot line	#of hot line calls made	Quality and relevance of calls received	MoH	Year 1
	Training of community "eye reporters" especially in high risk communities to encourage reporting of health outbreaks	Community media training/fellowships	Number of training sessions held Number of community eye reporters trained	Number of eye reports of outbreaks and stories generated on community health issues	Panos CARIMAC Mainstream Media	Year 2 and 3
Health Sector Capacity Building						
All objectives will be supported.	Creation of training Toolkit for health educators	Tool kit developed	Consultant is hired to prepare the tool kit	Cooperation is received by the consultant	MofH Paho CEHI	Year 1
			Messages and/or Kit produced Number of copies produced	Messages incorporated into existing kit or new kit distributed Health workers trained in use of the	MofH Paho CEHI	Year 1

				kit		
	Training and sensitization workshops of Health Educators at all levels: • Senior Directorate • Clinicians • Community based staff • Training for relevant stakeholders	Training sessions	Reports of training sessions Level of participation	Number of health workers trained	MofH Paho CEHI	Year 1

APPENDIX L - SUB-STRATEGY FOR THE TOURISM SECTOR

The primary strategic focus of the SPCR for the Tourism sector is to sensitize the key players in the sector, as well as local development authorities and the general public to the current and anticipated impacts of climate change and the appropriate adaptation strategies to be adopted. Of equal importance is the mainstreaming of climate change concerns in tourism sector plans, policies and regulations. These are to be the focus of the PPCR project, with significant support expected from the Climate Change Adaptation and Disaster Risk Reduction project.

Overall Communication Goal

By 2017, at least 30% of tourism operators will have Environmental Management and DRM plans which address CC issues in place and will be actively implementing at least two CC adaptation measures to make their properties more resilient.

Main Communication Objectives & Outcome Indicators

1. By 2017 By 2017, at least 50% of the sector groups (1) will have been trained in development of Environmental Management and DRM plans which address CC issues (2) will have developed these plans

2. By 2017, all tourism operators will understand the CC risks associated with the sector in Jamaica and the risks specific to their particular geographic locations.

3. By 2017, at least 30% of tourism operators will be implementing two CC measures

4. By 2017, there will be a 30% increase within the Jamaican public who be able to articulate a few key activities involved in government programmes that are trying to make the tourism sector more resilient

Primary audiences:

Hoteliers, persons working in the tourism sector, community tourism groups, eco-tourism entities, generally tourism product providers, providers of goods and services to the tourism sector and its eight sub-sectors. And JAMPRO as the agency that negotiates the terms of new investments in the sector (i.e.: location of new developments etc. with the overseas investors. JAMPRO needs to be aware of the risks facing the sector and the need to have adaptation and mitigation measures in any planned activity or development in the tourism sector.

Key Messages Needed:

- Retrofit to conserve water
- Resist the temptation to build too close to the coast line
- Maintain sea grasses
- Nourish your beach

- Recycle grey water
- Reposition and re-market your tourism product as 'climate friendly'
- Get insurance for drought, hurricanes, floods, earthquakes and storm events
- Invest in break waters
- Replant mangroves
- Respect legislation and environmental laws
- Report breaches
- Participate in managing common coastal resources
- Get certified (EAST, Green Globe, etc.)
- Make your staff climate resilient
- Help collect data to protect your tourism investment

Secondary Audience(s):

- Community Based Tourism network
- Environmental NGOs
- Local Government agencies
- Tourism Trade Associations (JHTA, Craft Vendors Assns., Ground Transport Assns., such as JUTA)

Partners:

- Ministry of Tourism
- Tourist Board
- ODPEM (Officer for Disaster Preparedness and Emergency Management)
- CDEMA (Caribbean Disaster and Emergency Management Agency)
- NEPA and other enforcement agencies involved in building code regulations
- Private Sector Organisation of Jamaica
- Tourism Product Development Company (TPDCO)

Strategic Approaches or Angles to be Promoted
The following strategies and approaches form the key pillars of the strategy for this sector:

1. The strategy must be very targeted at tourism producers as the main priority audience and must emphasize the importance of private sector action, investment and responsibility if CC resilience is to be achieved;

2. A risk-versus-investment opportunity approach should be emphasized

3. It must also emphasize the key actions the GOJ is doing

4. It must build on past lessons learnt in the sector and scale up important lessons learnt from past projects and programmes that support Climate change adaptation, DRM and/or sustainable environmental action

Opportunities for Synergies
The following programmes hold potential for scaling up and achieving synergies:

- The EAST or "Environmental Actions for Sustainable Tourism" project which was very successful at encouraging many tourism operators and hotels to adopt sustainable environmental measures. Hotels passed certification steps and were acknowledged publicly. But despite its tremendous success, the EAST model has not yet been mainstreamed or scaled up to be institutionalised at the national level.

- Similar pilot programmes – such as Blue Flag have also borne fruit but have remained at the pilot stage in Jamaica.

- The Ministry of Tourism is participating in the *IDB/ CDEMA Regional Monitoring and Evaluation System for Disaster Risk Management and Climate Change Adaptation in the Caribbean Tourism Sector Project*.

- Several community based, alternative livelihood eco-tourism projects also show promise for making the sector more climate wise.

Based on the mix of above messages, the strategy now outlines a set of concrete communication actions for the sector, and ties these proposals to the stated goals and objectives.

Proposed Communication Activities for the Tourism Sector

Overall Communication Goal
By 2017, at least 30% of tourism operators will have Environmental Management and DRM plans which address CC issues in place and will be actively implementing at least two CC adaptation measures to make their properties more resilient.

Corresponding Objective & Outcome Indicator	Potential Communication Activities	Type of Communication Activity	Output indicators	Process Indicators	Partners & Projects	Year
2. By 2017, all tourism operators will understand the CC risks associated with the sector in Jamaica and the risks specific to their particular geographic locations. 3. By 2017, at least 30% of tourism operators will be implementing two CC measures	Develop a 3D simulation tool for the sector that will illustrate CC impacts and also illustrate CC adaptation solutions	3D simulation tool	Tool produced	Tool used in individual tourism properties Number of tools distributed	Mona Geoinformatix MoT TB ODPEM CDEMA NEPA PSOJ TPDCO	1 to 5
	As part of an overall public awareness program, develop key messages related to impact of CC on the sector and best bet mitigation and adaptation measures that hold promise. Promote these materials through face to face meetings with tourism operators.	Brochure print production Suggest face to face communication on this as well i.e., meetings, workshops, bringing messages to trade association meetings	Number of brochures produced and distributed within the private sector Brochure linked/posted on JTB and JHTA website with links to chambers of commerce island-wide Number of meetings held	Number of requests from businesses for brochures Number of downloads of materials from website Calls and requests for more information	MoT TB ODPEM CDEMA NEPA PSOJ TPDCO Panos-Voices CARIMAC	1-3
1.By 2017, at least 50% of the sector groups (1) will have been trained in development of	Develop PSAs to make the sector and the public aware of the importance of Environmental Management and DRM plans	Public Service Announcements	Number of PSAs produced with specific tips for	Number of downloads of materials from		1-2

Environmental Management and DRM plans which address CC issues (2) will have developed these plans 2. By 2017, all tourism operators will understand the CC risks associated with the sector in Jamaica and the risks specific to their particular geographic locations. 4. By 2017, there will be a 30% increase within the Jamaican public who be able to articulate a few key activities involved in government programmes that are trying to make the tourism sector more resilient	which include CC issues for various sectors, including the tourism sector		private sector businesses PSAs posted on JTB and JHTA website and on YouTube	website Calls and requests for more information		
	Host tourism sector community meetings and radio or TV shows and invite tourism reps to respond to the public regarding CC issues	Radio and TV call in shows	Number of shows done Number of sectoral participants Number and quality of questions	MoT TB ODPEM CDEMA NEPA PSOJ TPDCO Panos-Voices CARIMAC		1-3
	Ensure there is a Green Tourism/Environmentally Friendly booth at all tourism market fairs and exhibits promoting Jamaican tourism.	Tourism exhibits/fairs	Exhibit display	Exhibit designed Number of exhibits attended Number of tourism people who inquire/visit		All years
4. By 2017, there will be a 30% increase within the Jamaican public who be able to articulate a few key activities involved in government programmes that are trying to make the tourism sector more resilient	Highlight Green tourism champions on through PSAs around important environmental calendar dates	PR promotion - PSAs	Promotional TV/radio ads	Number of CC tourism champions highlighted	MoT TB ODPEM CDEMA NEPA PSOJ TPDCO Panos-Voices CARIMAC	3-5

APPENDIX M - SUB-STRATEGY
FOR BUILT ENVIRONMENTS, HUMAN SETTLEMENTS AND COASTAL ZONE COMMUNITIES

Under the SPCR, the steps and strategic actions to be taken to improve the climate resiliency of built environments and coastal zones are closely related to those to be taken to improve climate resilience of:

- The tourism sector;
- The fisheries sector; and
- Terrestrial resources.

There is therefore, some degree of repetition and overlap between this sub-strategy and those that have already been articulated for these areas of concern.

In this section, two main areas are examined: (1) built environments generally, and especially vulnerable households with hazard prone areas; (2) the specifically vulnerable coastal zones of Portmore, Old Harbour and Negril.

The section begins with the first – built environments generally and then examines the needs and proposals for the densely populated communities of Portmore, Old Harbour and Negril specifically.

Overall Communication Goal – Built Environments Generally
By the end of 2017, there will be a 10% decrease of vulnerable households living in hazard prone areas and a 5% increase in the number of buildings that have implemented climate resilient (CR) technologies (especially those that are energy and water related) and a 5% increase in the number of new buildings that are designed and built with CR considerations.

Communication Objectives/Outcome Indicators to Achieve the Above Goal

1. By the end of 2017, at least 20% of householders currently living in vulnerable areas, and especially householders in informal settlements in coastal areas – will understand that they are vulnerable to CC and at least 10% of households currently living in the vulnerable areas will have been successfully relocated to less risky sites.

2. By the end of 2017, there will be a 30% increase of private sector construction companies and project management firms who will be made aware of the Building Code and new requirements for climate resilient construction.

3. By the end of 2017, there will be a 30% increase in the number of architects who are aware of climate design elements that can be built into their blue print plans and there

will be at least a 10% increase in the number of architects who are incorporating climate resilient elements into their work.

4. By the end of 2017, all parish councils and building planning agencies will have been made aware of the Building Code requirements and there will be a 20% increase in the number of building approvals in all parishes that respect CC and a 20% increase in the level of enforcement for breaches in the building code and other land use codes that pertain to vulnerable areas.

These objectives have been developed to support both the strategic actions that the SPCR will be implementing over the five year period of the programme, and to also address key gaps in knowledge, information, practices and attitudes that are known to exist with regards to human settlements and built environments.

Key Messages Needed

- Respect the building code to be climate resilient
- Get involved in your local planning and approval process
- Help your vulnerable neighbours
- Retrofit your home or business to improve structural resilience
- Respect environmental laws
- When building new, build to climate standards
- CC and DRM are the new building standards
- Respect and protect coastal and river stabilisation infrastructure
- Protect and maintain wetland areas
- Nourish local beaches
- Make the link - upper watershed actions impact coastal resources and coastal communities

Strategic Communication Approaches to be Promoted for Built Environment Resiliency
The following strategies and approaches form the key pillars of the communication strategy for human settlements and built environments:

1. the strategy must be especially targeted at three main audiences: (1) vulnerable communities; (2) parish councils and planners; and (3) the construction sector.

2. For vulnerable communities, a highly participatory community-based learning approach is needed that builds on existing community actions and community-based programmes

3. It must build on past lessons learnt in the sector and scale up important lessons learnt from past projects and programmes that support Climate change adaptation, DRM and/or sustainable environmental action

Strengths and Opportunities for Synergies

In addition to the CCADRR project which will be the main collaborative project in support of the above strategic actions and messages, close collaboration with the Jamaica Social Investment Fund (JSIF) and Mona Geo-Informatix is strongly recommended.

JSIF has been working in a myriad of vulnerable communities to improve their resilience to natural disasters through improvement in local infrastructure and training. One exciting tool that they have developed with Mona Geo-Informatix is a video simulation tool that illustrates visually what the impact of specific disasters may be at the household level.

