KNOWLEDGE ATTITUDE, PRACTICES / BEHAVIOUR (KAP/B) STUDY ON CLIMATE CHANGE

Saint Lucia Baseline Study 2016

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EXECUTIVE SUMMARY

Saint Lucia remains vulnerable to natural hazards and resulting disasters including hurricanes and rainstorms, the changing patterns of which are frequently attributed to climate change. A 2011 review of the United Nations International Strategy for Disaster Reduction (UNISDR) pointed out that the populations of people at risk from weather-related disasters, and particularly tropical storms, have almost tripled since the 1970s[1]. The impact of such disasters adversely impact sustainable social and economic development, thereby requiring concerted action from all stakeholders to address the resultant effects on life, ecosystems and livelihood.

Based on the most recent available projections, countries like Saint Lucia will continue to be severely threatened by the direct and indirect impact of climate change, which scientists anticipate will accelerate. Among some of the possible effects are: erosion of hillsides, increased coastal flooding and other coastal hazards – leading to extensive damage to coastal infrastructure and communities, tourism infrastructure and coastal ecosystems; drought from reduction in water resources and increased invasion of non-native species, including pest infestations. Consequently, there is a critical need to implement adaptation measures to address the impact of such hazards which can potentially retard the achievement of the country's sustainable development goals. The attainment of these goals is contingent on effective planning to manage risks associated with climate change.

Planning for and addressing the impact of climate change in the region remains high on the agenda of national governments as well as regional agencies, in particular, CARICOM. To this end, CARICOM of which the OECS territories form part, are beneficiaries of the development assistance programme of the Japanese Government, intended to play a lead role in the response to Climate Change. The Japan-Caribbean Climate Change Partnership was created to support CARICOM in mapping out a pathway towards climate change adaptation and resilience. One of the main thematic areas of focus of the J-CCCP work plan is that of climate change education and awareness.

[1] AGRICULTURE DISASTER RISK MANAGEMENT, A Communication and Information Management Guideline for the Agriculture Sector in Saint Lucia Published by IICA (2016)

In 2011, a KAP survey conducted under the Pilot Programme for Climate Resilience (PPCR), under which a Strategic Programme for Climate Resilience (SPCR), of the Ministry with responsibility for Sustainable Development, was developed, revealed the existence of significant gaps in the knowledge, attitude and behavioural practices of Saint Lucians with respect to climate change. Despite the implementation of a number of climate change awareness initiatives at the national, district or community level, the 2011 study confirmed the need for greater and ongoing public awareness and education regarding the current and likely impacts of Climate Change and appropriate adaptation strategies. With the time lapse of five years, an assessment of the current situation is necessary to inform the development of a communication strategy and public awareness campaign to address gaps in knowledge, attitudes, and practices in an effort to build resilience to the impacts of Climate Change.

This mandated undertaking the current KAP survey which sought to achieve inter alia:

- A baseline measure of KAP/B on climate change in 2016 and the implementation of the communication campaign.
- A KAP study and resultant report with recommendations and conclusions that will inform the development of an effective communications strategy.
- An understanding of media practices to ensure the most suitable communication channels and messages are utilized in the process of information dissemination and will further inform definition of effective activities and messages as it relates to climate change.

The 2016 KAP/B study targeted a representative cross section of the Saint Lucian population through a general household questionnaire survey, focus groups targeting (1) decision makers from the commercial sector, (2) the building and construction sector, (3) secondary school students and questionnaire-led interviews with farmers from each of Saint Lucia's eight agricultural districts.

The results and analysis of this 2016 KAP/B survey supported the need for increased public education and awareness activities as a critical measure to tackle the impact of climate change. Respondents in both the 2011 and 2016 studies articulated the need for continued education on the subject matter. Although 92% in the 2016 study were aware of the term "climate change", respondents generally articulated the need for increased public education and awareness. Overall, 91.2% of respondents were interested in more information on climate change. Television was identified as the preferred choice to receive information on climate change. However, any successful communication approach must be

tailored to influence actions and behaviour over time. Overall, the research revealed the need for communication-based interventions designed to address gaps in current levels of knowledge, attitude and practices to focus on key areas.

- Ongoing public education and awareness activities that will potentially have a positive impact on individual as well as community based actions to address climate change impacts.

- Increased visibility for actions undertaken by Government as a total of 40.4% of respondents were unaware of any government actions. A similar trend was observed with farmers. Except for farmers who ascribe equal responsibility for climate change action to all stakeholders, respondents generally believed that government must play the key role to address climate change. This suggests the need for increased government campaigns and/or collaboration with community based organizations to tackle climate change issues. Such partnerships may positively impact perceptions of government action.

- The survey offered recommendations and practical suggestions to address climate change impacts. These include: (1) promoting afforestation, (2) promoting community groups dedicated toward environmental protection, (3) encouraging car-pooling and greater use of public transportation, (4) encouraging recycling options/manufacturers to become involved in developing recycling options for waste material, (5) enforcing building codes, (6) enforcing policies with regard to climate change/environmental protection, (7) installation of water conservation methods; (8) installation of alternative and renewable energy sources, (9) provision of concessions, incentives or financial support for those who would use alternative energy sources and (10) continuous adaptation and mitigation focussed farmer education.

Although many of the hazards/threats to sustainable agricultural and overall economic development as a result of climate change are exogenous and outside of the purview of any one individual to control, the extent and level of vulnerability and impact remains largely an endogenous factor which allows for intervention to avoid and/or cope with threats. This relies on the continuous need for information and building awareness which will potentially positively impact KAP of all constituents.

1.0 INTRODUCTION

1.1 Background

The islands of the Caribbean are particularly vulnerable to Climate Change. In Saint Lucia, a large number of towns and communities exist near the coast, further enhancing vulnerability to the extreme weather conditions brought on by Climate Change. Over the last 25 - 30 years, Saint Lucia has experienced an increase in the frequency of natural hazards or events, primarily floods and landslides related to heavy rainfall in general, and specifically the impact from tropical depressions, tropical storms, hurricanes, and droughts. Recent meteorological events that have had a severe impact on Saint Lucia are the Christmas Eve Trough of 2013 and Hurricane Tomas of 2010. The adverse effects of these include flooding, landslides, decline in the health of coral reefs, loss of sea-grass beds, severe beach erosion and loss of forested areas. These natural hazards also result in significant economic losses due to damages to infrastructure as well as loss of lives.

Based on the most recent available projections, countries like Saint Lucia will be severely threatened by the direct and indirect impact of Climate Change, which scientists anticipate will accelerate in the future. Among some of the possible effects are: erosion of hillsides, increased coastal flooding and other coastal hazards – leading to extensive damage to coastal infrastructure and communities, tourism infrastructure and coastal ecosystems; drought from reduction in water resources and increased invasion of non-native species, including pest infestations. Consequently, adaptation is critical as failure to implement adaptation measures can retard the achievement of the country's sustainable development goals. The attainment of these goals is contingent on effective planning to manage risks associated with Climate Change.

A major challenge faced by Saint Lucia is the limited technical, financial and human resources which impact the capacity to implement adaptation options. This limitation is manifested in inherent weaknesses of national and local institutions as well as vulnerable communities that potentially result in:

- Inability to develop and implement adaptation and disaster risk reduction strategies;
- Inadequate tools and systems to plan and implement Climate Change strategies; as well as

- General lack of scientific information to facilitate adaptation planning.

This is exacerbated by the fact that global and regional models being used to build current climate scenarios are limited in terms of suitability for small island states.

The Caribbean Community (CARICOM) of which the OECS territories form part, are beneficiaries of the development assistance programme of the Japanese Government, intended to play a lead role in the response to Climate Change. In that regard, the Japan-Caribbean Climate Change Partnership was created to support CARICOM in mapping out a pathway towards Climate Change adaptation and resilience. Technical support is provided through a regional assistance programme under the framework of the Partnership for Peace, Development and Prosperity between Japan and the Member States of the Caribbean Community (CARICOM). The anticipated outputs under this framework include policy innovation through the development of a number of Nationally Appropriate Mitigation Actions (NAMAs) and National Adaptation Plans (NAPs) that will provide guidance to the development of national responses in CARICOM Member States.

Public understanding of the benefits, ownership of outcomes and participation in mitigation, adaptation and disaster risk management activities is critical for achieving disaster risk reduction and Climate Change resilience within the Caribbean. Success of NAPs is heavily contingent upon popular understanding of how the national response addresses and accommodates urgent national development priorities. As such, effective and targeted public education and awareness initiatives aimed at promoting a more impact-focused and resilience-focused approach need to be undertaken.

An early and necessary step in that regard was to conduct a baseline study to benchmark current levels of knowledge, attitudes, practice or behaviour as it relates to Climate Change and its attendant cross cutting issues, so as to tailor a nationally relevant, culturally appropriate strategy to close prevailing gaps and influence behaviour change. Consistent with output 3.2 of the J-CCCP work plan, strategy key messages should draw the link between mitigation, adaptation and disaster risk management interventions and long-term sustainable development.

1.2 Rationale for the Knowledge, Attitude and Practice (KAP) Survey

One of the main thematic areas of focus of the J-CCCP work plan is that of Climate Change education and awareness. Addressing this area of need across the various priority sectors is a primary area of output. The climate change knowledge, attitude and practice survey conducted in 2011 revealed that there were significant gaps in the knowledge, attitude and behavioural practices of Saint Lucians with respect to climate change. Despite the implementation of a number of climate change awareness initiatives at the national, district or community level, the 2011 study confirmed that there is still a need for greater public awareness and education regarding the current and likely impacts of Climate Change and appropriate adaptation strategies. With the time lapse of five years, an assessment of the current situation is necessary to inform the development of a communication strategy and public awareness campaign to address gaps in knowledge, attitudes, and practices in an effort to build resilience to the impacts of Climate Change.

This 2016 KAP will therefore utilize a combination of the quantitative approach through the administration of a structured questionnaire complemented by qualitative Focus Group Discussions (FGDs). Such qualitative investigation will allow more detail than quantitative investigation alone can provide. The quantitative nature of the KAP provides details on exactly “what” people know, do or perceive about climate change, while qualitative investigation – precisely because it allows for open-ended discussion - is able to address the questions of “how” and “why” these practices and perceptions exist.

1.3 Objectives

The main objective of the survey is to assess Knowledge, Attitudes and Practice or Behaviour (KAP/B) as it relates to Climate Change, mitigation, adaptation and disaster risk management interventions in Saint Lucia. The outcome of this assessment is meant to inform the development of a country-specific communication campaign to promote the benefits of disaster risk management initiatives.

Specific objectives include:

- To develop a baseline measure of KAP/B on climate change in 2016 and the implementation of the communication campaign.
- In response to respondents media practices, ensure that the most suitable communication channels and messages are utilized.
- To identify any positive or negative change in KAP/B as a result of the communication campaign.
- To identify differences in KAP/B among various stakeholder groups and audiences. Knowledge of these differences will impact how the communication campaign is tailored to each audience.
- To produce a KAP study and resultant report with recommendations and conclusions that will inform the development of an effective communications strategy.
- To identify whether there are any knowledge gaps, cultural beliefs or behavioural patterns that need to be addressed through the communication campaign.
- To understand media practices that will further inform definition of effective activities and messages as it relates to climate change.

1.4 Structure of the Report

The report outlines the methodology, results and analysis, as well as recommendations emerging from the findings of this KAP/B survey. The methodology gives a description of the research design and sampling technique applied in the study. This is followed by the presentation of the results. The results of the semi-structured survey are first presented, followed by the qualitative results of the FGDs. A brief analysis of the findings of the 2011 survey vis à vis this survey is presented, followed by the final section focusing on recommendations and conclusions. Relevant appendices are included to highlight the terms of reference and survey instruments used.

1.5 A Previous 2011 KAP Study

In April 2011, as part of the development of a Strategic Programme for Climate Resilience (SPCR), Accela Marketing was contracted by the Ministry with responsibility for Sustainable Development to conduct a Knowledge, Attitude and Practice (KAP) Survey. The results of the 2011 study were examined and any similarities and differences that may be relevant between the two studies were identified.

2.0 METHODOLOGY

2.1 Research Design

A representative household sample size was selected based on the 2013 World Bank estimation of total population of 182,305 persons[2]. The sample size of 423 was based on a 90% confidence level with a margin of error of 4%. A stratified sampling approach was utilised. The sample frame, the Saint Lucia 2010 Population and Housing Census, was used to identify and outline the strata, the housing districts. Within each district, random sampling was utilized to select households to gather a range of information which included:

- Demographics – age, education, marital status, occupation, size of households.
- Whether survey participants ever heard of climate change.
- What do participants know about climate change?
- What actions have they taken or consider useful to address climate change.
- Media preferences.

The research was conducted utilizing two approaches – (i) the semi-structured survey; supported by (ii) the Focus Group Discussions. The combination of these two approaches facilitated the ability of the survey team to gather relevant information as it relates to climate change KAP/B.

Behaviours surrounding climate change and resilience are complex. In order to refine a communication strategy based on the research results, both quantitative data and qualitative data were used. This enabled the survey team to better understand the reasons for specific actions relating to climate change and resilience. As indicated previously, the methodology involved the following:

- Island-wide semi-structured survey
- Focus group discussions

Each of these is described below.

[2] http://data.worldbank.org/indicator/SP.POP.TOTL?end=2013&locations=LC&name_desc=true&start=1960

2.2 Semi-structured Survey

Interviewers utilized a semi-structured questionnaire in conducting the representative household survey. This questionnaire was interviewer-administered. These interviewers were drawn from a pool used by the National Statistics Office specifically as they also had prior experience in the conduct of surveys, particularly those related to climate change. One interviewer per household was assigned. A total of eighteen (18) enumerators were recruited to administer the survey in the nine (9) district areas as seen below.

Table 1: Breakdown of respondents per district

District	Quota	Percentage of Sample	Percentage of St. Lucia Population[3]	# of Field Officers
Anse-La-Raye/Canaries	25	5.9%	5.0%	1
Castries	130	30.7%	39.6%	5
Choiseul	21	5.0%	3.7%	1
Dennery	40	9.5%	7.6%	2
Gros Islet	75	17.7%	15.2%	3
Laborie	21	5.0%	4.0%	1
Micoud	45	10.6%	9.8%	2
Soufriere	21	5.0%	5.1%	1
Vieux Fort	45	10.6%	9.8%	2
TOTAL	**423**	**100%**	**100%**	**18**

The target sample size for this national household survey was approximately 423 respondents randomly selected from the population. The sample was nationally-representative, selected from all districts as seen in the table above. Based on the population distribution, 39.6% and 15.2% of households reside in Castries and Gros Islet respectively, therefore the increased number of households from these two districts is reflective of that pattern. Respondent selection was based on the person within the household who last celebrated a birthday, but was at or above the age of 18 years. Consequently, respondents included men and women of different age groups, sex, education, and socio-economic background. The fieldwork for household survey took place over a ten-day period, during August 15th to August 26th, 2016. See Appendix B for a sample of the instrument.

[3]Based on 2010 Population and Housing Census

2.3 Qualitative Focus Group Discussions (FGDs)

Whilst the semi-structured survey forms the main framework or skeleton for the survey results, the qualitative component seeks to complement by providing respondents an opportunity to openly express their views, understanding and feelings as it relates to Climate Change. The aim is to provide a deeper understanding and/or underlying reasons for specific practices and attitudes.

FGDs are one of the methods widely utilized in the conduct of qualitative research. The similarities, common interest and group dynamics in FGDs allow greater probing of ideas and opinions, thereby providing an opportunity to engage participants on the subject.

Commercial sector focus groups – Two focus group sessions were convened with members of Saint Lucia's corporate sector. Based on the level of response, one focus group was achieved. The FGD was convened in the conference room of Right Angle Imaging Inc. The venue was deemed a central location easily accessible by participants. Participants represented agencies/companies that are potentially impacted by climate change issues. The sessions were conducted over a two-hour period.