The ERP Disaster Simulation Software (DSS) system and application functions as an interactive natural hazards system for the island of Jamaica with the primary goal being to motivate the public into action in implementing preventative measures for securing life and property from the damaging effects of natural hazards. This is done by linking a hazards interactive map with a game-based hazards simulator, visualizing the effects of hazards in a manner that is realistic and interactive. Simulations are carried out for the 3-dimensional recreation of these effects to visualize the outcome of exposure to varying degrees of hazard intensity. This allows the user to display the vulnerability of locations and property to natural hazards across Jamaica, while being offered mitigation strategies in the prevention of damage by and response to the particular hazards. These strategies (engineering recommendations) also account for infrastructure vulnerability simulations of varying levels of hazard intensity, and are representative of the main types of landscape and meteorological environments across Jamaica.

The Disaster Simulation Software (DSS) system is comprised of two main components:

1. A natural hazards interactive map and

2. 2. A hazards simulator

Particularly, the natural hazards interactive map is be able to:

1. Display the parts of Jamaica most prone to the four prominent hazard types, namely
2. coastal and inland flooding, earthquake shaking, landslide, and hurricane-force winds;
3. Display the historical occurrences of these hazards;
4. Display the prominent landscapes across Jamaica;
5. Display the communities across Jamaica;
6. Allow the layers to be panable, zoomable, layerable and spatially referenced;
7. Allow a spatial search function to community-level

8. Link directly to the simulator form the community level

The simulator is able to

1. Recreate animated scenarios of the likely damage to housing for each individual hazard
2. Allow user interaction in inputting roof, wall and foundation descriptions that are used
3. to give a particular hazard simulation model
4. Provide views of the simulations from overhead and north, east, west, and south of
5. oblique view
6. Provide a sectional view through the house of the hazard effect
7. be launched from the interactive map
8. suggest general preventative and responsive action to mitigate damage from hazards

JSIF is using the simulator to educate communities on the effects of hazards, with a goal to present these effects through vivid recreations as well as to encourage people to be active in preparing for hazards.

Primary Audiences
Property owners
Tourism operators (**note**: *these communication activities are included in the sub-sector strategy for tourism)*
Vulnerable groups living in informal settlements
Construction companies
Developers
Architects
Environmental NGOs

Secondary Audiences
The Master Builders Association (MBA)
University of Technology Built Environment Programme (U-Tech)
Parish Councils (PCs)
Parish Development Committees (PDCs)
The National Environment and Planning Agency (NEPA)
Jamaica Institute of Architects (JIA)

Proposed Communication Activities for Human Settlements and Built Environments

Overall Communication Goal

By the end of 2017, there will be a 10% decrease of vulnerable households living in hazard prone areas and a 5% increase in the number of buildings that have implemented CR resilient technologies (especially those that are energy and water related) and a 5% increase in the number of new buildings that are designed and built with CR considerations.

Corresponding Objective and Outcome Indicators	Potential Communication Activities	Type of Activity	Output indicators	Process Indicators	Key partners & projects	Year
1. By the end of 2017, at least 20% of householders currently living in vulnerable areas, and especially householders in informal settlements in coastal areas – will understand that they are vulnerable to CC and at least 10% of households currently living in the vulnerable areas will have been successfully relocated to less risky sites.	Prepare short (30 min) video to explain to communities in simple terms why no settlement and no build zones are needed in some areas of the country	Video PSAs	30 minute video produced	Video producer contracted Script developed; video is widely used and distributed	NEPA SDC GEF Small Grant Fund	1
	Expand the Mona Geo-Informatix 3D simulation tool to illustrate why certain types of structures and geographical zones are subject to higher risk	3D simulation tool	3D simulation tool produced	Mona Geoinformatix contracted; Simulator pretested Tool used	Mona Geoinformatix JSIF	2
	Hold town hall community meetings in vulnerable communities to discuss issues and explain risk issues. Use the video clips, PSAs and 3D simulation tool to illustrate key points	Community meetings	Meeting reports (5)	Number of participants Quality of discussion	SDC Parish Council Planning Officers NEPA ODPEM	2-3
	Notify communities to participate in meetings via town crier systems.	Town crier	Community notification	Town crier is contracted and notification is given at appropriate time before the event	SDC	2-3
	Prepare popular versions (Print)of a modernized building code (including enforcement regulations) that can be easily understood by private construction companies, project managers, developers, architects and by local government planning approval officers..	Booklet – print publication	2000 copies of 30 page popular version printed	Consultant hired to prepare booklet Booklet produced on time and within budget Booklet distributed through appropriate channels Number of requests	UTECH MBA NEPA Ministry of Local Government	3

				for document		
	Prepare popular print materials of CR guidelines and design options for construction for home owners and general public	Booklet – print publication	2000 copies of 30 page popular version printed	Consultant hired to prepare booklet Booklet produced on time and within budget Booklet distributed through appropriate channels Number of requests for document	UTECH MBA NEPA Ministry of Local Government Jampro	3
2.By the end of 2017, there will be a 30% increase of private sector construction companies and project management firms who will be made aware of the Building Code and new requirements for climate resilient construction. 3.By the end of 2017, there will be a 30% increase in the number of architects who are aware of climate design elements that can be built into their blue print plans and there will be at least a 10% increase in the number of architects who are incorporating climate resilient elements into their work. 4.By the end of 2017, all parish councils and building planning agencies will have been made aware of the Building Code requirements and there will be a 20% increase in the number of building approvals in all parishes that respect CC and a 20% increase in the level of enforcement for breaches in the building code and other land use codes that pertain to vulnerable areas.	Prepare popular versions (PowerPoint) of a modernized building code that can be easily understood by private construction companies, project managers, developers, architects and by local government planning approval officers..	PowerPoint	PowerPoint produced	PowerPoint is used	UTECH	1
	Post popular version on NEPA's website, JAMPRO's website, the Ministry of Local Government's site; Master Builders' website, and all other relevant sites	Website links and posting	e-version of the publications are posted	Number of requests for document	MBA	1
	Host information sessions on the new building code for professional architects	Meeting or training session	Meeting held and report prepared	Number of web links created	NEPA	1-2
	Host information sessions on the new building code for private construction firms and for project managers	Meeting or training session	Meeting held and report prepared	Number of hits	Ministry of Local Government	1-2
	Host information sessions on the new building code for private developers	Meeting or training session	Meeting held and report prepared	Number of participants	Jampro	1-2
	Host sensitization sessions on the new building code for local government planners	Meeting or training session	Meeting held and report prepared	Quality of discussion	JAMPRO	1-2

Coastal Resources
Given the distinct specificities associated with three main vulnerable communities (Portmore, Negril and Old Harbour) and some specific communication activities are required to address their needs.

Overall Communication Goal for Coastal Zone Communities
By 2017, stakeholders (fishers, tourism operators, private sector, and households) in at least three of Jamaica's most vulnerable coastal zones (Portmore, Negril and Old Harbour) will be actively engaged in sustainable practices that will help build the climate resiliency of their communities.

Main objectives& Outcome Indicators

1. By 2017, there will be at least a 20% increase among people and businesses in the most vulnerable communities (Portmore, Negril, and Old Harbour) who will be able to list and understand the likely impact of CC and sea level rise for their own private properties.

2. By 2017, there will be at least a 20% increase among people and businesses living in these three specific coastal zones who will be able to articulate the importance of seagrass beds and mangroves for climate resilience and will be involved in at least one type of CR practice to maintain these resources (such as planting new mangroves, participating in enforcement, etc.).

3. By 2017, there will be at least a 20% increase in the number of people in these communities who can articulate the role that river and coastal stabilization technologies such as sea walls, breakwaters, gabion baskets, groynes play in making their livelihood and properties climate resilient.

4. By 2017, there will be at least a 20% increase in the number of coastal residents in these three communities who are actively playing a role in safeguarding, protecting, stabilising, these structures as well as river gauges and sea level gauges.

Key Messages
As above, but also:

- Portmore, Negril, and Old Harbour need to become climate strong coastal communities

Primary audience:
Households in coastal communities (especially Negril, Portmore and Old Harbour)
Local private sector in coastal communities
Tourism interests in Negril (who will be covered primarily under the tourism sub-sector)

Secondary Audience(s) and possible partners:
Environmental NGOs working with fishing communities and with protected areas fishing associations; National Environmental Planning Agency (NEPA), United Nations Environmental Programme (UNEP)-European Union's "Climate Change Adaptation and Disaster Risk Reduction" project; Ministry of Tourism; TPDCO, JHTA, parish councils, parish development committees; MIND.

Proposed Communication Activities for Coastal Zones

Main Overall Communication Goal for Coastal Zones

By 2017, stakeholders (fishers, tourism operators, private sector, and households) in at least three of Jamaica's most vulnerable coastal zones (Portmore, Negril and Old Harbour) will be actively engaged in sustainable practices that will help build the climate resiliency of their communities.

Corresponding Objective & Outcome Indicators	Potential Communication Activities	Output indicators	Process Indicators	Potential Partners and Projects	Year
1.By 2017, there will be at least a 20% increase among people and businesses in the most vulnerable communities (Portmore, Negril, and Old Harbour) who will be able to list and understand the likely impact of CC and sea level rise for their own private properties.	Community Awareness Meetings – Town Hall Meetings	Number of meetings held Meeting reports	Number of participants Quality of participation Quality of discussion	NEPA Parish Council and city representatives SDC M of Tourism MIND JHTA TPDCo ODPEM CCADRR	2
	Printed Brochures	# of brochures printed	Brochure designed on time and within budget and appropriate distribution channels used Requests for more copies		2
	Posters	#of posters printed	Posters designed on time and within budget and appropriate distribution channels used Requests for more copies		2
	Fairs - Exhibits	# of community fairs/exhibits held	Number of visits to exhibit Requests for more information		2-5
2. By 2017, there will be at least a 20% increase among people and businesses living in these three specific coastal zones who will be able to articulate the importance of seagrass beds and mangroves for climate resilience and will be involved in at least one type of CR practice to maintain these resources (such as planting new mangroves, participating in enforcement, etc.).	Use of instructional videos and learning materials on seagrass and mangrove replanting	Video production team hired Video produced Number of copies produced & distributed	Quality of video Community participation in video Video being used Video posted on relevant websites	NEPA Parish Council and city representatives SDC Mof Tourism MIND	2
	Community planting and replanting exercises	Area of coastal area replanted	Exercises planned with community involvement Number participants	JHTA TPDCo ODPEM CCADRR	2-3
	Community data collection and monitoring of mangrove and sea grass resources	Data collected	Number of participants Quality of data collected Relationship	As above, along with UWI and Climate Studies Working Group	2-5
3. By 2017, there will be at least a 20% increase in the number of people in these communities who can articulate the role that river and coastal stabilisation technologies such as sea walls, breakwaters, gabion baskets, groynes play in making the livelihoods and properties climate resilient.	Use of videos and learning materials on coastal stabilisation technologies	Video production team hired Video produced Number of copies produced & distributed	Quality of video Community participation in video Video being used Video posted on relevant websites	NEPA Parish Council and city representatives SDC Mof Tourism MIND	2
	Brochures and Printed material	# of brochures printed	Brochure designed on time and within budget and appropriate	JHTA TPDCo ODPEM	2

			distribution channels used Requests for more copies	CCADRR Panos-Voices	
	Public Service Announcements (PSA) for TV	PSAs produced # of PSAs aired	Time and frequency of broadcasts Number of calls to action received Requests for more information	As above, but also with CPTC, JIS, CARIMAC	3
4. By 2017, there will be at least a 20% increase in the number of coastal residents in these three communities who are actively playing a role in safeguarding and protecting stabilisation these structures as well as river gauges and sea level gauges.	Coastal monitoring committee establishment and watch exercises Data collection	Data collected Monitoring exercises conducted	Number of participants involved Quality of data collected Relationship with scientific community established	As above, but also with UWI and climate studies working group	2-5

APPENDIX N- SUB-STRATEGY FOR THE ENERGY SECTOR

The SPCR does not actually propose any strategic actions for the energy sector, but because of the sector's critical importance to ensuring that the island becomes climate resilient, it is nevertheless very important that energy issues are addressed within the communication strategy and within public awareness. Changes are needed in practices related to energy consumption and conservation not only for climate change mitigation, but also for adaptation.

Overall Communication Goal
By 2017, the will be at least a 25% increase in the number of Jamaican households that will have reduced their oil-based energy consumption by 25%.

Communication Objectives and Outcome Indicators
The following objectives are required as steps to achieve the above goal:

1. By the end of 2017, there will be at least a 50% increase in the number of Jamaicans who know the main components of the energy policy and how it effects them and also how it compares with those of other countries

2. By the end of 2017, there will be at least a 50% increase in the number people who will be able to explain what fossil fuels are and that burning Fossil Fuels for electricity in Jamaica actually contributes to CC

3. By the end of 2017, there will be at least a 50% increase in the number of people who will be able to list available alternative sources of energy in Jamaica and who know what options are available for financing renewable energy options for their home or business

4. By the end of 2017, there will be at least a 25% increase in the number of targeted homes and businesses using alternative energy technologies

Key Messages Needed:

Messages needed to address Gaps in Knowledge, Attitudes and Practices (KAPs) among the general public

- Using JPS contributes to climate change because it uses fossil fuels
- Learn the real costs of using fossil fuel energy sources
- Find out how much the bauxite, sugar and transportation sectors use in fuel
- How does our energy policy compare to those of other countries
- Stealing light makes it more expensive for everyone
- Understand how net metering works

- Get to know the benefits of renewable energies – they are not all expensive
- Retrofit your home or business to improve energy efficiency
- Burning fossil fuels can lead to health risks

Primary audiences:

- Adults/households using JPSCo
- Businesses using JPSCo
- Public sector services and other utility companies (e.g., NWC, Private Power Company) using JPSCo
- Community groups
- Schools
- Churches

Secondary Audiences and Potential Partners:

- Jamaica Public Service Company (JPSCo)
- Ministry of Mining and Energy
- Solar Energy Association of Jamaica and Private Sector Energy Suppliers
- University of Technology (UTECH) Built Environment Programme
- Banks and Credit Associations that offer loans for alternative energy investments
- Jamaica National Building Society (JNBS)
- National Housing Trust (NHT)
- Development Bank of Jamaica (DBJ)
- Other banking institutions with loan options for alternative energy technology
- CURE – Citizens United to Reduce Electricity
- Caribbean Maritime Institute (CMI)
- Ministry of Health
- National Environment and Planning Agency
- ODPEM
- Petroleum Corporation of Jamaica

- Ministry of Transport
- Government Officials
- Association of Development Agencies
- National Environmental Education Committee
- Jamaica Environment Trust

Pillars of the Communication Strategy for the Energy Sector
The following strategies and approaches form the key pillars of a communication strategy for the energy sector

1. Household level and/or community adaption must build on existing programmes that are encourage energy efficiency at the community level;
2. The private sector needs to be a critical player in the strategy. Partnerships with existing private sector initiatives – including lobbying and advocacy- must be strengthened. This should include not only alternative energy private sector providers, but also all levels of private sector who need cost-effective and efficient energy to stay in business
3. It is important to build on past lessons learnt in the sector and scale up important lessons learnt from past projects and existing activities that support Climate change adaptation.
4. The strategy should also seek to promote the various energy policies that have been supported by the UNDP.[27]

Current Strengths and Opportunities for Synergies

Among those projects and partners that can contribute to the communication efforts are the following:

The **Centre of Excellence for Renewable Energy (CERE))**[28], a division of the Petroleum Corporation of Jamaica (PCJ), works to support the Development of Renewable Energy resources for increased usage in Jamaica by:

[27] The UNDP has recently supported the Ministry of Energy and Mining (MEM) from 2010 to 2011 in the preparation of: The National Renewable Energy Policy 2010-2030
The National Energy-from-Waste Policy 2010-2030
The National Biofuels Policy 2010-2030
The National Policy for the Trading of Carbon Credits 2010-2030 and the
The National Energy Conservation and Efficiency Policy 2010-2030 – Securing Jamaica's Energy Future.

[28] http://www.pcj.com/dnn/cere/tabid/170/default.aspx

- Bringing focus to the development of Renewable Energy sources;
- Researching, educating, and demonstrating new technologies and methods
- Collaborating with various energy stakeholders, local and foreign investors and environmental stewards

CERE's thematic areas of focus include: (a) energy efficiency and conservation; (b) renewable energy; and (c) biofuels.

Caribbean Maritime Institute – Training in Renewable Energy[29]

The Caribbean Maritime Institute (CMI)[30] has a renewable energy project that involves the use of simple, low speed wind generators, powered by halved 45-gallon drums that have been cut to create angled flaps, to run turbines, which produce up to two kilowatts of energy. The programme involves training youth from vulnerable communities to produce the turbines in part as an income generating activity and in part as a way to make their own communities less dependent on the grid.

UNDP's Improved Energy Efficiency and Security (IEES) Project[31]

UNDP has recently further funded the Ministry of Mining and Energy for a new project that started in 2011 with the following components:

1. Increased energy efficiency in the public and private sectors;
2. Monitoring of energy consumption;
3. Implementation of improved policy directives
4. Investigations into the feasibility of the use of alternative clean energy, including solar, wind, hydro and biogas.

Over the next five year period, UNDP aims to develop and promote efficiency in energy use and to pilot sources of clean or renewable energy. The strategy will support the Government of Jamaica in the development, implementation and monitoring of the National Energy Policy, and develop demonstration projects with stakeholders to increase energy efficiency in Various Sectors

Solar - Energy Association of Jamaica[32]

The Jamaica Solar Energy Association was launched on June 23, 1999 as a non-governmental organization. The Association is composed of manufacturers, retailers, marketers, installers and providers of solar energy and academia. Membership is open to the public. The Association aims to:-

[29] http://cmi.edu.jm/about.aspx
[30] http://www.caribbeanpressreleases.com/articles/7639/1/Caribbean-Maritime-Institute-to-use-Renewable-Energy-to-Produce-Potable-Water/Page1.html
[31] *http://www.jm.undp.org/node/173*
[32] http://www.pcj.com/dnn/RenewalEnergy/SolarEnergyAssociation/tabid/114/Default.aspx

1. promote the use of solar energy in Jamaica
2. formulate suitable industry standards
3. establish a solar energy information database
4. facilitate funding opportunities for the solar industry
5. act as a lobby with government and the private sector to aid in the development of the solar energy industry
6. provide education in aspects of solar technology

CURE – Citizens United to Reduce Electricity[33]

Citizens United to Reduce Electricity (CURE) is a consumer advocacy movement formed in response to the crisis facing the Jamaican consumer regarding high electric bills and other irregularities involving the Jamaica Public Service Company (JPS). CURE also serves as the citizens' "watchdog" for the utility regulator, the OUR (Office of Utility Regulation).

The Fight for Your Light[34] ***Campaign***

The "Fight for Your Light" campaign which is focussed on the high electricity costs business.

Private Sector of Jamaica (PSOJ)

With funding from the EU, under the Proinvest facility, the PSOJ has undertaken a regional energy and environmental management project in collaboration with private sector partners in Trinidad and Tobago. This has involved a review of the legislative and regulatory framework, energy and environmental audits for selected firms, training workshops, energy efficiency tool-kits for businesses, a learning and investment mission to the EU, and a regional conference.

A tool kit for businesses in energy and environmental management and carbon trading was produced improved environmental and energy consumption practices, in addition to new income streams.

ADA Energy Community Handbook the Association of Development Organisations of Jamaica (ADA), has also developed a "Community Toolbox for Disaster Preparedness: Guidelines for community based organisations, groups and householders in the Caribbean".

[33] *http://curejamaica.com/about_us*

[34] ***https://www.facebook.com/FightForYourLight/app_325736870808242***

Proposed Communication Activities the Energy Sector

Overall Communication Goal

By 2017, the will be at least a 25% increase in the number of Jamaican households that will have reduced their oil-based energy consumption by 25%.

Corresponding Objective & Outcome Indicators	Potential Communication Activities	Type of Communication Activity	Output indicators	Process Indicators	Potential Partners and Projects	Year
By the end of 2017, there will be at least a 50% increase in the number people who will be able to explain what fossil fuels are and that burning Fossil Fuels for electricity in Jamaica actually contributes to CC By the end of 2017, there will be at least a 25% increase in the number of targeted homes and businesses using alternative energy technologies	Create new messages on energy saving tips for homes, businesses and vehicles. Messages can be placed on flyers, brochures, posters, bumper stickers to be distributed at fairs, expos, road shows and can be used in social media, mass media and traditional media.	Message design and development on energy saving tips	# of radio/TV PSAs and messages produced on energy saving	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;	SEAJ MoME JPSco ADA ODPEM PCJ MoTransport CURE NHT JNBS PSOJ UTECH CARIMAC social media programme	1
	Create new messages on alternative energy sources and technologies	Message design and development on alternative energy options	# of radio/TV PSAs and messages produced on alternative energy options	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;		1
	Set up twitter account to tweet energy saving tips and create text message list serve as well for phone text messaging	Twitter, social media Text messaging	#of twitter messages sent #of persons on list serve	#of followers	As above and also with CARIMAC social media programme Digicel and/or LIME	1
	Cartoon for kids and booklets can be designed and developed and can be distributed in communities at community meetings, service clubs etc.	Cartoon booklet	Cartoon produced and 5000 copies printed	Consultant hired to design story Graphic artist hired to design cartoon Cartoon drafted and pretested Product distributed to schools and other channels Demand for more copies	NEPA's pub ed department NEEC MoE	2
	Design Community competition to showcase Best Community Project in Energy & Climate Change - link these criteria with overall CC "Best Community Competition	BEST community competition – energy category	Competition designed and held annually	Judges identified Number of communities entered	JET SDC NEPA MoE	2-5

	Utilise a climate smart energy Ambassador to promote community messages	Please see performing artist strategy for more on this activity				
	Replicate – extend the tool kit produced by PSOJ to all business	Print more copies of tool kit for further training	Number of tool kits produced	Number of kits distributed to the sector	PSOJ Chambers of Commerce	2
Corresponding Objective & Outcome Indicators	**Potential Communication Activities**	**Type of Communication Activity**	**Output indicators**	**Process Indicators**	**Potential Partners and Projects**	**Year**
By the end of 2017, there will be at least a 50% increase in the number of people who will be able to list available alternative sources of energy in Jamaica and who know what options are available for financing renewable energy options for their home or business	Create new messages on creative and affordable financing options for investing in renewable technologies	Message design and development on financing options	# of radio/TV PSAs and messages produced for creative financing arrangements	Messages designed on-time and within budget; PSAs produced on time and within budget; messages promoted through appropriate channels;	SEAJ MoME JPSco ADA ODPEM PCJ MoTransport CURE NHT JNBS DBJ PSOJ UTECH	2
By the end of 2017, there will be at least a 50% increase in the number of Jamaicans who know the main components of the energy policy and how it effects them and also how it compares with those of other countries	Encourage dialogue and promote advocacy messages about how Jamaica's current energy policy impacts individual Jamaican households and business and how it compares with models of what other countries are doing in order to create incentives for retrofitting and/or adoption of CC-friendly energy technologies and practices. Workshops and seminars to be designed for policy makers and others decision makers to promote the messages.	Research study	Study Completed	Tors defined to hire consultant for review process; Review document prepared on-time and within budget	As above and also including CURE and Fight for your Light Campaign	2-3
	Develop a public education & advocacy campaign in partnership with the Jamaican National Building Society (JNBS), the NHT, DBJ and the Solar Association of Jamaica to encourage adoption of CC friendly energy technologies and with CURE and "Fight for Your Light"	Advocacy Campaign	Advocacy campaign designed	TORs defined to hire consultant to design advocacy campaign; Consultant hired; Financial support received from JNBS, NHT and SAJ for advocacy campaign Campaign launched	CURE PSOJ Fight for your Light Campaign NHT JNBS DBJ	2-3

APPENDIX O - SUB-STRATEGY FOR THE FINANCE AND INSURANCE SECTOR

Overall Communication Goal

By the end of 2017, there will be at least a 30% increase in the number Jamaican's who will have some type of insurance product/policy to protect their property and business (including small farmers) and there will be at least 30% of the Jamaican public who know about the SPCR line of credit that will be made available and the trust fund that is to be created for community projects.