A simple open ended questionnaire was utilized as a guide. This enabled a better understanding of mind-set, as participants were allowed to freely express their thoughts, feelings and ideas on the subject. Participants of the focus groups represented the following companies/institutions:

- **Digicel** – The more dominant of Saint Lucia's two mobile companies
- **GTM Insurance** – Over 60 years in Saint Lucia catering to a broad range of customer groups including householders, individuals and businesses.
- **Helen Television Systems/ Radio 100 Helen FM** – enjoys island wide reach
- **Saint Lucia Electricity Services Ltd (LUCELEC)** – Saint Lucia's sole power company
- **Massy Stores** – Saint Lucia's largest supermarket chain
- **Renee's Construction** – Building contracting service in operation over 25 years
- **Sir Arthur Lewis Community College** – Operates campuses in the island's north and south
- **St. Lucia Distillers** – ISO certified Rum distillery In operation since 1972
- **St. Lucia Hotel and Tourism Association** – Umbrella body representing the hospitality sector
- **WinFresh** – A major manufacturer of water and beverages

The FGD participants were drawn from a range of commercial stakeholders which included manufacturing, utility, construction, telecommunication, private media, insurance, as well as education and hospitality industries. The entities participating were approached specifically because they are all engaged in areas that are in one way or the other impacted/affected by climate change. FGD participants were selected from the commercial sector in the capital of Castries. It was not deemed necessary to convene island wide FGDs because:

- The most significant players in the commercial sector are located in Castries.
- The headquarters of most of these agencies are located in Castries.
- Most participating entities have regional offices/ distribution outlets as such the representation of FGD participants covered these outposts
- The backbone of this survey emanates from the island wide semi-structured survey, with the focus group discussions being only complementary.

The purpose of the commercial sector focus group was to identify the KAP of members of the commercial sector on climate change.

Note that focus group discussions were also held in 2011 with stakeholders who attended consultations, separate and apart from the island wide survey.

Student focus groups – Two focus group discussion discussions were held with students of the Vide Boutielle Secondary School and the Leon Hess Secondary School (LHSS); the latter is attended by students from various districts.

A total of 10 students from each school participated, with their ages ranging between 13 and 17 years old. The discussions were held at the auditorium of the National Cultural Centre where the students had congregated as part of an exercise organised by the Cultural Development Foundation (CDF). The CDF and chaperon teachers granted permission to insert the focus group sessions into the program of a pre-existing school activity.

The purpose of a focus group discussion with this demographic was to form an understanding of the KAP/B of students, as influenced through the curriculum and with regard to the ideal communication mix to effectively reach and engage this segment.

Engineer focus group – A focus group was convened with this group to provide insight of KAP/B among this professional grouping. Although 10 persons confirmed their availability to attend the discussion, only 7 were able to actually attend and participate.

Participants belonged to:

- Association of Professional Engineers of Saint Lucia
- Ministry of Physical Development
- Water and Sewerage Company (WASCO)
- E6 Inc. (Private firm)
- Physical Planning Division in the Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Co-operatives

Farmer interviews – Questionnaire-led interviews were conducted with farmers from each of the island's eight agricultural regions. The identification and selection of interview candidates was conducted by the Extension Division of the Ministry of Agriculture based on the respective farming regions and farmers who are actively in production. Over a five-day period, out of the 14 farmers targeted 13 were interviewed. Each interview lasted approximately thirty to forty-five minutes.

The purpose of the farmer interviews was to formulate an understanding of KAP/B specific to this demographic, as well as an understanding of their vision for farmer adaptation to climate change. Another aim was to determine the best approach to service the communications needs of this segment.

3.0 RESULTS

The sample size for this household survey was set at 423, however, a total of 413 completed questionnaires were received; a 97.6% response rate. Table 2 below outlines the response rate per district.

Table 2: Response rate per District

District	Quota	No of Responses	Percentage Response Rate
Anse-La-Raye/Canaries	25	25	100%
Castries	130	122	93.8%
Choiseul	21	21	100%
Dennery	40	40	100%
Gros Islet	75	75	100%
Laborie	21	20	95.2%
Micoud	45	45	100%
Soufriere	21	21	100%
Vieux Fort	45	44	97.8%
TOTAL	**423**	**413**	**97.6%**

3.1 Results – Household Survey

Households were targeted at random for this survey. A cross-section of respondents from each of the nine (9) targeted district areas provided invaluable feedback to inform this KAP/B survey.

DEMOGRAPHIC COMPOSITION OF RESPONDENTS

59.1% of respondents were female, while 40.2% were male. Whilst more than half of respondents (59.3%) fell within the age groups between 18 and 40, the largest proportion of respondents (23%) represented the 18 – 25 year old age group.

The survey was conducted among households in nine identified district areas in Saint Lucia. The greater proportion of respondents (29.5%) was from the Castries District, whilst the least was from the Choiseul and Soufriere districts, each representing 5.1% of respondents.

Based on the results of this survey, 87.9% of respondents indicated a household size of 1-6 persons, whilst 12.1% indicated a household size of 7 plus. 49.2% of respondents were single, 20.6% were in a common law marriage, 23% were married, whilst the other 7.2% were either divorced, widowed or did not provide a response. 57.2% of respondent households also contained individuals within the household below the age of eighteen. 30.7% of respondents further indicated there were individuals within the household who were also single parents.

The occupations identified by respondents were categorised according to the International Labour Organisation's International Standard Classification of Occupations (ISCO). The ISCO classification groups occupations based on clearly defined categories that incorporate the tasks and duties of various positions. Based on this classification, 27.1% of respondents' occupations represented the Services and Sales Workers category, 21.5% were unemployed, 11.1% represented Professionals, whilst 8.2% represented Craft and Related Trades Workers. The other 32.1% represented a range of other occupations based on the ISCO classification, as seen in Table 33, located in Appendix A of this document. A breakdown of the occupations that participants identified and their relevant ISCO Classification can be found in Table 34 of Appendix A.

A secondary school level of education was the highest level attained by 43.3% of participants. 29.9% of respondents attained at least a Primary School education; A Level/Associate degree represented 19.2%, whilst the other 7.5% attained either a Bachelors or Master's Degree. The educational level per district is outlined in Table 3 below.

Table 3: Educational Level per District

Education Level	Castries	Anse La Raye & Canaries	Soufriere	Choiseul	Laborie	Vieux Fort	Micoud	Dennery	Gros Islet
Primary School	34.4%	20.0%	57.9%	9.5%	15.0%	18.2%	33.3%	30.0%	33.3%
Secondary School	48.4%	52.0%	42.1%	23.8%	40.0%	63.6%	22.2%	40.0%	41.3%
A level / Associates Degree	12.3%	20.0%	0.0%	47.6%	40.0%	15.9%	28.9%	30.0%	12.0%
Bachelor's Degree	4.1%	4.0%	0.0%	19.0%	5.0%	0.0%	6.7%	0.0%	9.3%
Master's Degree or higher	0.8%	4.0%	0.0%	0.0%	0.0%	2.3%	8.9%	0.0%	4.0%
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

A majority of households (69.3%) surveyed had been a part of their community for more than 10 years. Figure 1 below illustrates this distribution of households.

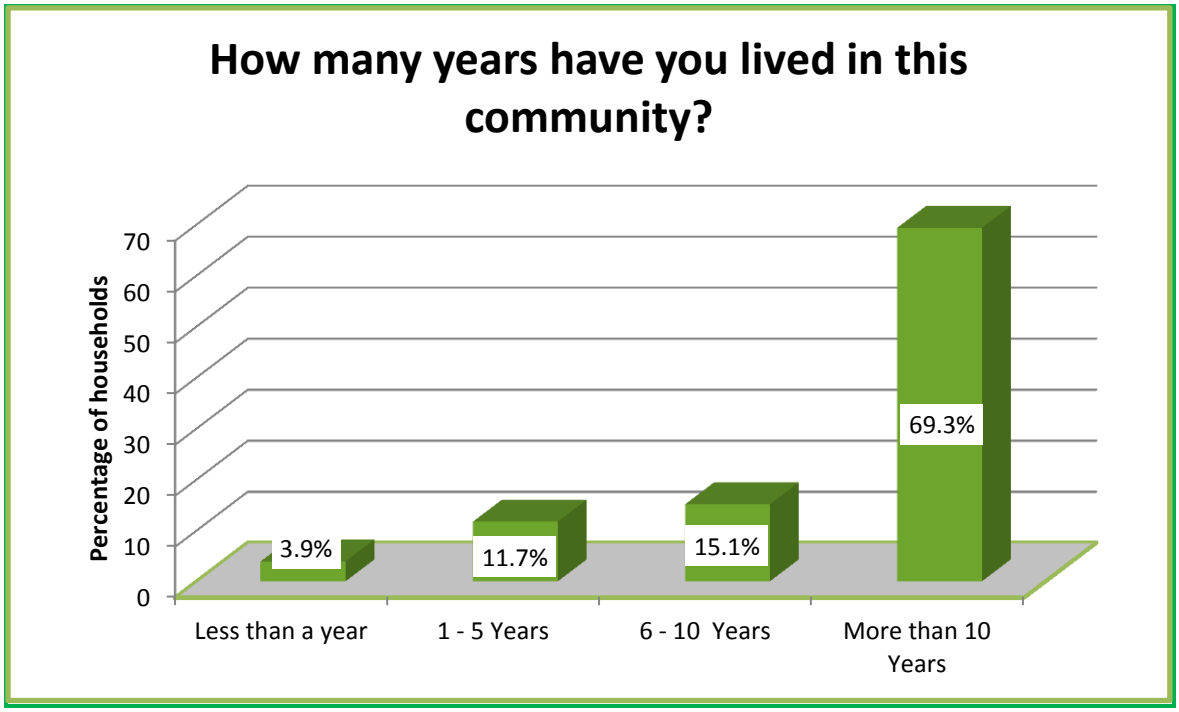

Figure 1: Frequency distribution for Question 8: "How many years have you lived in this community?"

3.1.1 Knowledge of Climate Change

378 respondents (92%) indicated they had heard of the term climate change, whilst 33 respondents (8%) responded negatively as reflected in the chart below.

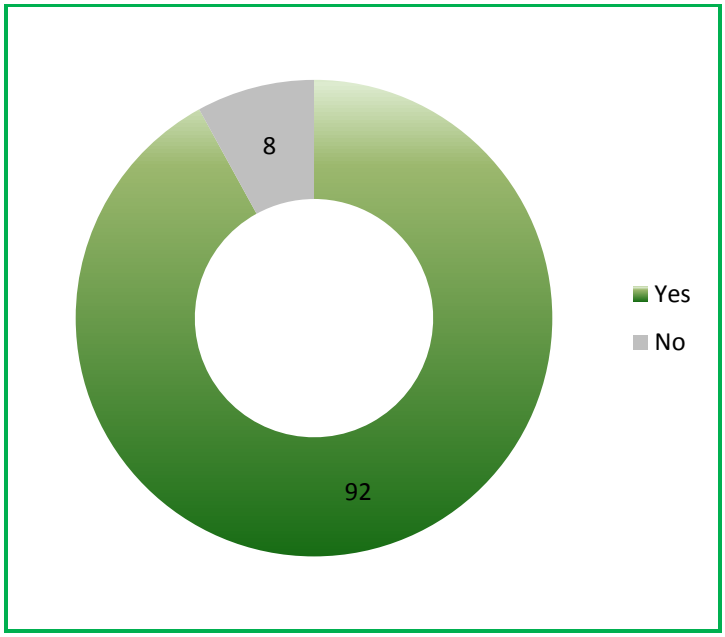

Figure 2: Frequency distribution for Question 10: Have you heard of the term climate change?

Of those who stated 'yes', 40.6% were male, while 59.4% were female. A cross-tabulation between household respondents' education levels and their hearing of the term "climate change" revealed that there was a significant association as seen in the table below. Based on the results, knowledge of the term Climate Change was greater among respondents with a secondary school education and above.

Table 4: Cross tabulation between level of education and having heard the term climate change

	Have you heard the term climate change			
	Yes		No	
	Percentage	Frequency N = 409	Percentage	Frequency N = 409
Primary	82.1%	101	17.9%	22
Secondary	96.0%	169	4.0%	7
A level / Associates Degree	96.2%	76	3.8%	3
Bachelor's Degree	100%	21	0%	0
Master's Degree or higher	90%	9	10%	1

Further analysis of the level of knowledge varied significantly, based on the respective districts, as seen in Table 7 below. The coastal villages of Choiseul, Gros Islet and Anse la Raye/Canaries reported a 100%, 98.7% and 96% level of knowledge respectively.

Table 5: Level of Knowledge per District

Have you heard of the term climate change?	Castries	Anse La Raye & Canaries	Soufriere	Choiseul	Laborie	Vieux Fort	Micoud	Dennery	Gros Islet	Total
Yes	92.5%	96.0%	81.0%	100%	85.0%	93.2%	88.9%	82.5%	98.7%	**92.0%**
No	7.5%	4.0%	19.0%	0%	15.0%	6.8%	11.1%	17.5%	1.3%	**8.0%**
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	**100%**

78.9% of respondents revealed their source of climate change information was television; 55.3% and 35.3% of respondents revealed the source of information as radio and schools respectively. A minimal 14.7% of respondents indicated newspapers as a source of information for Climate Change.

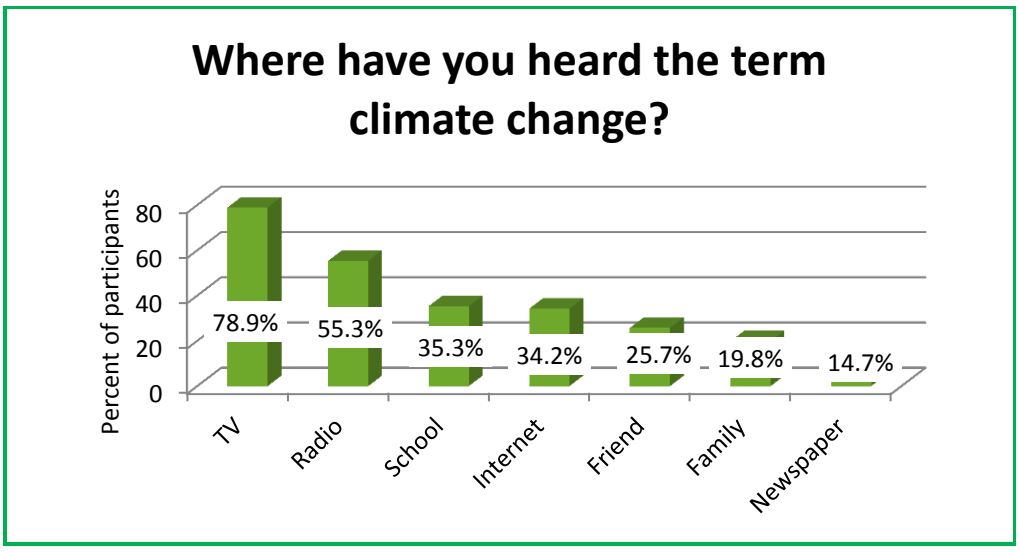

Figure 3: Frequency distribution for Question 11: "Where have you heard the term climate change?"

When asked **what respondents understood by the term climate change**, various responses were outlined:

- 49.3% of those that responded indicated that it was a change or worsening of weather patterns
- 25.1% indicated a change in climate or atmosphere.
- 5.2% stated that they were unsure or did not know what climate change was.

A number of participants delved deeper and gave insight into the conditions that they felt reflected climate change. These included:

- Increased rainfall (2.0%).
- Reduced rainfall (1.2%).
- Change or destruction of the environment (3.7%).
- Global warming (2.5%)
- General increase in weather temperature (10.7%).
- Increased disasters were also highlighted by 5.5% of respondents. Floods and landslides were the most prominent disasters mentioned, followed by hurricanes and storms and then droughts. Earthquakes and melting ice / rising sea levels were also mentioned.

In an effort to delve deeper into knowledge on climate change, respondents were asked to provide brief notes on what climate change meant to them. Responses are summarized as follows:

- Irregularities, particularly during the dry and rainy seasons where there is, for instance, more rainfall than usual during the dry season, and other times, extended periods of drought.
- Worsening or change in weather was cited by 29.2% of respondents.
- 2.6% of respondents highlighted the unpredictability of the weather.
- Some respondents indicated that climate change noticeably impacts and adversely disrupts agriculture and food output.