Main Objectives & Outcome Indicators

1. By the end of 2017, at least 30% of people will be aware that because of Climate Change, weather related events (such as droughts and hurricanes) will be more frequent and intense and thus – with high risk levels, they should insure their property and businesses to mitigate possible damage through the various options that are available for their own income bracket

2. By the end of 2017, at least 30% of construction sector will be aware of any new building codes that are put in place to mitigate climate impacts and which will require insurance

3. By the end of 2017, at least 30% of people will know what the Caribbean Catastrophe Risk Insurance Fund (CRIF) is and how it is meant to assist Jamaica in the event of a serious disaster

4. By the end of 2017, at least five per cent of agribusinesses will be seeking loans through the SPCR line of credit and at least ten communities will be seeking to access funds for community projects through the adaptation trust fund.

Key Messages

- Get insured
- Climate change will increase risk to property and persons
- Insurance options exist
- The CCRIF may be able to help you
- More extended droughts will bring specific risks
- Flooding is more likely with CC. Get flood insurance
- Complying with the building code reduces your risk
- Find out how the Climate Trust Fund can help you

Primary audiences:
Home and business owners, especially those that are currently uninsured as well as uninsured farmers and farm households
Community based organisations seeking to implement Climate Change Adaptation projects

Secondary Audience(s) and partners: custom brokers; National Housing Trust (NHT) Personnel and JNBS (Jamaica National Building Society), Insurance Association of Jamaica (IAJ) assessors, the Development Bank of Jamaica, People's Cooperative Bank, NEPA, ODPEM, Jamaica Agricultural Society (JAS), Consumer Affairs Commission (CAC), People's Cooperative Bank (PCB), Caribbean Catastrophe Risk Insurance Facility (CCRIF), Micro insurance Catastrophe Risk Organisation (MiCRO), Caribbean Risk Management (CARIB-RM).

Synergies with existing initiatives
There are a few private sector initiatives that offer excellent starting points for communication collaboration. These include:

Christian Aid's 2009 "Climate Change: What Caribbean Businesses Can Do About it". Fact Sheet. Christian Aid, Kingston, Jamaica.

The work of CCRIF and the Micro insurance Catastrophe Risk Organisation (MiCRO)[35], which provides the financial tools through which small scale entrepreneurs and farmers who are using micro-credit to help lift themselves out of poverty can protect themselves
against the vagaries of natural hazards.

In the wider Caribbean, MiCRO is already working to support the expansion of WINCROP, the eastern Caribbean banana insurance scheme and hopes to expand coverage to Jamaica, and then into other crops across the region

[35] ***Innovative insurance solutions to support weather risk management and climate change adaptation in the agricultural sector. Presentation.*** Simon Young - Caribbean Risk Managers Limited, Eltham, Ocho Rios, 12 March 2012,CARIB RM – Risk Managers to the Caribbean

Proposed Communication Activities for the Insurance and Financial sector

Overall Communication Goal
By the end of 2017, there will be at least a 30% increase in the number Jamaican's who will have some type of insurance product/policy to protect their property and business (including small farmers) and there will be at least 30% of the Jamaican public who know about the SPCR line of credit that will be made available and the trust fund that is to be created for community projects.

Corresponding Objectives and Outcome Indicators	**Suggested Communication Activities**	**Measurable Indicators**		***Partners and co-projects***	***Year***
		Output Indicators	***Process Indicators***		
1. By the end of 2017, at least 30% of people will be aware that because of Climate Change, weather related events (such as droughts and hurricanes) will be more frequent and intense and thus – with high risk levels, they should insure their property and businesses to mitigate possible damage through the various options that are available for their own income bracket	During the pre-hurricane season, implement a Public Awareness campaign to inform people why their home/property/business needs to be insured and what the risks are	PA campaign	Campaign designed and produced in written form	Jamaican Insurance Sector CCRIF Master Builders IAJ DBJ PCB PSOJ MiCRO	2
2.By the end of 2017, at least 30% of construction sector will be aware of any new building codes that are put in place to mitigate climate impacts and which will require insurance 3.By the end of 2017, at least 30% of people will know what CCRIF is and how it is meant to assist Jamaica in the event of a serious disaster 4. By the end of 2017, at least five per cent of agribusinesses will be seeking loans through the SPCR line of credit and at least ten communities will be seeking to access funds for community projects through the adaptation trust fund.	Promotion of viable insurance products and opportunities that exist for home and business owners, especially those who are now uninsured and also farmers	As part of above campaign	Campaign designed and produced in written form		2
	Include messages (fact sheets, brochures) in IAJ material to potential clients	Print material development	# of brochures produced		3
	Develop specific PSAs for the campaign	TV public service announcements	4 TV PSAs produced		3
	Develop specific radio messages for the campaign	Radio PSAs	4 radio PSAs produced		3
	Develop an SMS list serve for text messaging during the campaign	Text messaging list-serve	List serve established; Number of persons subscribed to the list serve;		3

APPENDIX P - PILLAR ONE – BUILD COMMUNITY RESILIENCE

Building community resiliency fundamentally demands a community based approach to public awareness and communication for the SPCR. It is expected that the community strategy-based strategies outlined here will work closely with the activities outlined for the formal education sector and with the specific sub-sector activities.

In addition, given that through the SPCR, communities will benefit through all of the sectoral activities to be undertaken within health, human settlement, water, agriculture, and so on, it is further expected that collaboration will be possible with each of these sectors. Key public education and awareness messages have been targeted and outlined in more detail under each of these components.

Overall Goal for Community Resilience

By the end of 2017 there will be at least six "climate smart" communities in every parish that will have successfully developed a CC/DRM plan (including a livelihood assessment) and implemented at least four (4) CC/DRM strategies within key communities.

Main Communication Objectives and Outcome Indicators

1. By the end of 2017, the success of a whole range of CBA projects – including those under the SPCR will have been highlighted in the media and at least 30% of the Jamaican public will be able to name at least one pilot community project that has had lead to climate resilience.

2. By the end of 2017, there will be a 40% increase in the number of people who can articulate what individual actions contribute to CC and name new practices and behaviours (besides burning garbage and cutting down trees) that individuals can do to limit CC and there will be a 20% increase in the number of people who are implementing at least two (2) of these new CC-friendly practices

3. By the end of 2017, there will be at least a 30% increase in the number of people who feel that CC is serious enough for them personally that they are willing to make personal sacrifices to help lessen its impact on Jamaica and will feel empowered to do so

4. By the end of 2017, there will be at least six communities in each parish who have completed fully developed CC/DRM plans and will have successfully implemented at least four (4) concrete steps in their CC/DRM plans to become more climate resilient.

Key Messages to Promote General Community Awareness towards Climate Resilience

- Climate change impacts you. Get involved.
- If you live in a community, you are at risk from climate change.
- Stop burning garbage and find out what else you can do to reduce climate change.

- Communities need to Plan to become more resilient. Get involved with your community CCR and DRM plan today.
- You can prepare. There are proven technologies that will help you adapt.
- Your actions make a difference.
- Make sure you know how climate change will affect your water and your health and know what to do about it.
- Climate change and disasters will impact your livelihood. Find out how you can make your living more resilient.
- Learn how to talk "climate". Understanding climate change does not have to be complicated.
- Know who is vulnerable in your community and help them get ready for climate change.
- Climate change is not all bad news. It also brings new livelihood opportunities. Find out how you may be able to make a living through promoting climate resilience.

Primary Audiences:
Adults in Communities, heads of households, community leaders, leaders of all church/faith based organizations (FBOs), women's groups, vulnerable groups (children, disabled, aged) vulnerable groups-children, elderly, disabled (visually, hearing and intellectually impaired.), leaders of Community Based Organizations (CBOs), Non-governmental Organisations (NGOs)

Secondary Audiences: Parish Councils; Service Clubs (Kiwanis, etc.), Social Development Commission (SDC), Parish Development Committees (PDCs), Local Government, JSIF, Youth clubs, ODPEM, Police and JPS

STRENGTHS AND OPPORTUNITIES FOR SYNERGIES

Several opportunities for communication and public awareness synergies already exist to support community resiliency. Most of these are described in more detail in Appendix F. Rather than duplicate efforts, communication efforts under the SPCR should form partnerships especially with the following existing efforts:

Voices for Climate Change Project
The Voices project by Panos and the NEEC has also done considerable work with community education. Adopting a 'participatory' approach to CC awareness, the Voices project originally targeted 'grass roots' people, sector leaders, and the artistic community.

CIDA and ODPEM's "Building Disaster Resilient Communities" (BDRC[36]) project 2008-2012.

Under the "Building Disaster Resilient Communities" BDRC project funded by the Canadian International Development Agency (CIDA), to date, ODPEM has helped 28 vulnerable and at risk communities to develop Community Disaster Risk Management Plans, implement mitigation and coping strategies to further reduce their risks to hazards and established more than 321 Community Emergency Response Teams who have been trained in several areas of DRR and DRM.

Integrating Watershed and Coastal Area Management (IWCAM)

The IWCAM regional project has created an excellent community based management tool kit that features many different activities communities can do to improve rivers, watersheds and coastal area management. The SPCR should completely build on what already exists including the IWCAM community-based initiative and explore possible partnerships in IWCAM's phase II.

Jamaica Social Investment Fund (JSIF) and Mona GeoInformatix

JSIF has been working in a myriad of vulnerable communities to improve their resilience to natural disasters through improvement in local infrastructure and training. One exciting tool that they have developed with Mona Informatix is a 3D video simulation tool (Disaster Simulation Software DSS)- that literally allows uses to visually see what the impact of specific disasters may be at the household level.

JSIF intends to use this system to educate communities on the effects of hazards, with a goal to present these effects through vivid recreations as well as to encourage people to be active in preparing for hazards.

GEF Small Grants Programme Implemented by UNDP (GEF-SGP)

Jamaica is extremely fortunate to be one of the countries to benefit directly from the Global Environment Facility (GEF) Small Grants Programme implemented by the United Nations Development Programme (UNDP). Several projects have already been supported that provide excellent pilot examples for further scaling up and replication around the island.

The GEF-UNDP Project Capacity Building for Sustainable Land Management

This project is strengthening four pilot communities in implementing sustainable land management (SLM) techniques for enhancing climate change adaptation. These pilot projects include water harvesting for irrigation in a farming community in St. Elisabeth, agro-forestry in the upper Rio Minho Watershed with the Local Forest Management Committee (LFMC), rehabilitation of mined out bauxite lands and restoration of a limestone quarry.

The FAO ADRM Community Project

Under this initiative, the FAO is strengthening five pilot communities to complete baseline livelihood assessments (LA) within the agricultural sector as contributions towards local community DRM plans. Building on the LA toolkit (LAT) that was developed for Jamaica, this initiative will involve partnerships between NGOs, CBOs, UWI and other key groups to support community based assessors as they collect livelihood assessment data for their local plans. The data collection process will employ the use of several community media tools such as drama,

[36] Article Details http://www.odpem.org.jm/ArticleDetails/tabid/226/Default.aspx?article=2049

photo transects, video documentation of indigenous knowledge, GPS and other tools in order to generate communication messages and learning products.

Christian Aid and its Tool Kit for Communities
In 2009, Christian Aid[37] and CANARI created a tool kit for communities that already gives excellent information for communities and should be expanded and also linked to other media (such as video clips/tips) and ICTs to provide information to communities.

The Association of Development Agencies (ADA)
Likewise, the Association of Development Organisations of Jamaica (ADA), has also developed a "***Community Toolbox for Disaster Preparedness: Guidelines for community based organisations, groups and householders in the Caribbean***". This was originally done in the early 1990s and needs to be updated and expanded. It speaks to disasters related to flooding, hurricanes, earthquakes, volcanoes, and gives tips for communities to develop mitigation plans and strategies.

Caribbean Coastal Area Management Foundation (CCAM)
CCAM is another NGO that has been working with the communities of Rocky Point and Old Harbour Bay to develop community DRM plans and is now working under the FAO Agricultural Disaster Risk Mitigation project to further expand these community plans to include variables and strategies related to livelihoods in the agricultural sectors.

Trinityville Women's Farmer Group
The Trinityville extension model has had great success in using drama to promote CC messages among farmers and to raise awareness about DRM in agriculture. The women farmers in this group have themselves been the actors and have dramatized scenarios to enhance farmer learning. This model holds much promise as a method that should be replicated elsewhere.

Community RADIO – Roots FM and Jeffrey Town Farmers Association (JET-FM)
Two community radio stations, Roots FM (an urban, inner city station) and JET-FM a rural station run by farmers, have both been using participatory, community driven radio to promote climate change and DRM awareness in their communities. Their work should also be supported and strengthened.

Jamaican Foundation for Lifelong Learning (JFLL)
The Jamaican Foundation for Lifelong Learning (JFLL), while not perhaps having yet focussed on CC, should be a key partner to mainstream climate change tips, vocabulary and learning tools as part of their regular teaching programme.

The proposed communication activities to promote community awareness are now outlined.

[37] *Brown, Nicole. 2009. Addressing Climate Change in the Caribbean: A Toolkit for Communities. Caribbean Natural Resource Institute (CANARI) for Christian Aid (Caribbean), Jamaica.*

Proposed Communication Activities – General Awareness

Overall Goal

By the end of 2017 there will be at least six "climate smart" communities in every parish that will have successfully developed a CC/DRM plan (including a livelihood assessment) and implemented at least four (4) CC/DRM strategies within the community.

Corresponding Objective & Outcome Indicator (all apply)	Potential Communication Activity	Type of Communication Activity	Output Indicators	Process Indicators	Partners & Projects	Year
1. By the end of 2017, the success of a whole range of CBA projects – including those under the SPCR will have been highlighted in the media and there will be at least 30% of the Jamaican public will be able to name at least one pilot community project that has had led to climate resilience. 2. By the end of 2017, there will be a 40% increase in the number of people who can articulate what individual actions contribute to CC and name new practices and behaviours (besides burning garbage and cutting down trees) that individuals can do to limit CC and there will be a 20% increase in the number of people who are implementing at least two (2) of these new CC-friendly practices 3. By the end of 2017, there will be at least a 30% increase in the number of people who feel that CC is serious enough for them personally that they are willing to make personal sacrifices to help lessen its impact on Jamaica and will feel empowered to do so 4. By the end of 2017, there will be at least six communities in each parish who have completed fully developed CC/DRM plans and successfully implemented at least four	Link with SDC/NEPA for "BEST community competition" to foster a campaign for climate smart/resilient communities by incorporating climate resilient indicators as an additional category in the competition	Community competition	# of communities certified as climate wise	Links with SDC and NEPA are welcomed; Criteria for CC communities are established Judges are selected Number of community entrants Number of winners	SDC ADA Christian Aid ODPEM NEPA JSIF NEEC IWCAMM	1-5
	Community tool kits are reproduced and distributed or revamped or additional video clips, web clips and radio clips are supported	Video additions to existing tool kit resources, reprinting of tool kits and/or redistribution	Number of toolkits distributed # of radio/video and web clips generated to support tips in the existing tool kits	Collaboration among existing tool kits are harmonized Web/video/radio clips are generated and posted on-line Number of hits		1-2
	Use of existing materials are extended to communities	Expanded production of existing videos and materials on community adaptation such as the GEF video, Caribsave video, etc.	Additional copies of existing materials	Permission is granted to reprint/reproduce Number of copies made Community people are trained to use materials		1-2
	Develop and use 3D simulation tools and mapping tools that can illustrate key climatological impacts at the household level – expand JSIF tool to include more variables	Simulation tool	Simulation tool(s) produced	Additional resources are leveraged to support this activity. Additional variables and parameters are included in the tool	JSIF Mona Geo-Informatix	2-3
	Messages are promoted through songs and jingles	Jingle/Song recording	#of jingles produced	Jingles/songs produced on time and within budget Messages are pre-tested	As above, but also with artists	2-4
	Messages promoted through PSAs	PSAs production	# of PSAs produced	Messages pre-tested and produced on time and within budget Messages aired on time and	As above but also with JIS and other TV support	2-4

(4) concrete steps in their CC/DRM plans to become more climate resilient.				through appropriate TV channels for these audiences		
	Messages promoted through brochures and stickers	Print brochure production	# of brochures/stickers produced	Materials produced on time and within budget Materials pretested	Panos NEEC SDC ODPEM NEPA	2-4
	Messages promoted through community workshops. This is critical to set the context and build general awareness on CC, on its impacts, and on personal responsibility, otherwise messages may be lost	Community workshops	# of community workshops held # workshop reports/minutes	# of people participating; Quality of participation Demand for more information		2
	Messages promoted through concerts	Concerts	# of concerts held	# of people participating; Quality of participation Demand for more information		2-4
	Messages promoted through discussion fora and other community activities such as fairs, information days and so on.	Community fora; speaker forums	# of fora held # of workshop reports/minutes	# of people participating; Quality of participation Demand for more information		2-3
	Take a CC exhibit on tour	Touring exhibit	# of materials produced for the exhibit; # of places visited on tour	# of people visiting the exhibit; Quality of interaction; # of requests for more information		annually
	Post materials on relevant websites so audiences can download	Web-page links and updates	# of links established	# of hits checked on each site	CARIMAC Relevant websites for partner agencies	3
	Send out CC tips and messages through mobile phone listserv	Text messaging cell phone listserv	List serve established	Mobile phone company supports list serve; Number of persons on the list; Regular/timely messages sent	Digicel Lime	3-5
	Creation and use of community Facebook page, twitter account and send messages	Twitter feed	Twitter Address established Facebook page created	# of followers # of messages sent on a timely basis Level of feedback and interaction Number of "like" thumbs up on Facebook page	CARIMAC Relevant websites for partner agencies	2
	Link to ODPEM site	Specific link to ODPEM	Link established	Number of hits through the		2

		site established		link Timely and regular updating		
	Create Voices screen savers for computers	Digital screen saver pictures	Digital screen savers with Voices champions developed (picture yourself with a Voices Champion or Have a Voice in Climate Change…) # of different options developed	Number of downloads for the screen savers	Panos NEEC SDC ODPEM NEPA	2
	Create multi-media products	DVDs	# of different products produced	Materials distributed through appropriate channels; Number of DVDs purchased		2-4
	Create mini-songs for ring-tones	Ring tone downloads	# of different ring tones produced	Number of ring tones downloaded		2-3
	Publish and promote 'champion post cards' and other greeting cards with champion artists messages about CC (these can also be virtual or e-cards…and people can put their own picture/photo in the card with the artist if they wish)	Post card print production Create E-cards that can be sent on line	# of different post cards printed # of cards printed and distributed	Cards are printed on-time and within budget; Cards are distributed through appropriate distribution channels such as bill payment outlets (Bill Express, Paymaster and Digicel outlets)); Number of cards purchased		3-5
	Develop a community card game that supports implementation of CR practices	Card game	Card game designed and produced	Game produced on time and within budget Number of communities/families using the game		3

APPENDIX Q - PILLAR TWO – STRENGTHENING LAYPEOPLE'S UNDERSTANDING OF CLIMATE CHANGE IMPACTS

Overall Communication Goal

By 2017, there will be a 20% increase in the use of relevant local climate data among planning agencies; a 50% reduction in damage caused to data collection gauges and equipment and a 30% increase in awareness and appreciation among the general public of the importance of data collection for Jamaica's climate resiliency effort.

Communication Objectives & Outcome Indicators

1. By 2017, there will be at least a 20% increase in the number of community members involved in data collection within the SPCR's three main pilot vulnerable communities where multi-hazard mapping will be conducted and there will be at least a 20% increase in the number of households in these communities that have been exposed to climate scenarios using 3D imaging tools.

2. By 2017, there will be at least a 30% increase in awareness among the general public of what the country's main data collection agencies are doing and how it benefits them and at least a 30% reduction in damage to weather related data collection equipment.

3. By 2017, when the early warning systems are designed and established, there will be at least a 20% increase in the number of persons who know what the systems are and how they are to be followed.

4. By 2017, there will be regular updating of the platforms' rolling monitoring table and regular hits and use of the platform.

5. By 2017, there will be at least three parishes that will have completed hazard reduction plans using new data to be generated.

Key Messages

- Government is supporting research for more precise planning
- Be counted. Don't be afraid of surveys
- Protect equipment that collects weather data. Don't steal or destroy.
- Effective planning should be driven by good climate data
- Knowing early increases resiliency
- Get involved in your community DRM planning process

Primary Audiences
Households and community members
Local government planners
Community based NGOs involved in community disaster planning (JCDT, CCAM, and others)

Secondary Audiences
Association of Local Government Officers

Partners
Social Development Commission
Met Office
Climate Studies Group at the University of the West Indies
Institute for Sustainable Development (ISD) UWI
Mona Geo Informatix
Department of Physics, UWI

Building Lay People's Scientific Understanding of Climate Change

Proposed Communication Activities to Achieve Goals and Objectives

Overall Communication Goal

By 2017, there will be a 20% increase in the use of relevant local climate data among planning agencies; a 50% reduction in damage caused to data collection gauges and equipment and a 30% increase in awareness and appreciation among the general public of the importance of data collection for Jamaica's climate resiliency effort.

Corresponding Objective and Outcome Indicator	Potential Communication Activities	Type of Activity	Output indicators	Process Indicators	Key partners & projects	Year
1.By 2017, there will be at least a 20% increase in the number of community members involved in data collection within the SPCR's three main pilot vulnerable communities where multi-hazard mapping will be conducted and there will be at least a 20% increase in the number of households in these communities that have been exposed to climate scenarios using 3D imaging tools.	Develop easy training modules for communities for rain and sea level data collection processes	training module	Training module prepared	Consultant(s) hired to develop module Input and endorsement by partners	MET office CWG at UWI SDC ODPEM JSIF	2
	Train communities in three pilot SPCR areas to do the collection	Training sessions (3)	3 training reports	Training session held on time Quality and level of participation Quality of data collection Sustainability of data collection in post training period	SDC ODPEM JSIF MET office	2
	"Big Up" and profile community data collectors through TV interviews and PR component	TV PR	News release prepared; TV program produced and aired	News release prepared on time; Partnership with broadcaster developed to promote programme; Programme aired on prime time TV #of calls for more information	JIS SDC ODPEM MET office	3
	Create one minute television PSA to enlighten the public as to the importance of science data collection to our climate readiness	1 minute TV PSA	PSA produced	Consultant hired to produce PSA Input to script obtained from key agencies	CPTC JIS Or independent video producers	1
	Broadcast PSA on main TV stations	1 minute TV PSA	PSA broadcast on	Number of airings Calls for more	TV stations	1

			prime time	information		
	Create short radio PSA to enlighten the public as to the importance of science data collection to our climate readiness	1 minute radio PSA	PSA produced	Consultant hired to produce PSA Input to script obtained from key agencies	Radio Education Unit _UWI	1
	Broadcast PSA on main TV stations	1 minute TV PSA	PSA broadcast on prime time	Number of airings Calls for more information	TV Stations	1-3
2.By 2017, there will be at least a 30% increase in awareness among the general public of what the country's main data collection agencies are doing and how it benefits them and at least a 30% reduction in damage to weather related data collection equipment.	Create radio PSA to discourage damage to data collection equipment	1 minute radio PSA	PSA produced	Consultant hired to produce PSA Input to script obtained from key agencies	Radio Education Unit _UWI	1
	Broadcast on prime time radio	1 minute radio PSA	PSA broadcast on prime time	Number of airings Calls for more information	Various radio stations	1-3
	Create television PSA to discourage damage to data collection equipment	1 minute TV PSA	PSA produced	Consultant hired to produce PSA Input to script obtained from key agencies	CPTC JIS Or independent video producers	1-3
	Broadcast PSA on prime time radio	1 minute radio PSA	PSA broadcast on prime time	Number of airings Calls for more information	Various radio stations	1-3
	Design and utilise 3D modelling tool for communities building on existing model currently created by Mona-Geo Informatix and JSIF	3D simulation tool	Tool produced	Number of times tool used with community groups	Mona Geo Informatix ODPEM SDC JSIF ADA	2-4
3.By 2017By 2017, when the early warning systems are designed and established, there will be at least a 20% increase in the number of persons who know what the systems are and how they are to be followed.	Promote the use of early warning systems (once created) through creation of television PSAs	1 minute TV PSA	PSA produced	Consultant hired to produce PSA	Promote the use of early warning systems (once created) through creation of television PSAs	2-4
	Input to script obtained from key agencies	CPTC			Input to script obtained from key agencies	2
	Promote the use of early warning systems (once created) through creation of radio PSAs	1 minute radio PSA	PSA produced	Consultant hired to produce PSA Input to script obtained from key agencies	Radio Education Unit _UWI	2-4
	Broadcast PSA on prime time radio	1 minute radio PSA	PSA broadcast on	Number of airings Calls for more	Various radio stations	2-4