Some respondents further indicated that these changes in weather have a negative impact on the earth and human health through pollution (1.0%) and higher prevalence of some diseases (0.8%). 13.9% of respondents expressed the observation of increases in temperature over time. Respondents also cited the view that climate change meant:

- Increase in disasters (15.4%).
- Increased flood and landslides (3.1%).
- Increased hurricanes and storms (5.0%)
- Increased drought (1.8%).
- Earthquakes (0.5%) and melting ice / rising sea levels (1.6%).

7.6% of respondents felt that climate change meant "nothing" to them, while 3.7% did not know what impact climate change would have.

Table 8 below provides respondents' summary on **"what sorts of events are possibly caused by climate change as well as awareness of events occurring in St. Lucia over the past five (5) years."** Increase in hurricanes (85.3%), droughts (81.8%), changes in temperature (75.9%), increased flooding (75.7%) and global warming (75.4%) were the top 5 events selected by respondents as being caused by climate change. Increased dust in the atmosphere and a rise in bus fares were two other options also noted as being caused by climate change.

Table 6: Frequency distribution of Question 14: Events caused by climate change & Q15: Events occurring in Saint Lucia

What sort of events do you think of as being caused by climate change?			**What sort of events have you noticed / are aware of occurring in Saint Lucia in the past 5 years?**	
Percentage	**Frequency N=407**		**Frequency N=404**	**Percentage**
85.3%	347	**Increased hurricanes / tropical storms**	211	52.2%
81.8%	333	**Droughts / decrease in rainfall**	288	71.3%
62.9%	256	**Excessively high tides/ storm surge**	127	31.4%
50.1%	204	**Tsunami**	22	5.4%
75.7%	308	**Increased flooding**	242	59.9%
75.9%	309	**Changes / increase in temperature**	273	67.6%

What sort of events do you think of as being caused by climate change?			What sort of events have you noticed / are aware of occurring in Saint Lucia in the past 5 years?	
75.4%	307	**Global warming**	187	46.3%
65.4%	266	**Increase in rainfall**	150	37.1%
58.7%	239	**Coastal erosion**	140	34.7%
67.8%	276	**Diseases in crops and livestock**	236	58.4%
73.2%	298	**Landslides**	278	68.8%
50.1%	204	**Prevalence if insects / pests**	177	43.8%
62.4%	254	**Decrease in fish / seafood levels**	215	53.2%
63.4%	258	**Earthquake / volcanic activity**	143	35.4%
36.6%	149	**El Niño**	72	17.8%
61.9%	252	**Damage to coral reef habitats**	179	44.3%

The most noted events identified as having occurred in Saint Lucia were drought (71.3%), landslides (68.8%), changes in temperature (67.6%), increased flooding (59.9%) and diseases in crops and livestock (58.4%). Increased dust in the atmosphere was also identified as an event.

The top 3 causes of climate change identified by participants were: burning fuels (78.1%), land clearing (70.6%) and industrial processing (68.0%). (See Table 9)

Table 7: Question 16: Causes of climate change

CAUSES OF CLIMATE CHANGE	PERCENTAGE (%)	FREQUENCY N=384
Burning fuels, such as coal, oil and natural gas	78.1%	300
Land clearing	70.6%	271
Industry / factories	68.0%	261
Transportation, such as driving a car, bus or boat	60.4%	232

CAUSES OF CLIMATE CHANGE	PERCENTAGE (%)	FREQUENCY N=384
Electricity generation	39.6%	152
Improper agriculture practices	35.7%	137

A small number of participants (21) opted to add their own ideas as it pertains to the causes of climate change. The list below itemises these additional responses.

Table 8: "Other" options for causes of climate change

Other Causes of Climate Change	Percentages	Frequency N = 21
The work of God	14.2%	3
Don't know / Unsure	9.5%	2
Global warming	9.5%	2
Harmful chemical use (insecticides and SPF products)	9.5%	2
Improper garbage disposal	9.5%	2
Scientific interference	9.5%	2
Deforestation	4.8%	1
Geothermal energy	4.8%	1
Heat	4.8%	1
It's a natural process	4.8%	1
Melting ice	4.8%	1
Over population	4.8%	1
Pollution	4.8%	1
The sun and moon	4.8%	1

A nominal percentage (4.8%) of respondents believed climate change to be a natural process, 14.2% believed it is created by God, and consequently concluded human beings have no control over climate change.

The majority of respondents (90.7%) had an idea of whether they lived in close proximity to an area that could be affected by climate change. 36.4% stated they lived "very close" and 27.6% revealed that they lived "somewhat close" to an area affected by climate change. Figure 4 below summarizes the results.

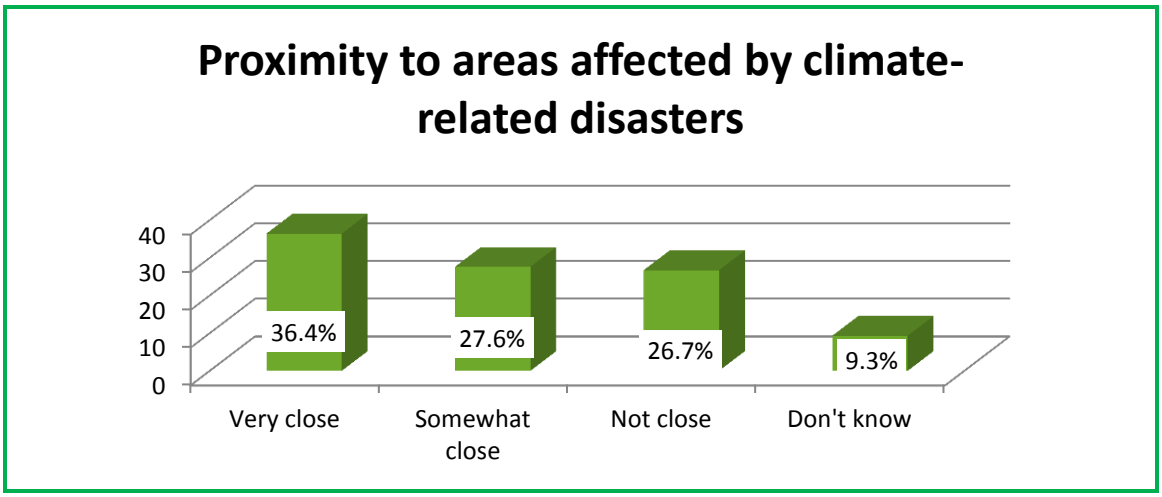

Figure 4: Frequency distribution for Question 17: "How close do you think you are living to an area that could be affected by climate-related disasters?"

Respondents were asked to select the events that occur in their community as a result of climate change. The number one event was increased flooding (49.9%), followed by landslides (42.9%) and decreased agricultural productivity (35.1%).

Respondents were asked to suggest actions within their communities that would help alleviate the issues highlighted. With regard to the most influential events (increased flooding, landslides and decreased agricultural productivity), the common suggestions for alleviation of these events were to engage in afforestation, maintain clean drainage in the communities, and the provision of education on climate change. A detailed overview of the suggested solutions for all events can be found in Table 35 of Appendix A.

Further analysis of the events, based on the respective districts, provided deeper insights, as seen in Table 9 below:

Table 9: Climate-related events per district

	Castries	Anse La Raye & Canaries	Soufriere	Choiseul	Laborie	Vieux Fort	Micoud	Dennery	Gros Islet
Coastal flooding	19.0%	20.0%	29.4%	33.3%	60.0%	31.7%	39.0%	27.0%	28.3%
Coastal erosion	7.0%	8.0%	29.4%	27.8%	40.0%	29.3%	14.6%	10.8%	21.7%
Increased severity of tropical storms and hurricanes	25.0%	16.0%	5.9%	22.2%	35.0%	31.7%	36.6%	16.2%	26.7%
Decreased agricultural productivity	18%	44.0%	58.8%	27.8%	50.0%	46.3%	41.5%	37.8%	36.7%
Deterioration of coral reefs	9.0%	24.0%	0.0%	16.7%	35.0%	26.8%	22.0%	10.8%	26.7%
Decreased productivity of fisheries	16.0%	44.0%	59.%	44.4%	45.0%	29.3%	39.0%	27.0%	31.7%
Increased flooding	63.0%	28.0%	70.6%	16.7%	55.0%	46.3%	48.8%	37.8%	50.0%
Land slippage / landslides	58.0%	20.0%	94.1%	44.4%	40.0%	31.7%	22.0%	16.2%	51.7%
Less rainfall	13.0%	40.0%	23.5%	44.4%	25.0%	34.1%	46.3%	59.5%	35.0%

Based on respondents suggested actions for all events, three courses of action were commonly articulated for each event:

1. A call for more education or sensitization on climate change.
2. Not knowing of any solutions to help alleviate the events.
3. The belief that nothing can be done to improve or alleviate the issues.

Figure 5 shows the distribution of suggestions/action corresponding to each event.

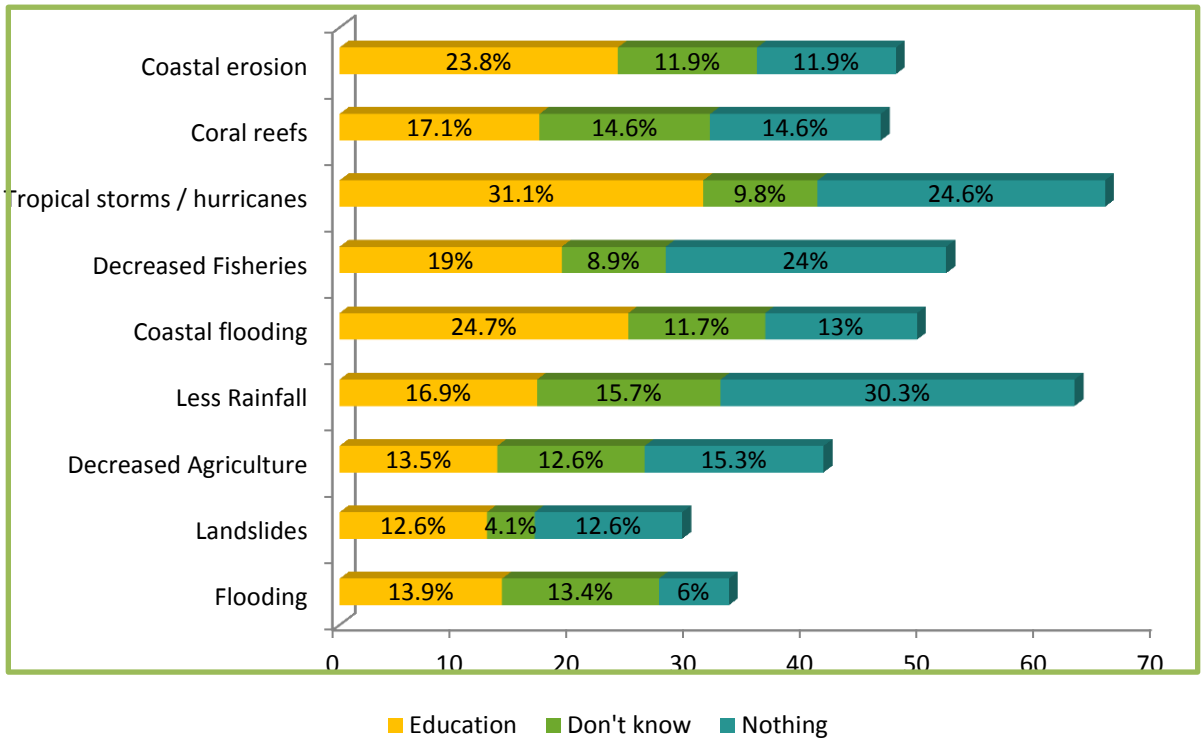

Figure 5: Percentages of top three common responses to what can be done to alleviate issues

3.1.2 Attitudes to Climate Change

Majority (35.2%) of participants were "very concerned" with climate change issues, with 28.1% being "somewhat concerned" and 26.2% "neutral" on the matter.

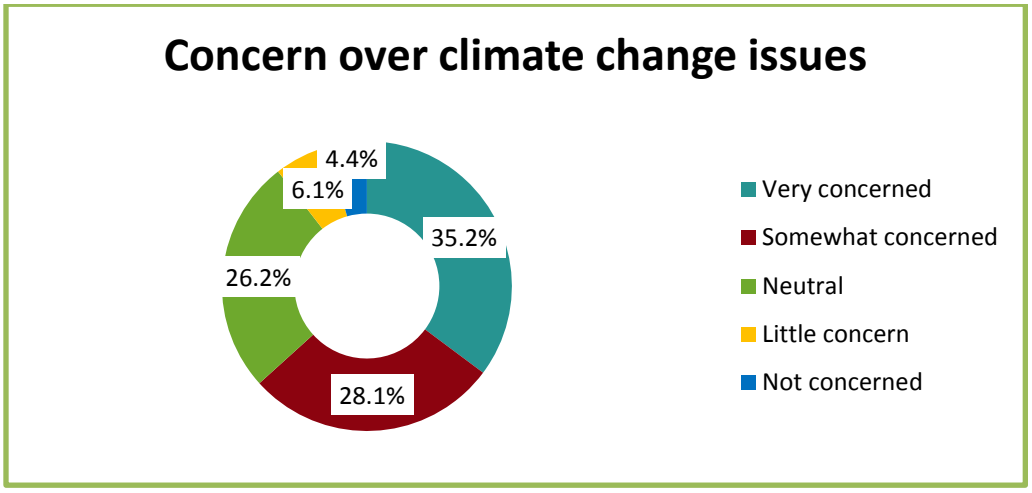

Figure 6: Frequency distribution for Question 20: How would you rate your concern over climate change issues?

In support of the 35.2% very concerned about climate change, 44% were very interested in getting information on climate change, whilst 40.5% were somewhat interested as seen in the graph below.

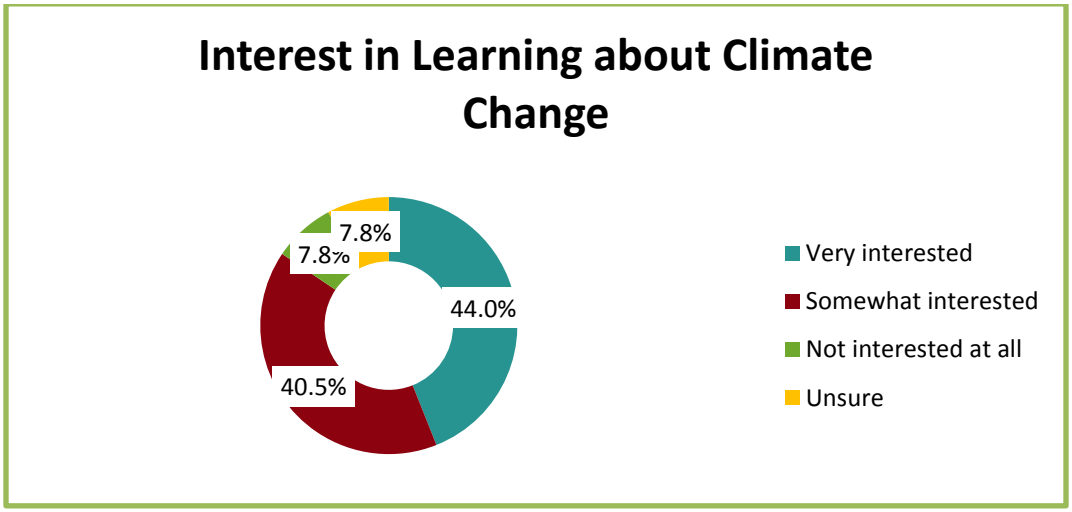

Figure 7: Frequency distribution for Question 21: "How interested are you to learn more about climate change and ways you can help?"

	Castries	Anse La Raye & Canaries	Soufriere	Choiseul	Laborie	Vieux Fort	Micoud	Dennery	Gros Islet	Total
Very Interested	36.1%	60.0%	42.9%	57.1%	75.0%	38.1%	41.2%	55.0%	38.7%	**44.0%**
Somewhat Interested	46.7%	24.0%	42.9%	33.3%	20.0%	45.2%	32.4%	32.5%	48.0%	**40.5%**
Not Interested at All	12.3%	0.0%	4.8%	0.0%	5.0%	7.1%	17.6%	5.0%	4.0%	**7.8%**
Unsure	4.9%	16.0%	9.5%	9.5%	0.0%	9.5%	8.8%	7.5%	9.3%	**7.8%**
Total	**100.0%%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

The interest in learning more about climate change based on the respective community is outlined in Table 10 below.

Table 10: Interest in learning about climate change per district

39.2% of respondents expressed the view that climate change was "very important" to Saint Lucia on a whole than to their community. Figure 8 below summarizes these results.

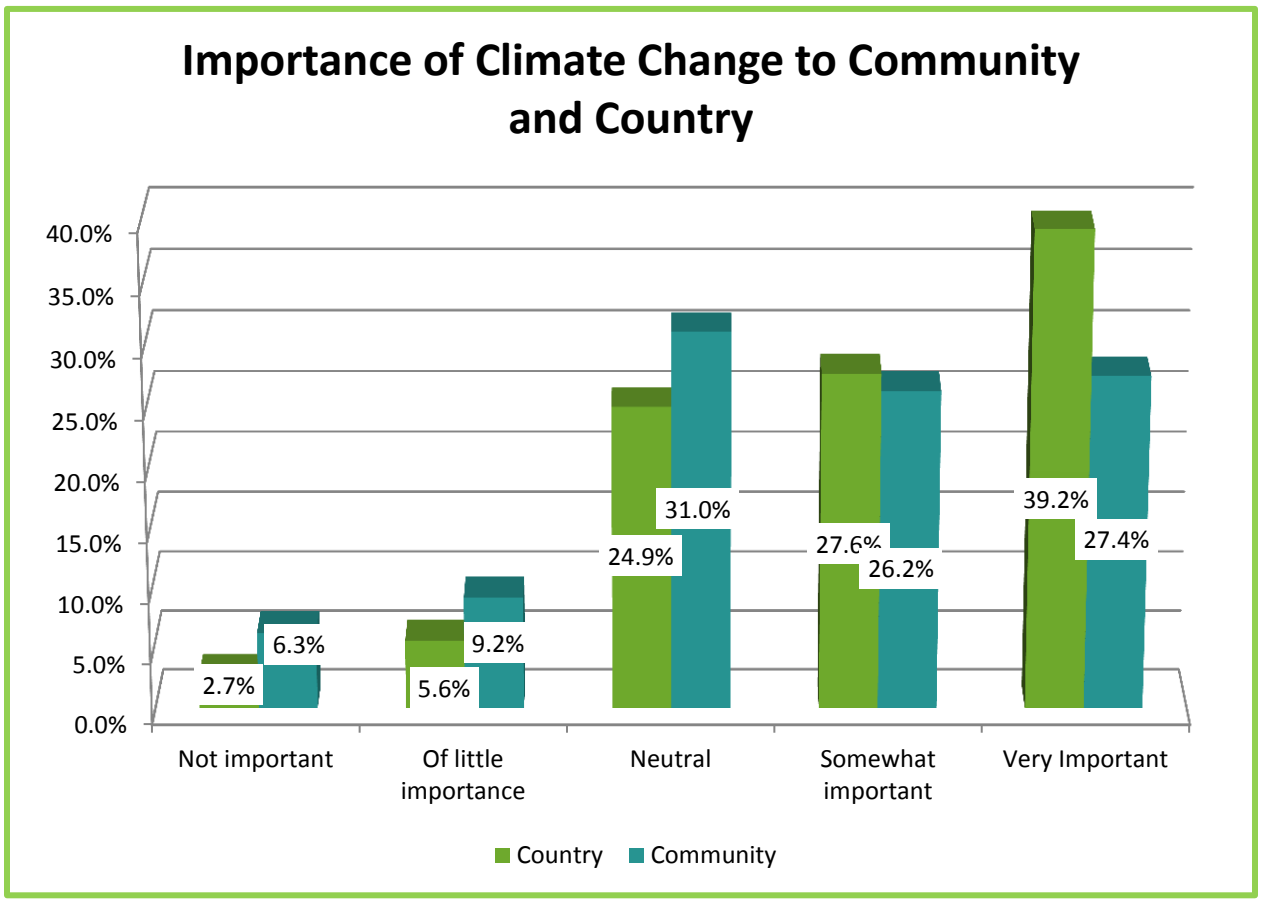

Figure 8: Frequency distribution for Question 22 & 23: "How important do you think climate change issues are to Saint Lucia and your village / community?

In question 24 of the survey, participants were asked to rate suggested activities based on their level of importance in helping to alleviate climate change issues. Table 36 in Appendix A gives a detailed summary of respondents' views on the level of importance of identified measures to help reduce the impact of climate change. Based on their feedback the following were identified:

The **top five most important activities for alleviating climate change impacts** identified by respondents were:

1. Increased public awareness/ education (73.0%).
2. Development of disaster management plans (67.1%).
3. Establishment of flood warning systems (66.1%).
4. Improved water storage (58.4%).
5. Increased research and development of renewable energy technologies (58.4%).

Activities of **moderate importance** were:

1. Reduction in consumption of electricity (37.8%).
2. Increased and better surveillance systems (34.4%).
3. Implementation of energy efficient measures in industrial and commercial sectors (32.7%).
4. Rain water harvesting (32.2%).
5. Improved pest management strategies (32%).

The actions of **least importance** to reduce the impact of climate change were:

1. Rewards and incentives for good or exemplary behaviour (21.3%).
2. Reduction in consumption of electricity (18.4%).
3. Increased and better surveillance systems (12.3%).
4. Observing building codes (9.7%).

With regard to identifying responsibility for addressing climate change, 88.8% of respondents identified local government as the number one agency responsible for tackling climate change. 64.3% believed regional and international organisations should be charged with tackling climate change, whilst 64.3% also believed the responsibility resided with individuals and family. Figure 9 below outlines this distribution of responsibility.

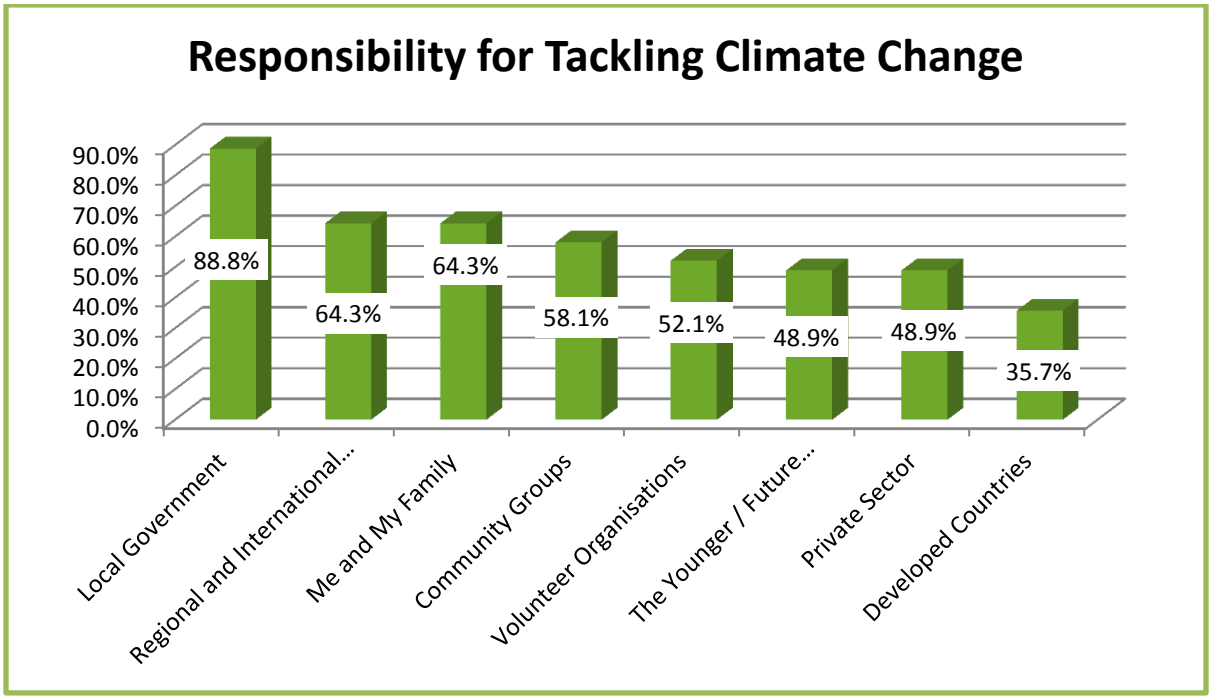

Figure 9: Frequency distribution for Question 25: Who do you think is responsible for tackling climate change issues?

Though 88.8% of respondents identified local government as the most important agency responsible for tacking climate change, 51% believed that government has not done all it can to tackle climate change issues. Figure 10 summarizes the results below.

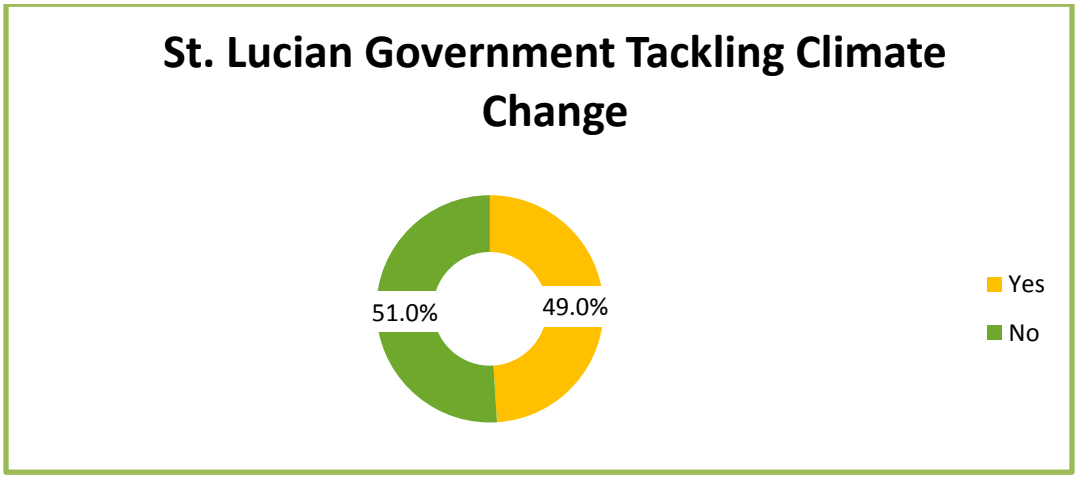

Figure 10: Frequency distribution for Question 26: "Is the Saint Lucian Government doing all that it can to tackle climate change issues?"

Whilst 51% of respondents believed government's efforts may not be exhausted as it relates to climate change, only 47.8% of respondents possessed a fair amount of knowledge of government's efforts in response to climate change.

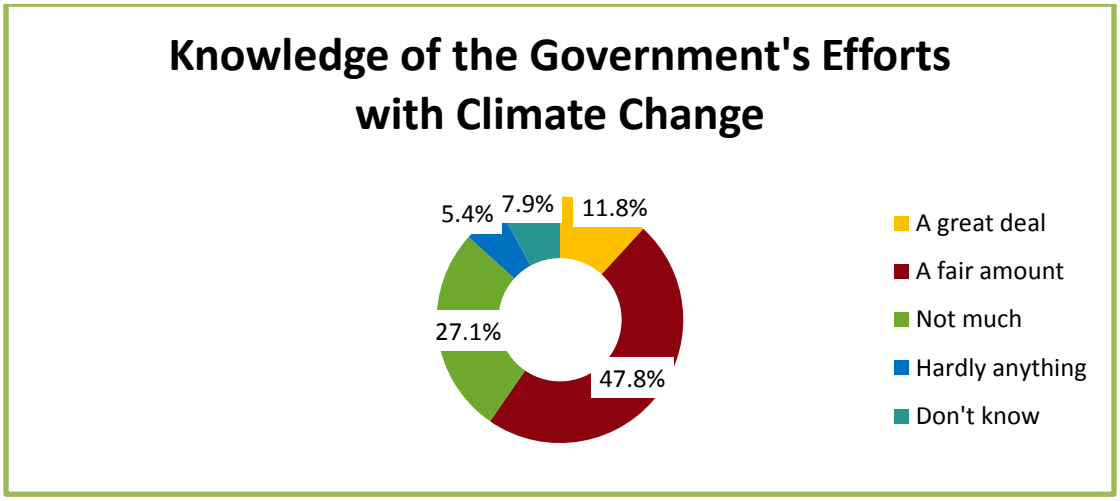

Figure 11: Frequency distribution for Question 27: "How much do you know about our government's response to climate change?"

Of the 49% who were dissatisfied with government's efforts, suggestions were provided on government's approach to tackle climate change issues. Key suggestions were:

- Increased education and sensitization on climate change as the number one action that the government should be taking.
- Need for research in each community to identify specific needs as it relates to disaster response and preparedness.
- Initiation of programs aimed at identifying and implementing alternative sources of energy.
- Implementation of Programs geared towards water management.

- Enforcement of current legislation with regard to pollution, sand mining, deforestation and other harmful practices.

- Clearing of drains to reduce impact of flooding.

- Island-wide clean-up campaigns spearheaded by governments.

Table 11 below summarizes respondents' feedback.

Table 11: Question 28: "What do you think government should be doing?"

Suggestions for Government	Percentages	Frequency N = 202
Education campaign on climate change, its impact, and what can be done to alleviate	52.5%	106
Investment in programs (research on community's needs, disaster preparedness, water management, renewable programs, development & enforcement of legislation)	21.3%	43
Clean drains / clean-up campaigns	6.9%	14
Nothing can be done / it is an act of God	5.0%	10
Promote afforestation / prevent deforestation	3.5%	7
Don't know	3.5%	7
Reduce dependence on fossil fuels	3.0%	6
Build / maintain infrastructure	2.0%	4
Better governance / more togetherness within government / have persons specifically responsible for climate change in government	1.5%	3
Provide access to low interest loans for disaster preparedness	1.0%	2

Overall 57.4% of respondents did not believe adequate information was being shared on climate change.

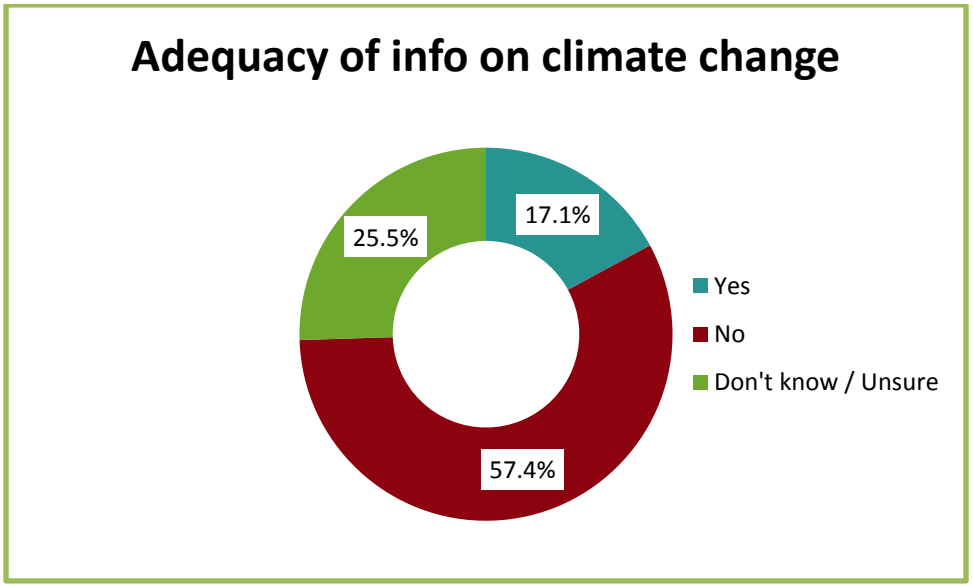

Figure 12: Frequency distribution for Question 29: "Do you think that adequate information is being shared on climate change at the national level?"