			prime time	information		
5.By 2017, there will be at least three parishes that will have completed hazard reduction plans using new data to be generated.	Promote and big-up parish councils the create improved CC local plans through TV PSAs	1 minute TV PSA	PSA produced	Consultant hired to produce PSA Input to script obtained from key agencies	CPTC JIS Or independent video producers	3-5
	Broadcast PSA on main TV stations	1 minute TV PSA	PSA broadcast on prime time	Number of airings Calls for more information	TV Stations	3-5
4.By 2017, there will be regular updating of the platforms' rolling monitoring table and regular hits and use of the platform.	Promote the use of the platform and draw attention to the rolling index through a 1 minute TV PSA	1 minute TV PSA	PSA produced	Consultant hired to produce PSA Input to script obtained from key agencies	CPTC JIS Or independent video producers	2-5
	Broadcast PSA on main TV stations	1 minute TV PSA	PSA broadcast on prime time	Number of airings Calls for more information	TV Stations	2-5

APPENDIX R- PILLAR THREE – USING PERFORMING ARTISTS AND SOCIAL MEDIA TO GENERATE BUZZ AND SIZZLE AROUND CLIMATE CHANGE ISSUES

Situational Analysis
Climate change issues are serious, and as a result messages associated with climate change – at best often appear dry, too scientific At worst, messages are dull and may instill fear and hopelessness. Neither of these tones is constructive or helpful for supporting climate resilience and adoption of improved behaviours.

Climate change messages therefore need to be made more vital and culturally relevant to the public so that more people take interest in Climate Change issues and get actively involved in doing things about climate change. The SPCR should seek to engage the creative sector in the promotion of climate change messages as proposed under Vision 2030.

At the same time, Jamaica is distinguished by the worldwide reach of its culture, particularly music. The island's artists are vibrant and can help to infuse a great deal of energy and interest into climate change messages in ways that are catchy and non-intimidating.

Using performing artists to promote climate change messages is also in keeping with Vision 2030's goal of promoting its cultural capital and using the Jamaican brand as much as possible, but in ways that support the income earning potential of the countries creative resources.

Overall Communication Goal

By the end of 2017, at least 20% of Jamaicans will attribute their inspiration to adopt at least one key climate behaviour change due to messages promoted by performing artists or through social media.

Communication Objectives and Outcome Indicators

1. By the end of 2017, to have at least 30 musicians and artists who have been actively involved in the Voices campaign as Climate champions remain committed to continuing their involvement under the Strategic Programme for Climate Resilience (SPCR)

2. By the end of 2017, to have boosted the careers of at least 8 artists through their involvement in the SPCR programme

3. By the end of 2017, to promote artists' climate messages through a variety of social media networks.

Primary audience(s):
Young people and those who are drawn to social media and to "Jamaica's Brand" of performing artists.

Selected up-and-coming Jamaican Musicians and performing artists as well those who have already been part of the Voices project to date.

Social media, bloggers and IT specialists as well as IT training centres such as Carimac, Utech and other private sector IT consultants.

Secondary Audience (s) and possible partners:
General Public
Panos-NEEC Voices Project
Ministry of Land Water Environment and Climate change (MLWECC)
Met Office
National Environment and Planning Agency (NEPA)
Jamaican Federation of Musicians (JFM)
Jamaica Association of Vintage Artists and Affiliates (JAVAA)
Edna Manley School For the Performing and Visual Arts (EMSPVA)
Phillip Sherlock Centre for Performing Arts (PSCPA-UWI)
Little Theatre (LT)
Jamaica Cultural Development Commission (JCDC)
As well as others to be determined

Strengths and Opportunities for Synergies
Fortunately, the **Voices for Climate Change Project** have already well advanced this goal of engaging our creative sector in climate change education and awareness. Under the Voices Project, Panos-NEEC and partners, have already:

- Educated a number of Artistes on Climate Change Issues
- Hosted tours with more than 7000 school participants and more than 4000 participants at community meetings that involved key artists
- Hosted three Artistes workshops including a tour of a vulnerable community
- Produced of a National climate change theme song and video (the theme song was used as the main opening song at the UNFCCC side event film festival in Copenhagen, 2009. Since then, global demand for the song has grown strong)
- Six songs were also produced for a mini-album

Overall Communication Goal Through Performing Artists and Social Media

By the end of 2017, at least 20% of Jamaicans will attribute their inspiration to adopt at least one key climate behaviour change due to from messages promoted by performing artists or through social media.

Communication Goals and Outcome Indicators

1. By the end of 2017, to have at least 30 musicians and artists who have been actively involved in the Voices campaign as Climate champions remain committed to continuing their involvement under the Strategic Programme for Climate Resilience (SPCR)

2. By the end of 2017, to have boosted the careers of at least 8 artists through their involvement in the SPCR programme

3. By the end of 2017, to promote artists' climate change message through a variety of social media networks.

Potential Communication Activities	Type of Communication Activity	Output indicators	Process Indicators	Partners and Projects	Year
Host 1 artists workshop per year	Workshop held	# of Workshops held; # of Workshop reports	Venue secured; invitations distributed; artists attend; quality of participation	Panos-NEEC	1-5
Field trips for musicians and artists to see the impact of CC in the field	Field Trips	# of field trips held	Venue secured; invitations distributed; artists attend; quality of participation		1-3
Host production workshops to record CC Rhythm CD and DVD	Recording Production workshops	# of production workshops # of videos produced	Venue secured; invitations distributed; artists attend; quality of participation	Panos-NEEC JFM JAVAA	2
Produce and distribute Rhythm DVDs with both music (mini album) and video	Multi-media DVDS	# of DVDs multi-media material produced	DVDs distributed through appropriate channels	Met Office MLWECC	2
Use the songs and video as part of regular Voices PSAs and promotion	PSAs	# of PSAs produced	Level of demand for songs generated		2-4
Include Jamaican participating artists in upcoming COP activities and regional CC activities where possible	Artists' participation in COPs and regional events and possible performances	Artist performs Artist participates reports	Invitation is extended Letter of acceptance Number of people in audience Quality and response of audience feedback	Panos-NEEC 5Cs Met Office	1-5

Link with existing artist competitions such as "Digicel's Rising Stars show, the "All Together Sing" programme, "Dancing Dynamites" and with the Jamaica Cultural Development Commission (JCDC) Festival Competition to promote CC songs and messages.	Competitions	Number of artists that enter and are showcased through these events	Number of shows that get on board to promote CC messages Content analysis and quality of routines generated Number of viewers/listeners reached	Panos NEEC Met Office JCDC	1-5
Host live concerts with the artists in schools	Concerts	# of concerts held	# of people participating; Quality of participation Demand for more information	Panos NEEC Met Office Mof Ed	3
Host live concerts with the artists as part of the community & city tours	Concerts	# of concerts held	# of people participating; Quality of participation Demand for more information	Panos NEEC Met Office SDC ODPEM	3
Identify a couple of artists to serve as CC Ambassadors	Celebrity Endorsement	At least 2 artists contracted to serve as CC ambassadors # of outputs produced/held with ambassador endorsement	Artists are willing and eager to participate	Panos-NEEC JFM JAVAA EMSPVA PSCPA-UWI LT Met Office MLWECC	2-5
Promote CC ambassador messages via phone messages, texts or tweets	List serve established/twitter feed/social media	Cell phone server supports list serve; Number of persons on the list; Regular/timely messages sent	List serve established Artists "tweet" about Climate Change with their fans	As above but also with Digicel and Lime	2-5
Individual artists to promote CC messages on their own Facebook pages or websites	CC messages on individual artist Facebook pages	Number of CC messages actually promoted by individual artists	Number of artists that promote CC messages on their own Number of hits on these individual page s		2-5

Feature artists on regular talk shows (TV and video) explaining how they are engaging with CC	Talk Show promotion of artists	Number of talk shows that uptake the opportunity to feature the artists on their programs	Quality of CC sharing done by the artists on the shows; Number of calls into the shows	Panos NEEC Met Office TVJ JIS Other stations	2-5
Host a festival to promote short films and documentaries on CC by regional artists and producers	Film Festival	Exhibit held # of artistic works showed	# of films included in festival # of film makers produced; Level of sponsorship for the event received; Number of visitors to the event	Panos-NEEC JFM JAVAA EMSPVA PSCPA-UWI LT Met Office MLWECC	4-5
Host 'art' exhibits of visual artists work on CC	Artists Exhibit	Exhibit held # of artistic works showed	# of artists included in exhibit # art works; Level of sponsorship for the event received; Number of visitors to the event	Panos-NEEC JFM JAVAA EMSPVA PSCPA-UWI LT Met Office MLWECC National Gallery Private sector galleries	3-5
Publish 'post cards' and other greeting cards with champion artists messages about CC (these can also be virtual or e-cards…and people can put their own picture/photo in the card with the artist if they wish)	Post card print production	# of different post cards printed # of cards printed and distributed	Cards are printed on-time and within budget; Cards are distributed through appropriate distribution channels; Number of cards purchased	Panos-NEEC JFM JAVAA	3-5

APPENDIX S- PILLAR FOUR – LEARNING CLIMATE RESILIENCE THROUGH FORMAL EDUCATION

A Caveat: It is important to clarify at the outset that the suggested activities outlined here are meant to work in tandem with, and reinforce, the community based education activities that are outlined under Pillar One as well as those communication activities that are included in all of the specific sub-sectors.

For the most part, those suggested here are targeted primarily at teachers, students and at teacher education colleges, as well as at institutions that try to address the needs of out of school, unattached youth in vulnerable areas.

Overall Communication Goal for Formal Education
By the end of 2017, at least 20% of Jamaica's teachers and 20% of students (at all levels) will be able to articulate what climate change is and why adaptation is important for climate resilience in their own lives.

Main Communication Objectives and Outcome Indicators

1. By the end of 2017, there will be at least a 20% increase in the number of current teachers and a 30% increase in the number of teacher trainees who will know how to incorporate CC lessons into their teaching plans

2. By end of 2017 – at least 50,000 students will be reached through climate change educational activities and 40% of this school population will be able to name new practices and behaviours (besides burning garbage and cutting down trees) that individuals can do to limit CC

3. By the end of 2017, at least 20% of schools (across all levels – primary, secondary and tertiary) will have undertaken at least two (2) climate change adaptation projects on school property

4. By the end of 2017, there will be at least a 30% increase in the number of students who will be able to articulate four ways in which CC will impact their futures and at least a 30% in students who be willing to make personal sacrifices to help lessen its impact on Jamaica

5. By the end of 2017, at least five % of unattached youth (i.e., young people who are outside the formal education system) within the pilot SPCR areas will be engaged in some type of technical training that will equip them for work in CC related adaption careers (such as alternative energy applications, water harvesting, etc.) with the HEART or with the CMI programmes.

Primary audiences:
School Children at primary and secondary levels, early childhood, primary, and tertiary Teachers

Secondary Audiences:
Principals, Parent Teacher Associations (PTAs), School Boards, Ministry of Education, Teachers' Association, Teaching Colleges, Joint Board of Teachers Education, Membership of the National Environmental Education Committee (NEEC)

Gaps in KAPs and Key Messages Needed
Communication efforts for the formal education sector will seek to promote specific messages in support of key known gaps in knowledge, attitudes and practices (KAPs) related to climate change. These key gaps have been identified through review of the 2005 KAP study data, input from experts at the national consultation, and informal discussions conducted with key informants through the needs assessment process.