Respondents were asked to indicate their level of agreement with statements about the responsibility towards climate change. 60.5% of respondents strongly agreed that the government should take a stronger role in addressing the impacts of climate change, whilst 34.6% also strongly agreed that they would be interested in learning how climate change impacts tropical storms, hurricanes and droughts. An in-depth summary of the level of agreement with all statements can be found in Table 37 in Appendix A.

Generally, respondents expressed interest in learning about climate change, and believed that Saint Lucia, though a small country, can have a positive impact with regard to climate change issues. 23% strongly agree that they are prepared to pay a little more or put up with some inconvenience to help preserve the environment. The table below details the level of agreement from participants.

Further analysis revealed that 62.9% of respondents believed individuals and the public in general can take action to adapt/deal with impact on climate change related issues. The graph below provides representation of these results.

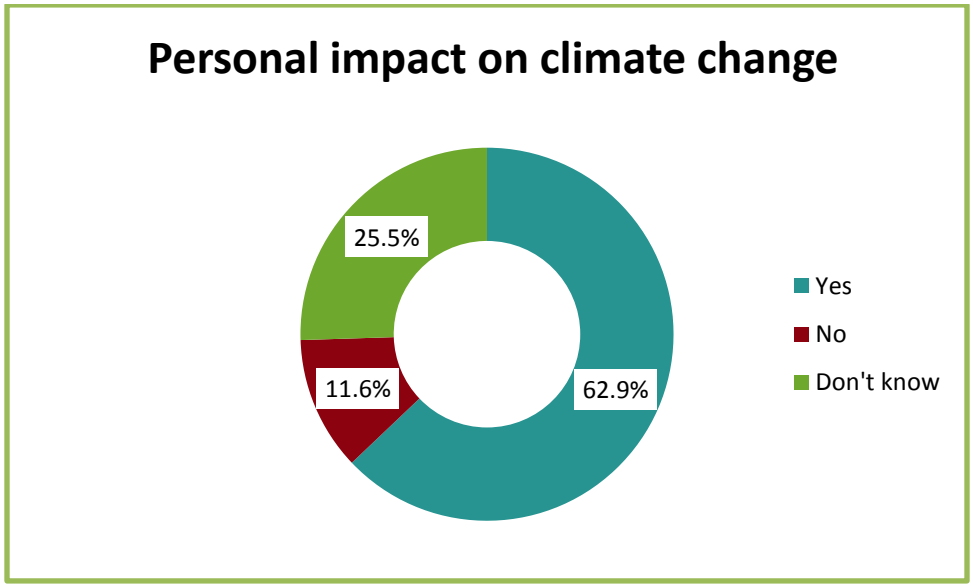

Figure 13: Frequency distribution for Question 31: "do you think that you and the public in general can do anything to adapt to / deal with climate change?"

Respondents provided further suggestions of possible individual actions to address climate change impact. Table 12 below summarizes the various courses of actions suggested by respondents.

Table 12: Question 32: "What is it that you think you or the public can do?"

Suggestions for the Public	Percentages	Frequency N = 309
Be mindful of and keep the environment clean / dispose of garbage properly	23.9%	74
Be informed on climate change and what action can be taken	21.7%	67
Avoid deforestation / engage in afforestation	13.3%	41
Create specific community groups for climate change / liaise with government	10.4%	32
Conservation (electricity, water) / Recycling / Go green / energy efficient appliances	9.1%	28
Follow instructions / policies on climate change / enforce policies	7.4%	23
Disaster preparedness (store food items, prune branches, clean drains and rivers)	6.1%	19
Build stronger homes / improve drainage around homes	2.9%	9
Car-pool / reduce carbon emissions	2.3%	7
Don't know	1.6%	5
Lifestyle change	1.3%	4

In support of individual action to deal with climate change, respondents expressed the need for supportive measures to implement the prescribed courses of action articulated in Table 12 above. 31.7% of respondents felt that government support was the most important, specifically development and enforcement of laws as well as regulations related to climate change. The social program, Short Term Employment Program (STEP) managed by Government was identified as a potential avenue to improve the environment. Establishment of community support groups (26.6%) designated to climate change related activities was also articulated as another supportive measure as well as increased education, public awareness and workshops on climate change (18.3%). Table 13 below summarizes the results.

Table 13: Question 33: "What type of support would you need to implement these activities that you have identified?"

Support Needed	Percentages	Frequency N = 312
Government support (for proper disposal methods, enforcement of laws / stricter regulations / STEP programme	31.7%	99
Community support group, community clean up group	26.6%	83
Education / public awareness / workshops	18.3%	57
Financial support (to buy equipment, to conduct repairs) /Tax concessions for energy efficient appliances	11.2%	35
Nothing	4.5%	14
Don't know	4.5%	14
Options for recycling / more bins in public spaces	3.2%	10

3.1.3 Behaviours / Practices with regard to Climate Change

PERSONAL ACTIONS

The survey sought to investigate respondents' behaviours and practices as it relates to climate change. The various courses of action revealed a range of individual as well as community based actions. The aim was to gauge respondents' level of preparedness with regard to climate change related disasters as well as other natural disasters. 67.7% of respondents owned their homes. Other respondents lived under different agreements, including rent and leased properties.

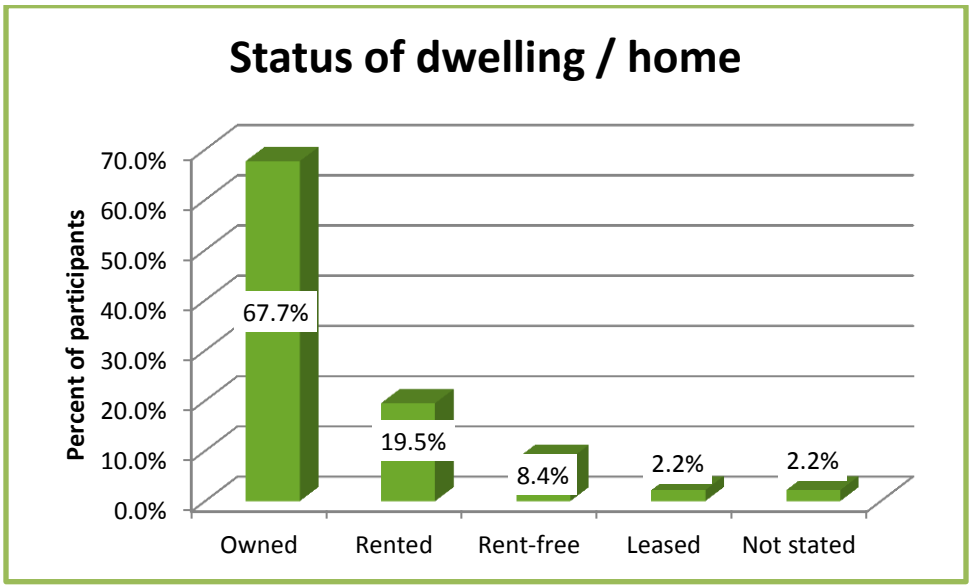

Figure 14: Frequency distribution for Question 34: Status of Dwelling Homes.

However, despite 67.7% owned homes, 80.5% were not aware of whether homes were insured against hurricanes or other natural disasters.

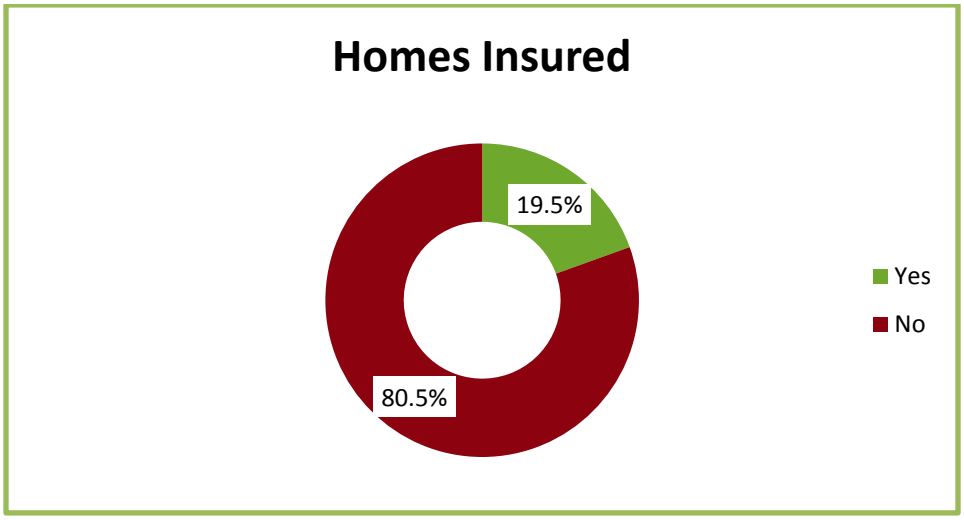

Figure 15: Frequency distribution for Question 35: Do you know whether your home is insured against hurricanes / other natural disasters?

Overall 47.5% (Figure 16) of respondents felt that they were somewhat prepared for climate-related disasters.

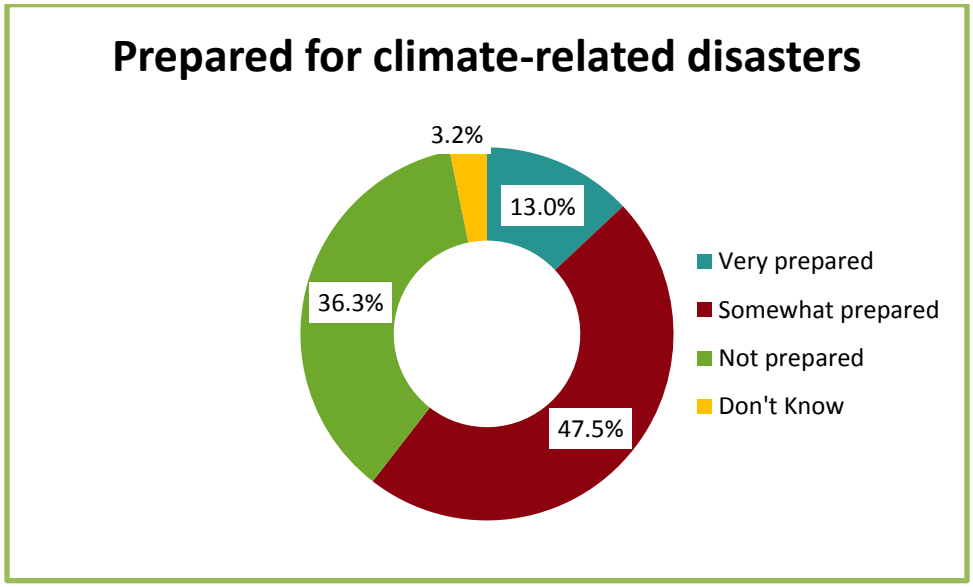

Figure 16: Frequency distribution for Question 36: How prepared are you for climate-related disasters?

Further analysis revealed a significant association between the level of preparedness and the level of education. 80% and 57.1% of respondents with Master's Degree or Higher and Bachelors' Degree

respectively, expressed they were somewhat prepared. 40.5% of respondents with Primary School education expressed unpreparedness. This relationship also supports the level of knowledge in relation to education level as shown in Table 14.

Table 14: Relationship between education level and preparedness for climate-related hazards

Level of Preparedness	Education Level				
	Primary	Secondary	A Level / Associates	Bachelor's Degree	Master's Degree or Higher
Very Prepared	14.9%	7.4%	24.4%	14.3%	0.0%
Somewhat Prepared	40.5%	50.6%	46.2%	57.1%	80.0%
Not Prepared	40.5%	39.2%	25.6%	28.6%	20.0%
Don't Know	4.1%	2.8%	3.8%	0.0%	0.0%
TOTAL	100%	100%	100%	100%	100%

Table 15 highlights the association between level or preparedness and gender. A Chi-square test revealed there were no significant differences between males and females and their level of preparedness.

Table 15: Level of Preparedness and Gender

How prepared are you for climate-related disasters?	Male	Female
Very Prepared	13.4%	12.4%
Somewhat Prepared	53.7%	43.6%
Not Prepared	30.5%	40.2%
Don't Know	2.4%	3.7%
TOTAL	100%	100%

Respondents from the coastal villages of Choiseul (76.2%), Anse La Raye (64%) and Vieux Fort (53.5%) indicated they were **"somewhat prepared"** for climate related disasters. Table 16 highlights the results below.

Table 16: Level of Preparedness and District

How prepared are you for climate-related disasters?	Castries	Anse La Raye & Canaries	Soufriere	Choiseul	Laborie	Vieux Fort	Micoud	Dennery	Gros Islet
Very Prepared	12.4%	16.0%	4.8%	0.0%	5.0%	4.7%	7.1%	10.0%	30.7%
Somewhat Prepared	39.7%	64.0%	42.9%	76.2%	40.0%	53.5%	40.5%	52.5%	48.0%
Not Prepared	44.6%	20.0%	52.4%	23.8%	55.0%	37.2%	42.9%	32.5%	20.0%
Don't Know	3.3%	0.0%	0.0%	0.0%	0.0%	4.7%	9.5%	5.0%	1.3%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Respondents confirmed a range of actions taken over the last five (5) years within the household to prepare for natural disasters. The results are summarized in Table 17 below.

Table 17: Question 37: Repairs / Changes made in the past 5 years

Household Changes / Repairs Made in Past 5 Years	Frequency N=273	Percentages
Improved drainage	103	37.7%
Water Storage – rainwater harvesting	93	34.1%
Structural improvements	88	32.2%
New roof	65	23.8%
Water Storage – Other (e.g. water from main)	63	23.1%
Installation or repair of roof guttering	59	21.6%
Reinforced windows / doors	54	19.8%
Retaining walls	30	11.0%
Retrofitted roof	28	10.3%
Elevation of building	25	9.2%
New foundation	23	8.4%
Solar panels – water heater	18	6.6%
Solar panels – electricity	13	4.8%
Solar panels – other	3	1.1%

Respondents were asked to indicate the activities related to climate change in which they either participated or prevented. Summarized results are presented in Table 18 below.

Table 18: Question 38 & 39: Participation and prevention in activities

Participated In		Activities	Prevented	
Percentage	Frequency N=183		Frequency N=186	Percentage
23.5%	43	Deforestation	57	30.6%
18.0%	33	Sand Mining	30	16.1%
72.7%	133	Burning of Waste Material	126	67.7%
18.0%	33	Improper disposal of Hazardous Waste	65	34.9%
27.9%	51	Improper Agricultural Practices	27	14.5%
4.9%	9	Slope and River bank Destabilisation	20	10.8%

Respondents were required to provide suggestions on three key activities that can be undertaken to adapt or deal with climate change. As articulated throughout this research, the number one activity suggested by participants was education on climate change (20.3%). Respondents also expressed interest in learning how to care for and protect the environment.

The courses of action proffered are summarized below:

Table 19: Question 40: "What are three things you think can be done in Saint Lucia to adapt to or deal with climate change?"

Frequency	%	Suggested Solutions to Adapt to / Deal With Climate Change
144	20.3%	Education on climate change & ways to protect environment
113	15.9%	Proper garbage disposal / Recycle options
63	8.9%	Stop deforestation / Engage in afforestation / invest in agriculture
45	6.3%	Build stronger homes / Provision of financial support for this and repairs / Enforce building codes
43	6.0%	Improve drainage
42	5.9%	Conservation (water, power)/ Use energy saving appliances / Renewable energy sources
42	5.9%	Create laws or policies specific for climate change / penalise those who don't adhere to laws
41	5.8%	Don't know
30	4.2%	Community support groups / stakeholder groups
26	3.7%	Prepare for disasters (repairs, insurance etc.) / Early warning
25	3.5%	Decrease carbon / greenhouse emissions / use vehicles less / less use of fossil fuels
22	3.1%	Avoid sand mining
20	2.8%	Nothing / It is an act of God / climate change is not real
18	2.5%	Clean-up campaigns
11	1.5%	Financial support

Frequency	%	Suggested Solutions to Adapt to / Deal With Climate Change
9	1.3%	Avoid use of harmful chemicals / disposal of hazardous materials
9	1.3%	Desilting / Cleaning of rivers & beaches
8	1.1%	Structural improvements / retaining walls / better roads and bridges

Almost half of respondents (49.4%) acknowledged that nothing has been done within their communities with regard to addressing or alleviating issues of climate change. The most notable action geared towards alleviating climate change issue within communities was clearing of drains (12.5%). Proper waste disposal (7.8%) and community initiated clean-up campaigns (7.6%) were also identified. Table 20 summarized activities undertaken in various communities outlined by respondents.

Table 20: Question 41: "What activities have you noticed in your community that help address or alleviate issues of climate change?"

Frequency	%	Activities Undertaken to Alleviate Climate Change
209	49.4%	Nothing
53	12.5%	Improve drainage / Clean drains
33	7.8%	Proper waste disposal / more bins available / Penalties for illegal dumping / Regular collection of garbage
32	7.6%	Clean-up campaign (roads, rivers, beaches)
16	3.8%	Conservation (water - storage of rain water & energy - use of solar power)
13	3.1%	Planting trees
11	2.6%	Desilting rivers / cleaning rivers
8	2.0%	Structural improvements (retaining walls, fixing roads, building bridges)
8	2.0%	Home repairs (fixing roof, elevation of homes) / Observe building codes
8	2.0%	Don't know
7	1.7%	Penalties for sand mining
7	1.7%	Inform public about changes being done / meetings with fishermen / meetings with NEMO
7	1.7%	STEP programme
5	1.2%	Research / surveys
3	0.7%	Cutting overhanging branches / cutting grass and bushes
1	0.2%	Pest management (fogging for mosquitoes)
1	0.2%	Financial support / loans
1	0.2%	Car pooling

Illegal dumping of garbage was identified by participants (28.4%) as the number one within the respective community that worsens the issues of climate change. Burning of garbage (13.0%),

deforestation (12.3%) and blocked drains (6.2%) were some of the other activities identified. 21.8% of respondents indicated that they have not noticed any detrimental activities.

Table 21: Question 42: "What activities have you noticed in your community that worsen issues of climate change?"

Frequency	%	Activities Undertaken that Worsen Climate Change Issues
129	28.4%	Illegal dumping of garbage
99	21.8%	Nothing
59	13.0%	Burning of garbage
56	12.3%	Deforestation
28	6.2%	Blocked drains
27	5.9%	Sand mining
16	3.5%	River pollution
11	2.4%	Poor agricultural practices / improper use of pesticides
8	1.8%	Don't know
8	1.8%	Lack of knowledge / Ignorance
5	1.1%	Noise pollution
4	0.9%	Flooding
3	0.7%	Vehicle emissions
2	0.4%	Overuse of electricity

Lack of knowledge (22.8%) was identified as the number one factor identified by respondents that hindered action being taken to improve climate change in Saint Lucia. Lack of financial support (13.5%), lack of enforcement of rules or policies with regard to climate change (9.7%) and lack of government involvement (9.7%) were outlined as factors that hindered action. 13.9% did not know of any hindrances. The results are summarized in Table 22 below.

Table 22: Question 43:"What are some of the things that you think hinder action from being taken to improve climate change issues in Saint Lucia?"

Frequency	%	Hindrances to Action on Climate Change
103	22.8%	Lack of knowledge / Ignorance / Lack of communication
63	13.9%	Don't know
61	13.5%	Lack of financial support
44	9.7%	Lack of enforcement of rules / policies on climate change
44	9.7%	Lack of involvement from government / Lack of commitment and continuity
40	8.8%	Lack of concern for the environment / careless attitude

31	6.9%	Nothing
30	6.6%	Lack of community cooperation / teamwork / unity
19	4.2%	Lack of resources / avenues for action
6	1.3%	Poverty
4	0.9%	Improper garbage disposal
2	0.4%	Lack of involvement from private sector
2	0.4%	Deforestation
2	0.4%	Improper housing
1	0.2%	No effect from climate change in SLU

3.1.4 Media Usage & Preference

The survey also sought to collect data on media consumption among respondents.

Based on the responses, the **top mediums** to effectively relay information were:

1. Television (85.6%).
2. Radio (50.1%).
3. Websites/internet (33%).
4. Cell phones/smart phones (25.4%).
5. Schools as well as friends and family (17.6%).

Table 23: Question 44: Media Preference for Climate Change Information

Media Preference	Frequency N=409	Percentage
Television	350	85.6%
Radio	205	50.1%
Websites/Internet	135	33.0%
Cell Phones / Smart Phones	104	25.4%
Schools	72	17.6%
Friends/Family	72	17.6%
Online Videos	69	16.9%
Newspapers	59	14.4%
Community groups	58	14.2%
Lectures/Workshops	58	14.2%
Government	53	13.0%
Pamphlets/Brochures	36	8.8%
Posters	34	8.3%
Faith-based organization	29	7.1%
Town Criers	15	3.7%
Mailings	14	3.4%

Television was identified by respondents across the various districts as seen in Table 24 below.

Table 24: Media Preferences based on the respective community

Most Effective at Relaying Information	Castries	Anse La Raye & Canaries	Soufriere	Choiseul	Laborie	Vieux Fort	Micoud	Dennery	Gros Islet
Television	89.3%	84.0%	80.0%	95.2%	89.5%	84.1%	93.3%	87.5%	73.0%
Radio	58.7%	60.0%	0.0%	57.1%	47.4%	36.4%	64.4%	57.5%	40.5%
Newspapers	7.4%	24.0%	0.0%	23.8%	10.5%	25.0%	22.2%	17.5%	12.2%
Websites / Internet	25.6%	52.0%	0.0%	76.2%	26.3%	18.2%	28.9%	57.5%	35.1%
Community Groups	12.4%	12.0%	0.0%	33.3%	0.0%	9.1%	20.0%	17.5%	17.6%
Lectures / Workshops	9.9%	20.0%	5.0%	28.6%	5.3%	13.6%	15.6%	22.5%	14.9%
Pamphlets / Brochures	5.0%	8.0%	0.0%	23.8%	5.3%	6.8%	15.6%	5.0%	13.5%
Posters	2.5%	16.0%	5.0%	38.1%	5.3%	11.4%	0.0%	15.0%	8.1%
Online Videos	9.9%	20.0%	10.0%	28.6%	5.3%	18.2%	20.0%	32.5%	17.6%
Schools	12.4%	16.0%	5.0%	47.6%	10.5%	20.5%	31.1%	30.0%	6.8%
Friends / Family	8.3%	16.0%	0.0%	14.3%	15.8%	9.1%	6.7%	52.5%	32.4%
Faith-based Organisation	0.8%	4.0%	0.0%	28.6%	0.0%	4.5%	20.0%	12.5%	6.8%
Government	12.4%	36.0%	0.0%	28.6%	5.3%	6.8%	13.3%	17.5%	8.1%
Mailings	0.8%	4.0%	0.0%	4.8%	0.0%	2.3%	13.3%	5.0%	2.7%
Cell Phones / Smart Phone	11.6%	28.0%	0.0%	61.9%	5.3%	34.1%	37.8%	32.5%	32.4%
Town Criers	0.8%	16.0%	0.0%	0.0%	0.0%	0.0%	13.3%	0.0%	5.4%

These top mediums identified as the source to receive information on climate change in the past six (6) months were:

1. Television (81.9%).
2. Radio (50.6%).
3. Websites/internet (30.8%).
4. Cell phones/smart phones (17.7%).
5. Friends and family (14.4%).

Table 25: Question 45: Source of Climate Change Information

Media Exposure	Frequency N=354	Percentage
Television	290	81.9%
Radio	179	50.6%
Websites/Internet	109	30.8%
Cell Phones / Smart Phones	52	17.7%
Friends/Family	51	14.4%
Online Videos	47	13.3%
Government	47	13.3%
Newspapers	45	12.7%
Schools	24	6.8%
Community groups	19	5.4%
Lectures/Workshops	18	5.1%
Posters	18	5.1%
Pamphlets/Brochures	10	2.8%
Faith-based organization	10	2.8%
Mailings	3	0.8%
Town Criers	2	0.6%

91.2% of respondents indicated that they would be willing to receive information on climate change in the future.

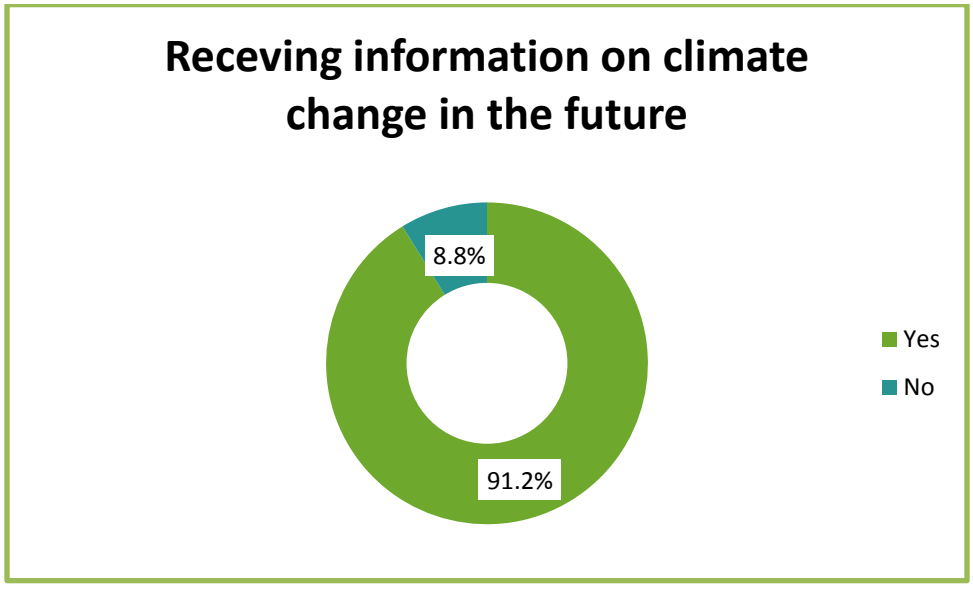

Figure 17: Frequency distribution for Question 46: "Would you be interested in listening/ watching information / stories on climate change in the future?"

Various reasons were articulated by respondents in support of their unwillingness to receive information on climate change. This included lack of interest as well as the belief that there is nothing individuals or anyone else can do to impact climate change. Results are summarized in Table 26 below.

Table 26: Reasons for lack of interest in more information on climate change

Reasons for Lack of Interest	Percentages
Just not interested / not my kind of thing	37.0%
There's nothing we can do	22.2%
I don't have time	11.1%
Too old to make an impact	11.1%
Lack of awareness / finance	11.1%
Climate change is not real	7.4%

The questionnaire sought to seek additional comments from respondents with regard to climate change. However, no notable comments were provided by respondents.

3.2 Results – Focus Group

3.2.1 Commercial Sector FGD

The main topics of discussion for the commercial sector focus groups were:

- How the participants believe climate change has impacted and will impact their sector?
- How has their sector in turn responded to climate change issues?
- How they perceive their own role as an entity in facilitating climate change?
- What they believe the best mitigation and adaptation practices to be for achieving climate resilience in their sector and what support is needed to enable this climate resilience?

Figure 18: Topic areas / questions discussed during commercial sector focus group

A total of seven sectoral groups were consulted including:

(1) Manufacturing & Retail

(2) Construction

(3) Telecommunication

(4) Insurance

(5) Education

(6) Hospitality industries

(7) Energy.

These sectors were specifically selected as they are either particularly vulnerable to climate change or by virtue of their sector, may adversely impact climate change due to production processes utilized. Representatives in the focus groups were managerial level (operations managers, general managers, CEO) individuals, as it is imperative to ascertain the KAP/B of persons who are at the decision-making level within organisations/industries that are impacted by climate change. The discussion sought to assess participants KAP/B of climate change through open discussion.

Based on thorough review of the feedback, the conclusions are outlined below.

How the participants believe climate change has impacted and will impact their sector?

Participants were asked **what they understood by the term climate change and what are some of the things that they think are responsible for climate change**.

In response, participants expressed the view that lack of education was a cause of climate change. Further discussion revealed, due to the lack of education, Saint Lucians were unaware of the activities they engaged in that either influenced or hindered climate change impacts. Deforestation, pollution and poor waste disposal methods were also believed to be causes of climate change.

With regard to the impact of climate change, ideas differed based on the participant's area of expertise. Representatives of the utility sector expressed the view that increases in temperature resulted in increased use of cooling units, thereby impacting the demand on electricity consumption and adversely impacting the environment. Representatives of the water sector expressed the view that the most important climate change impacts were the overall decrease in precipitation which reduces ground water supply, a consequence of climate change. This further resulted in severe adverse impacts on agricultural production due to changes in rainfall patterns. Water resources are expected to diminish over time thereby increasing demand overall. This increased demand can potentially lead to conflict among competing interests

Participants generally felt that a lack of respect for building codes will exacerbate climate change impacts unless there is a concerted effort to enforce laws and regulations. In addition, participants suggested the need to identify new climate friendly building methods and materials. In support of this, participants suggested a need to retrain professionals as well as change engineering and architectural curricula to better reflect climate realities.

Agro-processors expressed a noticeable decline in yields, which was ascribed to increased heat, less rainfall, and in some cases, too much rainfall from storms. Consequently, this has resulted in decreased output compared to previous years.

How has their sector in turn responded to climate change issues?

Participants were asked **in what way they felt their industry may contribute to climate change.** The representatives from the manufacturing sector articulated clear views summarized below.

Manufacturing

Participants explained, as part of most manufacturing processes, waste is generated as a by-product. However, in most cases there is no option to recycle this waste to reduce the impact on the environment. A possible solution articulated was the need for government to encourage manufacturers to devise and employ methods to recycle waste.

Participants indicated a need to encourage local manufacturers to focus on the carbon footprint. This was viewed as a course of action in support of companies' corporate social responsibility. Similar to other competitive awards in the course of doing business, a competitive spirit can be fostered among companies to have the lowest carbon footprint or the most active at "going green". Events such as the annual Chamber of Commerce Business Awards were identified as an ideal avenue to foster and encourage the impetus for companies to "go green".

How they perceive their own role as a commercial entity in facilitating climate change?

All participants agreed that they played an important role in facilitating climate change mitigation. Similarly, participants believed that an active role needs to be taken by all concerned entities. Whilst participants believed that there must be heavy reliance on the local government to foster change, it was also felt that the commercial sector and other industries can and should have an impact as well. Participants believed that action against climate change is attainable.

Energy was identified as absolutely essential to the proper functioning of all other sectors. Consequently, this sector plays a very critical role in public education and awareness about energy and climate change.

The tourism sector was seen as one particularly affected by issues of climate change. As a result, participants felt that that there will be a need to adapt to climate change issues. It is anticipated that as northern countries get warmer, demand will be adversely impacted. As impacts of climate change damage coral reefs and sea level rises, there will be negative effects on beaches, which will potentially reduce demand for Saint Lucia's tourism products. Climate change related health impacts will also impact tourism. One area identified was greater risk from vector borne illnesses in tropical climates.

Participants believed that proper waste management was essential. The view was expressed that companies need to take stronger responsibility and engage in effective waste disposal. Participants highlighted the example of the water and bottling companies on island, which results in huge amounts of plastic at the landfill. This highlighted the need for such companies to encourage some form of recycling of plastic bottles. It was also believed such actions should be a mandatory requirement of that sector. It was generally felt that companies should find avenues to make a positive impact on issues of climate change.

Rain water harvesting was articulated as a key activity that companies can engage in to reduce the strain on the water system. It was suggested that incentives to encourage use of alternative energy, rain water harvesting and recycling may motivate businesses to participate in solutions to climate change.

Participants believed that whilst the impact of climate change is already bringing a positive shift to green energy technologies, the sole focus should not be solar energy. There is a need to look at the broad spectrum and include wind and biofuels as other viable options.

What they believe the best mitigation and adaptation practices to be for achieving climate resilience in their sector and what support is needed to enable this climate resilience?