There is an overall general feeling of complacency and indifference toward CC and its effects	**Key Messages Needed**
The one main activity that people (16.5%) felt they could personally do to limit CC was to dispose of waste properly	Stop burning garbage and find out what else you can do to reduce climate change.
Discrepancy between perceptions of "community risk" versus "personal risk"	If you live in a community, you are at risk from climate change.
Persons perceive high risk for their communities but low risk to themselves	
Only 15.3% feel that they should make a sacrifice and be inconvenienced to help address CC	Your actions make a difference. Get involved and do your part.
There is confusion among various climate change terms. Teachers may not distinguish between climate "change", "mitigation" and "adaptation". Also misunderstanding between "climate" and "weather".	Learn how to speak "climate". With a little learning, it is not hard.
Much of the information about climate change is presented too scientific and teachers have trouble breaking it down in manageable formats that can be easily taught and communicated.	
People perceive extreme weather events with hurricanes, but not with overall changes in climate	Hurricanes are not the only type of climate change impact. Longer drought and flooding are also signs.
There is a lack of knowledge of climate change within the formal education system and no structured approach to introducing CC into formal education or the curriculum. As a result, the existing curriculum is too narrow and does not address CC.	Govt. is supporting efforts to revisit the curriculum to infuse CC issues and lessons.
Likewise, there are not current actions for infusing CC into teacher education although some opportunities do exist to do so through partnerships (such as the UNESCO CC Education Project for teachers, the WET programme; and the New Teacher Environmental Education for Sustainable Development programme).	Govt. is support CC education programmes within teacher training
There is a lack of methods and tools for teaching CC with those who are visually, sensory and intellectually impaired.	Govt. is taking steps to address the climate change communication needs of those with disabilities
To encourage CC adaptation and resiliency in the home, CC education in schools needs to be highly action-oriented and practical so that students can take home what they learn and implement actions along with their family members.	Climate change resilience starts at home.
There is a need for more involvement in CC education through visits and outreach from other social services outside of teachers alone. Public health educators, RADA, the Forestry Department and so forth, also need to play a role in school education.	Public sector agencies are partnering with Min of Education to encourage CC awareness.

Main Partners:
NEEC
JET
PCJ
ODPEM
Forestry Department
WRA
JCDT
UNEP-CEP
Jamaica Council of Churches
Media
Communications sector/technology companies
Ministry of Youth, Education and Culture (MOYEC)
Jamaica Teachers' Association
HEART Trust /NTA
Jamaica Association for Life Long Learning
Libraries
Church groups and community supplemental tutoring programmes
NEEC-Panos – Voices for Climate Change
UNESCO
UWI

Strengths, Resources and Opportunities for Synergies
Fortunately, despite the above challenges and gaps in KAPs for this sector, there are a number of resources and agencies to enlist as partners who could be engaged in climate change awareness for the educational sector. Many of these resources are not new, but have been generated through a variety of previous projects. Most of these, while not specifically labelled "climate change" could be viewed through a climate change lens and enlisted towards climate change education in schools.

Conducting a more thorough inventory of existing resources, and then bundling and re-packaging them, along with the creation of a climate change module for how to use them that is specifically created for teachers, could be done relatively easily and would build on existing proven resources and tools, help to scale up positive educational lessons learnt, and help to leverage and maximize existing resources.

Some of these, but by no means all, are indicated in the Matrix below.

Existing Resources and Programmes for Formal Education					
Web-Resources for Teachers, Parents and students	The Office of Disaster Preparedness and Emergency Management (ODEPM) has a specific page on its website devoted to children[38]	The PCJ also has a page devoted to children and students called the "***Kids Corner"*** [39]	NEPA's Public Education and Outreach programme boasts a vast range of posters, brochures and materials that are already being used by schools and community groups to promote education and awareness on a vast variety of environmental issues and concerns. NEPA's site also boasts a page for students, which includes a number of resources for learning about the environment. A very important channel of communication that should be harnessed for climate change messages, is NEPA's ""***Down to Earth" Radio Drama Series***[40]. The series already has twelve different episodes which can be listened to through the audio gallery on the NEPA website. Of these twelve episodes, several already deal with issues related to climate resiliency including: (1) forest fires; (2) watershed management; (3) hurricanes; (4) tree planting; and (5) fire safety week. More programmes could be created for climate change awareness.	The United Nations Environmental Programme (UNEP)'s Caribbean Environment Programme (CEP is also currently building web resources for learning and education on its CEP Children's Corner Page. The page will have tips for learning, fun things to do, and tools and tips. There will also be a "How to be a superhero" page which should be especially appealing to older children and boys.	An interesting new on-line interactive programme also holds potential for students, teachers and families alike to possibly learn about Climate Smart food production. **Farmville Jamaica Live**[42] is a new and innovative farming club that consists of different activities aimed at getting persons living in Jamaica involved in farming. Farmville Jamaica Live teaches participants and the public more about agriculture through an interactive farming program. Collaboration with Farmville could be explored to infuse CC into an on-line programme for students.
Teacher Training Programmes/Projects	Through its Climate Change Education for Sustainable Development programme, UNESCO[43] aims to make climate change education a more central and visible part of the international response to climate change. The programme aims to help people	The Water Resources Authority (WRA), together with the NEPA and the Ministry of Education, and several teachers' colleges, is already using a very impressive teacher education programme for the water sector. Literally entitled "WET: Water Education for Teachers"[44].	Since 1995, the UWI School of Education has been delivering a post-graduate, and later, an undergraduate course in EE aimed at creating awareness of the need for EE and equipping educators with sufficient knowledge and pedagogical skills to effectively infuse EE into their	A joint initiative of The Joint Board of teacher Education[45] and the GOJ/CIDA ENACT Programme, **Environmental Education for Teachers in Early Childhood and Primary Programmes** is also working to promote sustainable environmental learning among early	

[38] *http://www.odpem.org.jm/Kids/GeneralKidsHome/tabid/338/Default.aspx*
[39] *http://www.pcj.com/dnn/KidsCorner/tabid/74/Default.asp*.
[40] http://www.nepa.govt.jm/media/down_2_earth/index.asp
[41] *p.org/eu-climate-change/childrens-corner*
[42] *http://www.farmvillejamaicalive.com/index.php?option=com_content&view=article&id=46&Itemid=55*
[43] *http://www.sustainabilityfrontiers.org/index.php?page=unesco-teacher-educator-course-climate-change-education*
[44] WET: Water Education for Teachers
[45] *http://jatli.wetpaint.com/page/Environmental+Education+for+Teachers+in+Early+Childhood+and+Primary+Programmes*

	understand the impact of global warming today and increase "climate literacy" among young people. As part of this initiative, UNESCO has developed a CC course for teachers – a component of which is specifically meant for Small Island Nations.		teaching. These courses also encourage participants to analyse values, feelings and motivation for active participation with others in promoting environmental protection and improvement. There is tremendous potential to partner with the Institute of Education (IOE) at UWI to develop CC educational modules for teachers	childhood providers.
Curriculum Enhancement	The National Environmental Education Committee (NEEC) [46] was established to guide and mobilize environmental education activities in support of sustainable development in Jamaica and works in the following five programme areas of Teacher Professional Development; Curriculum Development; National Public Awareness; Community Learning and Resources & Practices.			
Fairs, Exhibits and School Events	The community education work done by the Voices for Climate Change programme has already been mentioned, but Voices has also done considerable work with its performing artists in schools. To date the project has hosted more than 7000 school participants and more than 4000 participants at community meetings		Green Expo is an environmental exposition organised by the Jamaica Conservation and Development Trust (JCDT/Green Jamaica). It is held during National Environmental Awareness Week, which starts on World Environment Day June 5	The Denbigh show and other agricultural fairs and exhibits also hold tremendous learning potential for teachers and students
Print resources	Under the Protected Area and Rural Enterprise (PARE), USAID collaborated with several stakeholders to mitigate the threats and economic costs of bush fires and other natural disasters on Jamaica's rural economy. Several posters and materials were produced related to Bush Fire Awareness in particular a very exciting flipchart story book for teachers called, "***Oh No! A Bushfire Story***" which involves a Jamaican Doctor Bird through a series of adventures with a young boy and a girl after a bush fire has gotten out of control and damaged a protected area and forest reserve .		NEPA Pub Ed has many print resources as well as do several NGOs around the island	
Educational Competitions	In March 2012, under as part of another GEF-SGP programme, a poster competition was organised by the GEF-SEP to promote climate change adaptation for children. The competition[47] was entitled, "Adapting to Climate Change: We're Ready. Are You?" and resulted in two winners and was opened to students, in two age cohorts, 8-13 and 14-19, who attend schools in the areas where CBA projects are implemented. These areas include Bunkers Hill Trelawny, the Portland Bight Area of Clarendon, Woodford and Cascade in Rural St. Andrew, Portland and Glengoffe in St. Catherine			
Environ clubs for Kids	The Schools Environment Programme (SEP) is Jamaica's largest environmental education programme, now in its 13th year. Implemented by the Jamaica Environmental Trust (JET) and other civil society groups with the support of the Ministry of Education and private sector donors, SEP has been delivered in over 350 Jamaican schools, reaching some 300,000 students and 600 teachers.			

[46] *http://www.nrca.org/neecwebsite/neec/neec.htm*
[47] *http://www.jm.undp.org/node/583*

Disenfranchised Youth	The Caribbean Maritime Institute (CMI)[48] has a renewable energy project that involves the use of simple, low speed wind generators, powered by halved 45-gallon drums that have been cut to create angled flaps, to run turbines, which produce up to two kilowatts of energy. The programme involves training youth from vulnerable communities to produce the turbines in part as an income generating activity and in part as a way to make their own communities less dependent on the grid.

[48] http://www.caribbeanpressreleases.com/articles/7639/1/Caribbean-Maritime-Institute-to-use-Renewable-Energy-to-Produce-Potable-Water/Page1.html

Overall Communication Goal for Formal Education

By the end of 2017, at least 20% of Jamaica's teachers and 20% of students (at all levels) will be able to articulate what climate change is and why adaptation is important for climate resilience in their own lives

Corresponding Communication Objective and Outcome Indicator	Potential Communication Activities	Type of Communication Activity	Output indicators	Process Indicators	Partners and Projects	Year
1. By the end of 2017, there will be at least a 20% increase in the number of current teachers and a 30% increase in the number of teacher trainees who will know how to incorporate CC lessons into their teaching plans	Partner with existing teacher training curriculum initiatives and training centres to infuse CC into teacher training programmes and develop materials to support same.	Teacher training curriculum review	Teacher training curriculum is reviewed and revised Number of programmes with CC infusion	Number of partners engaged in the process; Number of different teacher curricula enhanced Number of teacher trainees who go through the new curricula	WET NEEC UNESCO UWI JTBE Min of Edu Teachers Colleges	1
	Re-examine the NEEC environmental curriculum with a "CC lens" and explore ways in which CC messages can be infused into existing curricula such as geography class, health classes, science class, agriculture, and so forth.	Curriculum review and production of teaching notes and/or tool kit	Suggestions organized for how CC can be incorporated into existing curriculum Teacher's CC Toolkit produced that is linked to curriculum Toolkit/additional teaching notes prepared Minutes of workshop sessions to introduce teachers to the CC tool kit	Curriculum reviewed by NEEC Additional teaching notes prepared or tool kit developed, if needed Workshops/training sessions held with teachers Teachers incorporating CC materials into their weekly teaching plans		1-2
2. By end of 2017 – at least 50,000 students will be reached through climate change educational activities and 40% of this school population will be able to name new practices and behaviours (besides burning garbage and cutting down trees) that individuals can do to limit CC	Engage teen journalists/media to cover the concerts so other youth are reached as well	Youth Journalists reporting	# of young journalists involved; # of stories generated by youth journalists	Quality of stories; Uptake by media houses of stories produced by young journalists	Panos-Voices NEEC NEPA MoEd	3-5
	Link with the 350 CC day – establish a national CC day and host an exhibit that profiles students' own CC activities	National CC Day exhibit/event	Event planned and successfully launched Materials and media activities to promote individual action are included in the event	Partnership with 350 CC day formally established; TORS defined for consultant to organize event; Consultant hired; Venue determined; Event slogan identified Event successfully promoted & implemented Number of persons visiting the event; Number of media covering event;		3-5