Participants were asked to give insight into **how the government can support and empower the various industries to tackle climate change issues.** Participants again highlighted the need for government to encourage manufacturers to employ means to recycle waste material as part of their operations.

Cohesion within government was articulated as an important first step, supported by proper dissemination of information on the action of ministries. Some participants expressed the views that the Ministry of Sustainable Development was focused on renewable energy to reduce dependence on fossil fuels thereby decreasing carbon emissions; however, this information was not widely circulated to the wider public. As such, it was necessary to improve public awareness on the actions being taken. As part of the call to enhance public awareness of the issue, participants discussed the use of town hall meetings as an avenue to disseminate information and obtain public engagement. It was expressed that town hall meetings should not only be used for political activities, but rather used to present the issue of climate change, what is currently being done to address it, and what the general populace can do as well.

Public education was highlighted, as well as incentives and support for activities geared toward protecting the environment.

Participants expressed the need for a comprehensive policy on climate change supported by proper legislation which is enforced as an important aspect to ensure success.

Insight into **what can be done to adapt to or deal with climate change in Saint Lucia** revealed the need for greater education as an important factor, as well as use of communication tools to reach the public. Some participants believed better use of local television and radio stations, particularly the Government Information Service can be useful in this process. As behaviour-change is critical, it was believed that efforts towards educating and building awareness should target younger adults and children.

In an effort to decrease carbon emissions, participants expressed the need to encourage greater use of electric cars generally.

Participants were asked to explain the **factors they believe to hinder action from being taken to improve climate change issues.** Participants expressed that people are either not aware of the impact of climate change, or that the effects are not felt consistently creating the feeling that climate change is not viewed as important as there is no daily reminder of its impacts.

It was generally believed that the mind-set of Saint Lucians towards the environment and towards change may hinder action. People do not generally view the environment as important, unless something is drastically wrong. Most persons may not want to make the effort to change their behaviour unless there is a perception of direct benefit from climate change initiatives.

3.2.2 Student FGD

The focus groups with students sought to identify the level of knowledge and understanding among this group with regard to climate change, while also identifying the source of their knowledge in the area.

The main topics of discussion for the student focus groups were:

- What events they attribute to being caused by climate change
- The level of importance they place on climate change issues
- How empowered they feel as a demographic to take ownership in climate change mitigation
- The activities they have identified that they can engage in climate change mitigation
- Effective communication medium

Figure 19: Topic areas / questions for student focus group discussion

Group 1 – Leon Hess Secondary School
Age range: 15 – 17
Forms: 3 – 5

Group 2 – Vide Boutielle Secondary School
Age range: 13 – 16
Forms: 2 – 4

Number of participants: 10
Districts where they reside: Dennery, Gros Islet, Castries, Vieux Fort

Number of participants: 10
Districts where they reside: Gros Islet, Castries, Anse La Raye

Knowledge of Climate Change & Sources of Information

With both groups, all students reported having heard of the term climate change, and cited the following as areas where they were made aware of the term:

Television – both groups – total of 13 students

Radio – one group – total of 4 students

Internet – both groups – total of 18 students

School – both groups – total of 15 students

Students identified the subjects in school where there has been mention or discussion about climate change. These include

- Social Studies
- Biology
- Geography
- Integrated Science
- Human and Social Biology

Definition of climate change:

Leon Hess Secondary School

- global warming
- changing weather patterns due to global warming
- rising temperature
- melting glaciers

Vide Boutielle Secondary School

- warming up of earth
- release of greenhouse gases
- air pollution
- melting of ice from increased global temperature & rising sea level
- a hole in the ozone layer

What events are caused by climate change?

Leon Hess Secondary School

- landslides
- rising sea levels
- el Niño
- flooding
- soil erosion
- hole in ozone layer
- acid rain

Vide Boutielle Secondary School

- landslides
- soil erosion
- melting ice burgs
- pollution
- flooding
- deforestation
- diseases e.g. cancers / pest related

Landslides, flooding and soil erosion were identified by both groups as events that are caused by climate change. When further probed on the events they've experienced in their own communities that they attribute to climate change, flooding and landslides were mentioned within both groups as such events. Students also noted that they have experienced extreme heat, changes in the seasons and attributed damage to roads in their community from heavy rains as other events in their communities due to climate change.

Level of importance on climate change

The level of concern for climate change issues was similar with students from both schools, with students from the Vide Boutielle Secondary school expressing slightly more concern, indicating a collective rating of 3 – 5, while students of the Leon Hess Secondary School opted for a level of concern between 3 – 4 range; with 5 being the highest level of concern.

Climate Change Mitigation

All students stated that they believed that there was something they could do to positively impact climate change. Their suggestions of activities that they or their peers or the wider community could engage in include:

Leon Hess Secondary School

- Car pooling
- Afforestation
- Don't support companies that pollute
- Using alternative sources of energy like solar heaters

Vide Boutielle Secondary School

- Afforestation
- Clear drains and avoid littering
- Island wide clean-up

Effective communication medium

All students indicated that they preferred information to be relayed to them in English as opposed to Creole. Both groups identified social media and online as the ideal platform to engage and relay information to them and other members of the demographic group. Television was also mentioned as ideal by both groups. When asked about more traditional mediums (newspaper and radio), they indicated that they do not read the newspapers and "hardly listen to the radio".

The most popular social media outlet used was Facebook, with YouTube, Instagram, Snapchat and Twitter "to a lesser extent" identified as other well utilised outlets.

Further discussion about effectively communicating with persons in their age group revealed that a high level of interaction was important to ensure effectiveness of communication. The students suggested that social media should be used to engage through online competitions and quizzes with attractive prizes and not simply posting information. They also suggested that science fairs can be another engaging way to get other students involved. Another suggestion was to organise field trips to demonstrate action in addressing climate change, so that students can get up close and personal with persons involved; where they can ask questions and get hands on knowledge on what they can do to positively impact climate change.

3.2.3 Engineering FGD

This group was engaged as it was felt they would provide a different perspective and insightful feedback on climate change adaptation and mitigation.

The main topics of discussion for the engineer focus groups were:

- The knowledge and understanding of the term climate change
- The level of impact on the profession from climate change
- Any changes from their client base with regards to adaptation measures for climate change
- Feedback on adaptation and mitigation measures
- Government support or involvement needed
- Effective communication medium

Figure 20: Topic areas / questions for engineer focus group discussion

Below highlights the various responses obtained and thoughts shared:

Knowledge of Climate Change

Participants expressed knowledge of climate change, some describing it as a global, gradual worsening of weather conditions overtime. Participants engaged in discussions as to the impact of man on climate change and the impact of climate change on man. Some points made include:

- Climate change is associated with the effects of global warming. The man made effect on the weather system, climate is constantly changing, but when we speak of climate change, we speak of the man-made effect on the weather system.
- It could be that we have just developed more sophisticated means of measuring the changes in climate.
- There's the school of thought that climate change is a natural phenomenon. Is the climate changing, or is man's impact on the climate what is changing?
- It's important to look at the impact of climate change on certain vulnerable groups. Therefore you look at climate change as a web, and then you can look at the extended effects on people.
- Changes not only in weather, but other natural patterns are changing. Like plants, this could all be part of evolution. But it could also be that mankind has hastened the process or added to the changes.

Figure 21: Comments on knowledge of climate change

What are some of the events that you think of as being caused by Climate Change?

Global examples of events were mentioned, for example the dislocation of Samoans due to rising sea levels and erosion. A change in levels of concern by the local public was also identified as being caused by climate change. A participant noted that Saint Lucians are more concerned about large amounts of rainfall. When previously the concern was only for hurricanes, "now since the Christmas Eve trough, any time where there's a lot of rain, you find that people are worried."

Another participant noted that in the past humans had a nomadic way of living, and suggested that maybe their movement was as a response to climate change. Presently, since we no longer engage in a nomadic lifestyle, we cannot simply move to a different location when the climate changes, and so we feel the impact of climate change greatly. The participant noted, "Who is to say that the climatic changes we are experiencing now were not experienced by nomadic tribes then."

How has your profession been impacted by Climate Change?

Participants expressed that climate change greatly impacted their profession, and that this can come directly from wind speeds, rainfall intensity and duration, flood waves that come down the rivers as a result of the runoff, sea level rise, the height and strength on coastal structures and retaining walls. As a result, participants indicated that to address this impact, in some cases, they have had to adjust their designs and building codes to resist greater forces.

Climate change has also had a financial impact, with building and design now being more expensive. Buildings, designs and construction have to be able to withstand climatic forces, and so the materials used in building, as well as their construction and design, has become more expensive.

A participant mentioned that the impact of climate change has made his profession more interesting because he has to plan and design for a multiplicity of events or hazards.

Participants mentioned that they have noticed an increase in industries trying to innovate in terms of alternative forms to reduce the cost of consumption of fossil fuels. They noted that in their industry the business of designing and going green is becoming more popular, and therefore alternative forms of energy and alternative material types have become very important.

Has there been an increase from your client base with regard to requests for alternative / renewable sources of energy?

Participants indicated that their clients have expressed interest in alternative ore renewable sources of energy, but that there is little action beyond that as the initial cost of implementation is very prohibitive.

The need for education, particularly with regard to alternative energy was expressed, with participants indicating that education is more so needed at the level of government, and that focus group discussions on climate change may benefit members of government as well.

What are some of the attitudes and perceptions towards climate change adaptation and mitigation activities. What would you recommend to help improve?

Addressing climate change was seen as a lifestyle issue, which requires "changing peoples' modus operandi." An example was used of someone who cuts trees to use their bark to sell as coal. In addressing climate change, this person's livelihood will be affected. A Participant went on to note that, "A lot of times in looking at the climate change issue we don't look at the livelihood issue. Because it is the livelihood that spurs everything, so you have to get to the root of the issue."

Participants stressed that the collection of data and benchmarking was important in guiding how project money is distributed, in identifying what needs to be enacted and how the funds should be allocated. Data collection should be a routine thing, not only done when there is a new project underway. Data collection is also important to identify whether a project has been successful in its objectives.

What Government support do you think is needed?

Education and enforcement of current laws were mentioned as areas where support is needed.
It was mentioned that instead of encouraging persons rise to the standards put forth, "Government decreases the requirement for standards to meet the poor people where they are. We have to understand the negative impact that kind of leadership has on development." An example of squatting was used to illustrate how lack of enforcement of certain laws can have a detrimental effect. It was

suggested that provision needs to be made for persons unable to afford housing, in order to prevent squatting on lands that are unsuitable for building.

Have you noticed an increase in mindfulness of climate change with regard to building and design?

Participants mentioned that expatriates who come to Saint Lucia, have concerns about building to withstand hurricanes, flooding and lack of water, for example. However, though locals have these concerns as well, for them, it is more a question of affordability, when building to withstand and address these issues. It was expressed that slowly the local population is getting more mindful.

Describe your clients' attitudes to building codes?

Participants expressed that the enforcement of the code is not present, as the code itself is not implemented. It was indicated that there should be a mechanism in place for the inspection of work based on the approvals granted. For example, if drawings were approved with a certain type of steel, then in the process of building, an inspection needs to occur, to ensure that building is going according to the plan approved.

It was also mentioned that for the average client, adhering to the building code is the least of their concerns; and that what is important is delivering a particular end product, as affordably as possible. Without a system where there are approvals per phase, the client then, is left to the mercies of the contractor who may have his own way of doing things.

With regard to communicating on climate change issues, do you believe there should be a preference for using English or Creole?

Participants indicated that both English and Creole should be used simultaneously regardless of the group (their employees, labourers, foremen, electricians and masons)

Participants indicated that more than the type of language used, what's important is the method used to communicate. They suggested the use of cultural art forms, skits, drama, popular theatre and entertainment pieces involving well-known local entertainers likes of Coakes, Iglesia, Boots and Fish.

Another suggestion was to engage with people in popular places where they congregate, for example, popular bars and corner shops.

It was also suggested that climate change can be incorporated as one of the topics covered in the school curriculum. Participants indicated that SBAs, for instance, could be based on climate change and that other areas related to or impacted by climate change, for example building codes, and the procedures involved in getting approval for building can also be included in the school curriculum.

3.2.4 Farmer FGD

Saint Lucia has eight (8) Agricultural regions which are represented on the map below. The regions and the farming communities are outlined below.

- Region 1 & 2 Babonneau, La Bourne, Monchy, Gros Islet
- Region 3: Mabouya Valley / Dennery
- Region 4: Micoud
- Region 5: Laborie /Vieux Fort
- Region 6: Choiseul / Soufriere
- Region 7: Canaries/ Anse La Raye
- Region 8: Cul De Sac /Bexon

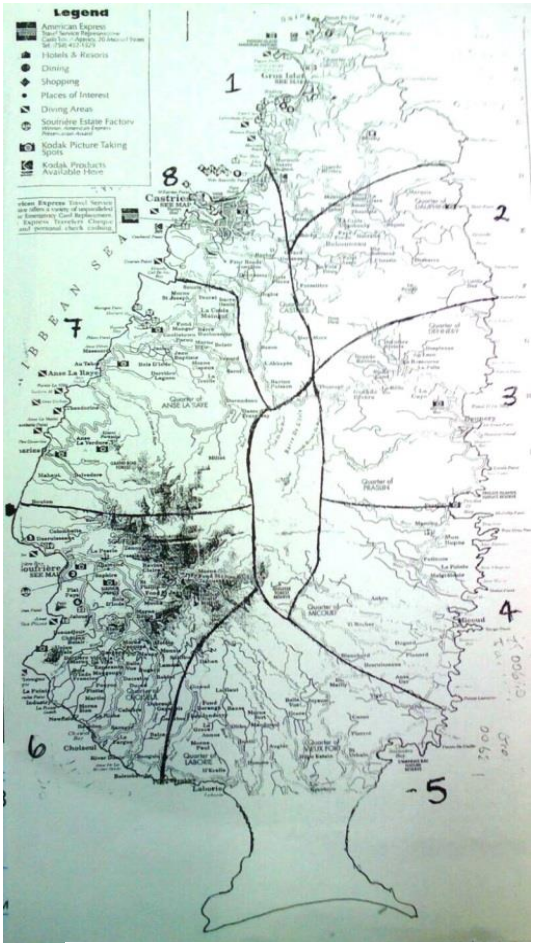

Figure 22: St. Lucia Agricultural Regions
Map courtesy Ministry of Agriculture

The identification and selection of interview candidates was conducted by the Extension Division of the Ministry of Agriculture based on the respective farming regions and farmers who are actively in production.

Region 1 and 2 are presented as one group, as such a respondent target of minimum two (2) farmer interviews per region was set. This target was largely met with the exception of Region7 where only one farmer could be accessed within the available timeline. A total of thirteen (13) farmers participated in the interviews, which were conducted via telephone using a questionnaire guide.

The gender distribution of respondents was 10 males to 3 females.
Ten (10) respondents fell into the 55 -60 age range, while two (2) fell into the 70 and over age range. The youngest respondent was 30 years old.

On average, secondary level education was the highest level attained by most participating farmers. The exceptions were one farmer registering primary school level, and three registering tertiary as their

highest level. It is worth noting every farmer who had attained tertiary level education had been employed with the Ministry of Agriculture until retirement and are now full time farmers.

The main questions posed to farmers were:

- Have you heard of the term climate change? If yes, explain what you understand by climate change
- Has climate change affected you? Affected the agricultural sector?
- Do you think there is a connection between climate change and food security?
- Have you heard of the term climate smart agriculture?
- Are there specific practices that you engage in specifically during the rainy season? / During the dry season? In General
- How important do you think climate change impact is for Saint Lucia/ the agricultural sector?
- Do you know of any measures that have been or are being implemented by the Ministry of Agriculture / Agricultural NGOs to cushion the impact of climate change in the sector?
  What are some of the things you think can be done in St. Lucia to help farmers adapt to climate change?

Figure 23: Topic areas / questions for farmer interview

A thorough review of farmers' feedback informed the following conclusions.

Have you heard of the term climate change? If yes, explain what you understand by climate change?