				Number of schools that participate Extent and quality of coverage		
	Host school meetings	School workshops	# of school meetings held # workshop reports/minutes	# of students participating; Quality of participation Demand for more information	Panos-Voices NEEC NEPA MoEd	1
	Do a series of CC school tours with a travelling CC exhibit (along the lines of the "Bashy Bus") and host focus group discussions	Travelling exhibit school tours and focus group discussions – upper schools	Exhibit is created and made mobile # of schools visited on tour # of focus group discussions held	Exhibit is creative and dynamic and well received # of students/schools that host the exhibit and which experience it personally Quality of interaction; # of requests for more information	Children First Panos-Voices NEEC NEPA MoED	2-4
2. By end of 2017 – at least 50,000 students will be reached through climate change educational activities and 40% of this school population will be able to name new practices and behaviours (besides burning garbage and cutting down trees) that individuals can do to limit CC	Use the Voices Climate Artists as champions in the schools	Edutainment	# of artists identified as champions # of artists participating in school visits # of school visits with artist performances	# of artists who enthusiastically engage with the champion programme; quality of response from students to artists' involvement	Panos-Voices NEEC NEPA MoEd	1-5
	Create Voices CC school notebooks with Voices' artistes on covers	School note book print production	Number of notebooks produced for different subjects with key CC messages with different artistes	Artists on board Number of subjects for which notebooks are published Level of demand for, and use of, notebooks by schools/students		2-4
	Play music videos and use promotional materials during school visits	Edutainment	# of music videos and promotional materials used per school visit	Response from students as to the use of music videos and materials in school visit Level and quality of participation		2-5
	Use the Voices Climate Artists as champions in the schools	Edutainment	# of artists identified as champions # of artists participating in school visits # of school visits with artist performances	# of artists who enthusiastically engage with the champion programme; quality of response from students to artists' involvement	As above but with champion artists	2-4

Corresponding Communication Objective and Outcome Indicator	Potential Communication Activities	Type of Communication Activity	Output indicators	Process Indicators	Partners and Projects	Year
3. By the end of 2017, at least 20% of schools (across all levels – primary, secondary and tertiary) will have undertaken at least two (2) climate change adaptation projects on school property 4. By the end of 2017, there will be at least a 30% increase in the number of students who will be able to articulate four ways in which CC will impact their futures and at least a 30% in students who be willing to make personal sacrifices to help lessen its impact on Jamaica	Have a poster/essay competition	Essay/Poster Competition	Competition held and winners identified; Winners announced on website and over media	Partners for competition identified Prizes identified Competition designed Panel of judges identified Competition launched Level of press coverage received Quality and number of entries received Quality of winning entries	Panos-Voices NEEC NEPA MoEd Digicel Lime CARIMAC web students	2
	Host a digital photo competition (also with mobile phones) "CC and Me" that encourages youth to send in photo evidence of CC in their homes and communities. Could be done in conjunction with the Institute of Jamaica	Photo competition	Competition held and winners identified; Photos published either on websites or as digital post cards	Partners for competition identified Prizes identified Competition designed Panel of judges identified Competition launched Level of press coverage received Quality and number of entries received Quality of winning entries		2-4
	Post poster results and students' photographs on a Voices Face book page. Use social media to judge entrants.	Face book page/social media	Results posted	# of friends who sign up # of messages sent on a timely basis Level of feedback and interaction		2-4
	Support/promote school projects in gardening, recycling, water conservation, alternative energy, and so forth to provide practical hands-on experience in adoption of CC mitigation measures that can be tried at home	Hands on Demos in schools	Number of, and type of, school demo projects established	Level of school/student interest Additional partners who come on board to assist (such as RADA, 4H Clubs, forestry department, etc.). Demo sites are maintained and	Panos-Voices NEEC NEPA MoEd JET JCDC	2-5

				monitored Number of students who bring practical examples from the demos to their own homes		
	Link CC to existing school based quiz competitions, such as the Jamaica Schools Challenge Quiz (JSCQ)	CC quiz competition for schools	CC quiz competition held with JSCQ	JSCQ is supportive and becomes involved Number of students/schools who participate Number of viewers reached	As above but also with JSCQ	2-5
4. By the end of 2017, at least 5% of unattached youth (i.e., young people who are outside the formal education system) within the pilot SPCR areas will be engaged in some type of technical training that will equip them for work in CC related adaption careers (such as alternative energy applications, water harvesting, etc.) with the HEART or with the CMI programmes.	Promotion and expansion of the CMI disadvantaged youth program	Expanded enrolment of CMI outreach programmes	Number of disadvantaged communities who learn about the programme about the CMI programme Number of new youth enrolled Number of youth who end up getting work as a result	Number of youth who complete the programme	Panos-Voices NEEC NEPA MoEd CMI	2-4

APPENDIX T - PILLAR FIVE
ENHANCING THE CAPACITY OF MAINSTREAM MEDIA

Strengthening the mainstream media to better coverage climate change stories using evidence-based reporting must be a central thrust of any communication strategy to improve the island's resilience. People need to be kept up to date of new climate initiatives and must be able to gauge how well the island is meeting its climate change resiliency targets. This is the job of professional journalism.

Doing so also fits within Jamaica's overall Vision 2030 and in particular " **Goal #1: Jamaican's are empowered to achieve their fullest potential**" along with **"National Outcome # 4: Authentic and Transformational Culture".**

Overall Communication Goal:
By 2017, to have a core cadre of journalists (at least 8), among all mainstream media genres, who are very well versed in climate issues and who have fully adopted an evidence-based approach to reporting climate issues in the news and who are highly pro-active in their coverage.

Main Objectives & Indicators to Achieve the Above Goal

1. To have a minimum of 20 high quality, evidence-based CC stories published and/or broadcast in the mainstream media annually

2. To inform journalists of the lucrative opportunities that exist in covering CC stories in the wider Caribbean and internationally, not only in Jamaica, in order to great journalism-driven demand for climate features.

GAPS IN KNOWLEDGE, ATTITUDES AND PRACTICES TO BE ADDRESSED:

1. The quality and factual coverage of CC issues in the mainstream media needs to be improved overall.

2. More journalists – at several levels – need to be trained to communication climate change issues effectively using evidence-based reporting.

Primary audiences:
Mainstream Mass Media professionals and journalists
News Editors
Environmental Journalists
Students enrolled in journalism programmes

Secondary Audience(s) and Partners:
- Press Association of Jamaica

- Association of Caribbean Media Workers (AMC)

- Caribbean Institute of Media and Communications (CARIMAC)
- Caribbean Community Centre for Climate Change (5Cs)
- Media Association of Jamaica

Strengths and Opportunities for Synergies

The Voices for Climate Change Project
Under the Voices for Climate Change project, considerable work has already been advanced with the mainstream media and their coverage of climate change issues. The Voices project has regularly involved the media on their planning committees and has involved them in all of their campaign activities. Through its direct work with the media, and through media training and outreach activities, the project has encouraged:

- Approximately 50 Stories to be printed (mainly Jamaica but some regional stories as well)
- 15 radio interviews (mini-album played in its entirety on at least two interview with Hot 102FM and Roots FM)
- Public Service Announcements played on Power 106FM for the month leading up to Cop 15 in Copenhagen (November 2009)
- At least 10 television interviews. (*Television Jamaica, RE TV and JNN have given the Music Video continuous play over the two year period)*
- Online – press releases and videos on Facebook and YouTube
- Links with partner websites such as the United Nations Development Programme Jamaica, Panos London, International Institute for Environment and Development, (IIED) etc.

The Mainstreaming Adaptation to Climate Change (MACC) Project
Under the MACC project implemented by the 5Cs, a regional climate change handbook for Caribbean Journalists was produced in 2005. This was done in collaboration with Association of Caribbean Media Workers (AMC) and was used for a series of training workshops with journalists in the region.

However, not all journalists were training and the MACC book needs to be updated and revised to include new activities and information.

Proposed Communication Activities to enhance Mainstream Media Coverage

Overall Communication Goal:
By 2017, to have a core cadre of journalists (at least 8), among all mainstream media genres, who are very well versed in climate issues and who have fully adopted an evidence-based approach to reporting climate issues in the news and who are highly pro-active in their coverage.

Corresponding Objective and Outcome Indicators	Potential Communication Activities	Type of Communication Activity	Output indicators	Process Indicators	Key Partners and Projects	Year
To have a minimum of 20 high quality, evidence-based CC stories published and/or broadcast in the mainstream media annually	Update the MACC tool kit for Journalists and create an evidence-based tool kit that provides journalists with not only CC data and facts that they can use in their reporting, but also includes key resource people and contacts that they can use to verify information on a regular basis.	Media Tool Kit	Tool kit produced	TORs defined for a consultant to develop the kit, Consultant hired Additional persons identified to review and provide inputs to the kit	5Cs AMC CARIMAC Panos CDKN\ PAJ	2
	Work with 5Cs under the regional communication implementation framework for in-house training of Jamaican media on priority areas of action. This can be done as MACC follow-up training and together with the Association of Caribbean Media Workers (ACM), Caribbean Institute of Media and Communication (CARIMAC) and the Climate and Development Knowledge Network (CDKN)	Training workshops	Trainings held Training reports Training materials # of journalists trained	Training agendas and materials developed; Training venue organized training promoted high quality of participants received; 5Cs participation included	Work with 5Cs under the regional communication implementation framework for in-house training of Jamaican media on priority areas of action. This can be done as MACC follow-up training and together with the Association of Caribbean Media Workers (ACM), Caribbean Institute of Media and Communication (CARIMAC) and the Climate and Development Knowledge Network (CDKN)	2
	Create on-line and/or short courses in communicating CC using evidence based reporting.	On-line and/or short courses	Course(s) produced and offered,	Course designed Course offered Number of journalist who sign up for the course Number of journalists who complete the course	5Cs AMC CARIMAC Panos CDKN	3
	Hold annual Press conference/briefings – post COP debriefings with the media annually	Debriefing meeting	Debriefing meetings held Meeting report	# of press media members present; Meetings held within a reasonable period	MLWECC	1-5

	Create media fellowships to sponsor journalists to attend CC events especially COP meetings	Media fellowship and support for journalists	Award launched Award granted Minutes of judges meetings	Partners/donors identified and secured Panel of judges identified; Award criteria determined; Award launched Level of coverage of award Number of entries/nominees Prizes identified and secured	5Cs MLWECC PAJ Panos Carimac ACM	2
	Conduct pre, interim and post content analysis surveys of the media's coverage of CC issues	Content analysis	3 content analyses conducted 3 reports prepared	TORs defined for consultant Consultant TORS defined; Consultant hired; High quality reports prepared	Panos Carimac students PAJ	1-5
	Create media fellowships to sponsor journalists to attend CC events	Media fellowship and support for journalists	Award launched Award granted Minutes of judges meetings	Partners/donors identified and secured Panel of judges identified; Award criteria determined; Award launched Level of coverage of award Number of entries/nominees Prizes identified and secured	Panos Carimac PAJ 5Cs	2
	Publish/broadcast timely news releases on various climate change activities and milestones	News releases/Public Relations	# of news releases generated	Quality of news releases produced on a timely basis; Number of entities producing timely news releases Uptake by news media	MLWECC Met Office	All years
	Identify media representatives to serve on a communication for CC advisory task force to monitor the quality of SPCR communication activities and those of other sister projects	Advisory group on communication for CC	At least 2 persons identified	Regular participation of media reps in advisory task force meetings	MLWECC Met Office	1
To inform journalists of the lucrative opportunities that exist in covering CC stories in the wider Caribbean and	Create an award for environmental reporting on CC impact on an annual basis	Journalism award	Award granted Number of awards given	Award panel identified; Award criteria confirmed; Award competition launched; Quality of	Panos Carimac PAJ 5Cs MLWECC Met Office	1

internationally, not only in Jamaica, in order to great journalism-driven demand for climate features.				nominees received; Financial support for the award received		