Every farmer expressed awareness and familiarity with the term climate change, referencing international television news as the place where they first heard of the term. Two farmers said they were first introduced to the term at a farming workshop. In both instances, the workshops were initiated by NGOs through funded projects. One farmer first learnt about climate change at school. It is noteworthy that this response came from the youngest farmer (aged 30) participating in the interviews.

International network television news was noted by all participating farmers as their primary information source on the climate change and its global impacts to date. It is worth noting that three farmers indicated that due to their level of interest and concern about climate change impacts on their farming business, they actively research climate change trends via the internet.

In sharing what they understand by climate change, every farmer referred to "change/s in the weather pattern/s". Words used to describe this change include "unpredictable" and "more extreme". Every respondent spoke about prolonged periods of rain, excessive rainfall and severe hurricanes, flooding on a scale never seen before, prolonged dry periods and decreasing water supply, difficulty to predict the weather and make good planting decisions, repeated crop losses.

Farmers' level of awareness is supported by their ability to cite, without prompting, various contributing factors to global climate change, most of which referenced:

- Burning fuels, such as coal, oil and natural gas
- Transportation, such as driving a car, bus or boat
- Land clearing
- Industry/Factories

In expanding on what they understand by climate change, at least five farmers made mention of related terms e.g. 'global warming', 'carbon footprint', 'industrialised countries', 'Ozone layer', 'melting icecaps', 'sea level rise', 'tsunamis'. In instances where farmers could not speak in great detail about global climate change, they were generally knowledgeable about climate change impacts specific to farming based on their own experiences and observations.

How has climate change impacted you individually and the sector as a whole?

On the individual level, farmers cited physical impacts, environmental impacts, business related impacts; in particular noticeable reduction in production and output, as well as overall return on investment.

Impacts of a physical nature most noted by farmers related to flooding and its impacts on the soil, which becomes too wet to plant or retain fertilizer. Farmers using greenhouses registered either damage or complete loss of their structures. Two farmers indicated the damage to their irrigation pumps, which have consequences for the viability of crops during the dry season, in particular, their inability to meet supply arrangements with longstanding buyers such as the main supermarket chain. This adversely

impacts overall profitability and the sustainability of their business in general. Farmers also noted the incidence of land slippage and landsides which affect access roads to farms across the island, the implications of which are that farmers need to physically/ manually carry materials and inputs long distances across difficult terrain to their farms.

Environmental impacts emerging from responses indicate the occurrence of high soil temperature during the dry season, which hinders the propagation of vegetables. Secondly, farmers pointed to an increase in pests and diseases resulting from the prolonged dry spells. Two mango producers referenced a gradual decrease in the size of the fruit which was ascribed to the changing weather patterns associated with climate change. Five farmers described high siltation of rivers and main waterways, which impacted river water quality, on which farmers say they primarily depend for water harvesting and irrigation practices.

Reference was made to 2010, which recorded one of the longest dry seasons in Saint Lucia. In addition, the passage of Hurricane Tomas caused farmers to move from one weather extreme to the next. Farmers indicated that the combined effect of such phenomena is substantial loss at the business level, resulting in diminishing return on their investment in equipment, materials, labour and projected revenues, some of which is exacerbated by what they describe as unfair difficulty to access financing from the financial services sector by farmers. With these experiences being common among farmers, every respondent noted as a sector- level consequence, steady decrease in the supply of food available from what was traditionally a reliable domestic supply source. It is noteworthy that all farmers in the age categories of 55- 60 and upwards made a correlation between the importation of produce which the sector has traditionally supplied (cabbage, tomatoes, parsley, celery, cucumbers) around the Christmas season, and the decreasing yields trends of these vegetables from the passage of Hurricane Tomas in October 2010 to the passage of Tropical Storm Matthew in October 2016.

Using phrases like “very scary” “frightening situation”, “disturbing”, older farmers perceive a dire long-term outlook for Agriculture in Saint Lucia, considering that climate change impacts exacerbate “a number of other issues” that threaten the sustainability of the sector. Two which are worthy of note are “the matter of labour and the availability of it”, based on the fact that “we cannot mechanize because of

our terrain, so we depend on manual labour". For most farmers, the new uncertainties brought on by climate change create more deterrents to future uptake of agriculture as a business.

This sentiment by one older farmer was echoed in different words by at least one farmer from every region: "We are seriously seeing a gradual decrease in the supply of food. We have the factors of production available but we have severe constraints. There is a lot we can produce which we are actually importing if we have the labour and the support to adapt with these changed weather conditions."

Do you think there is a connection between climate change and food security?

Every farmer believed there is a link between climate change and foods security. A common view held by most farmers interviewed is that the farmer plays an important role in meeting the food needs of the nation.

Have you heard of the term climate smart agriculture?

Of the thirteen (13) farmers interviewed, eight (8) had heard the term "climate smart agriculture" either via international television reports and programmes or within a farmer meeting/ training setting related to grant funded projects/ programmes under which their cooperative or farmer association is a beneficiary. Two respondents thought they may have heard the term from their agricultural extension officer. All but one of those who had never heard the term fall into the age categories of 60 years and up.

It is worthy of note that with the exception of one, all respondents, whether they had heard the term or not, had a sense that climate smart agriculture has to do with climate change adaptation, specifically planting crops that manage better with weather variability, and using the right measures within farm practice to remain resilient and sustain their business. Four of those who said they had heard the name spoke in different words to what one farmer expressed thus: "You also have to research the crops you plant to select, varieties that are climate resilient and plant tropical varieties that do best in your own environment". Some explanations proposed included that, "You also have to adopt a certain type of drainage for the type of landscape you have. It's what I am involved in now"; "Also doing agro-forestry and intercropping. So you multi-purpose the land to reforest, stabilise the hillsides, preserve the soil

cover;" "How you can plant crops in a way that protect the rainforest; crops that would be beneficial – organic farming practices, reduction in the use of harmful chemicals".

Two 70 year old farmers cautioned about the introduction of new concepts like climate smart agriculture which need to be tested to see how they translate to improved production, viable yields, ability to command good prices and the sustainability of markets. The recommendation was made that as much as the sector should be smart in how they adapt to climate change, a close look need to be made of the nature of the domestic market and what will justify the farmer sticking to Agriculture.

Are there specific practices that you engage in specifically during the rainy season? / During the dry season?

Eleven (11) out of thirteen farmers interviewed named water conservation as a routine practice that is performed on their farm during the rainy season. This is done either through rain-water harvesting, the creation of dams/ pools to trap water on very large estates, and storage in large receptacles. The youngest farmer maintains a well. The additional practices listed below vary from farmer to farmer:

- "Attend/ cleaning more to my tree crops. Clean and prune and compost, and water-harvesting".
- "I do not plant certain areas and I do not clear land."
- "I have to open up all the drains, so the water is not trapped and saturating the soil"
- "I leave the land to fallow, not planting, let grass grow so during the rainy season, you have no run off".
- "Drainage and green housing to grow in a controlled environment so heavy rains don't affect my crop" (Tomatoes, peppers and cucumbers).
- "I engage in drainage and I plant in areas less prone to flooding. I also take care of the plants, for instance pest control, because during that time, the crops are susceptible to attack from pests."
- "I try my best not to disturb my soil during the rainy season. I don't till because I have very sloping land. I do a lot of mulching in preparation for the dry season."

Figure 24: Practices engaged during the rainy season

Twelve (12) farmers indicated at least one practice being engaged in on their farm during the dry season. Irrigation and mulching was common to most. Other activities cited were:

- "I focus more on my fruits like watermelon, cantaloupe, cucumber, honeydew, so I do irrigation. I am getting into the aqua-ponics, so a lot of the water will come from rainwater-harvesting".
- "I block drains during the dry season to conserve water. I irrigate using both micro irrigation and flood irrigation during the dry seasons".
- "Irrigation using water from the rivers. I have the overhead and drip system and I do alot of mulching to conserve water".
- "You have to prepare for the drought during the rain. I let grass grow in certain areas to retain moisture".
- "I avoid using my pump because if I use it, the farmers downstream will not be able to get water. I hand irrigate from what I have stored then because the river is our source and because the water is scarce using the river water will affect the fish life".
- "I do mulching, to conserve the moisture content and protect the crops."

Figure 25: Practices engaged during the dry season

Farmers were presented with a list of seven general farm practices vetted by the Ministry of Agriculture Extension office, to indicate practices on this list that they undertake as a general rule. The findings, which are captured in the table below, indicate that water conservation and conservation agriculture are practices that are common across respondents. This can also be indicative of the situation across the regions which they represent. More respondents say that they practice agroforestry than those who did not. Generally, farmers who were not familiar with the ridging and contour marking practices tended to be vegetable farmers operating on flat lands, or farmers whose highest level of education of education was primary school level.

Table 27: Routine Practices of Farmers

Region	Farmer	Irrigation	Composting	Ridging	Contour marking	Afforestation	Conservation agriculture	Agro-forestry
1&2: Babonneau, La Bourne, Monchy, Gros Islet	Farmer 1	√	√	Not familiar with this	Not familiar with this	√	√	√
3: Mabouya Valley / Dennery	Farmer 2	√	No	No	No	No	√	√
	Farmer 3	√	√	Does not apply my landscape and farming activities. I use beds	Does not apply to my land	Does not apply to me. What I do windbreak, growing fruit trees like mango rather than a forest tree like mahogany,	√	no
4: Micoud	Farmer 4	√	√	Does not apply to my land	√	Does not apply to my land	√	Does not apply to my land
	Farmer 5	√	√	I do banking	√	√	√	√
5: Laborie /Vieux Fort	Farmer 6	√	√	√	√	√	√	√
	Farmer 7	√	√	√	√	Don't know what it means	√	Just started
6: Choiseul / Soufriere	Farmer 8	√	√	Don't know what it means	Don't know what it means	Does not apply to what I grow	√	Does not apply to my land
	Farmer 9	√	√	Not familiar with this	√	√	√	√
	Farmer 10	√	√	Not familiar with this	Not familiar with this	Not familiar with this	No	No
7: Canaries/ Anse La Raye	Farmer 11	Not common in my area	Really costly for us	Don't know what it means	Don't know what it means	Don't know what it means	√	not really but I do inter-cropping and reforesting with fruit

Region	Farmer	Irrigation	Composting	Ridging	Contour marking	Afforestation	Conservation agriculture	Agro-forestry
								bearing trees
8: Cul De Sac /Bexon	Farmer 12	√	√	No	No	√	√	√
	Farmer 13	No	√	Not familiar with this	Not familiar with this	Not familiar with this	√	√ to some extent

On a scale of 1 to 5 (with 5 being the highest) how would you rate your concern over climate change issues? How important do you think climate change issues are to Saint Lucia? How important do you think climate change issues are to the agricultural sector?

High concern was registered by all the participating farmers with respect to climate change in general, as it relates to Saint Lucia, and specifically the Agricultural sector. Very high interest was also expressed by all in learning more about climate change and ways they can build their resilience to its impacts. This concern and interest is supported by a perception held by all respondents that the responsibility for tackling climate change issues lies with "All stakeholders" inclusive of government, agricultural cooperatives, sectorial groupings like cooperatives and associations, regional institutions, community groups, families and the private sector.

Do you know of any measures that have been or are being implemented by the Ministry of Agriculture / Agricultural NGOs to manage the impact of climate change in the sector?

Most of the farmers interviewed were not aware of measures by the Ministry of Agriculture and agricultural NGOs aimed at helping farmers to manage the impact of climate change. Among the eight (8) farmers who so responded, two (2) explained that they have been aware of activities in the distant past.

Respondents from Region 6 (Choiseul / Soufriere) had greater recall of interventions by the Inter American Institute for Cooperation on Agriculture (IICA), the 5Cs project through IICA and the Heritage Tourism Programme, Taiwanese Agricultural support projects. One respondent from Region 7 (Canaries/ Anse La Raye), recalled ongoing GEF interventions with his Cooperative. All of these projects

were undertaken in direct collaboration with the Government, and had a smart agriculture focus and the aim of achieving high yields.

Activities ascribed to the Ministry related to:

- Advocating the introduction and use of drains on farms to mitigate the effects of flooding.
- Information dissemination on actions to address climate change.
- Farmers Field Schools which are learning activities led by the extension officer focused on weekly full day on-farm observational and discussion sessions. The FFS lasts from the time the crop is planted to harvest.
- A water storage project where water tanks were donated to farmers to promote rainwater harvesting.

A common perception among those interviewed is that the Ministry of Agriculture is deficient in (1) the area of follow-up on recommendations to farmers about climate change and good agricultural practices (2) spreading itself thin giving the same attention to serious farmers and those they feel are 'fly by night' or not committed, and (3) matching talk with action and resources.

It is noteworthy, that ten farmers indicated that they have ready access to an extension officer and have developed a good relationship with their extension officer. The remaining three either feel that they are left out because they formally worked within agricultural extension, or they feel they have comparable knowledge based on their extensive years in farming.

What are some of the things you think can be done in Saint Lucia to help farmers adapt to climate change?

Participating farmers generated a number of ideas that they think can aid farmers in adapting to climate change. Education and training was mentioned often, along with greenhouse technology, access to financing and proactive feeder road rehabilitation.

Education and training: The importance of continuous education and training, proper farm practices and new adaptation technologies to address loss were echoed among most participants. Recommendations with respect to the focus of training included:

- Bi-lingual facilitators to cater to farmers who are more comfortable with Kwéyòl;
- Some focus should be put on soil conservation measures based on whether farmers are on a slope or flat land;
- The use of mulches;
- Better Conservation practices (continuous);
- The bigger picture i.e. Contextualised Agriculture within the climate change context, and continuously reinforce the element of food security and health of the nation;
- Reinforce cohesion, cooperation and consolidation within the sector;
- Follow up;
- Increase learning through practical means like demonstration plots, with an emphasis on Organic Farming;
- Coincide demonstration plots with technical support so farmers can learn these new technologies in a practical manner.

Farmers training farmers: Use the Farmers engaging in proper practices to help other farmers. Experienced farmers getting a small stipend can reduce the need for extension officers, or can fill a void where extension outreach may be inadequate. Use farms like schools. That will also assist in bringing about more unity and cooperation within the sector.

Access to capital and funding: The financial services sector is more accommodating for things like cars and other consumable items, but not for farmers. While farmers are willing to invest their own resources, banks are not so accommodating. Lobbying the financial sector on behalf of farmers is an urgent need. They should also be linked with funding agencies that can direct farmers to sources of funding for climate change adaptation and supporting farm infrastructure.

Greenhouse technology should be approached from an adaptation perspective rather than an adoption perspective because a greenhouse designed for Canada is not going to work in Saint Lucia. However, there is attendant cost of modification which the farmer is not able to stand on his own. Training techniques for pest and disease control in the context of greenhouse technology was highlighted. A subsidy towards greenhouse technologies was also recommended by a number of farmers.

Weather Forecasting Information: It is felt that farmers should be getting much more information on the weather such as long range forecasting to help in decision making on best planting programmes.

Infrastructure and works: Desilting and regularly unblocking of water ways; straightening meandering rivers and quickly repairing damaged feeder roads are necessary mitigation measures that go hand in hand with the farmer adaptation measures.

Other Recommendations:

- Make the right chemicals available for pest control with more consistency.
- Retool extension officers so that they can better assist farmers in transitioning to mitigation and adaptation mode i.e. farm practice, techniques etc.
- Not all farmers are serious. The Government should invest in the serious farmers.
- Help farmers to refocus on more tree crops.

Information Access & Media Usage

Of the close to twenty options proposed to respondents, electronic media ranked highest as the preferred information channel. Television featured in the top three selections of all respondents. Face to face, workshops/ workshop resources and small media (primarily posters) were also selected.

With the exception of farmers who formerly worked with the Ministry of Agriculture, and two older farmers who say they "do their own thing", all respondents have interaction with and easy access to an assigned extension officer, who they call when they have needs or concerns. Notwithstanding the cynicism with the level of support from the Ministry of Agriculture, extension officers, by dint of their level of interface and favourable relationship with farmers, are a good channel of information.

Based on consultation with outreach officers from agencies of government dealing with the environment i.e. Agriculture, Sustainable Development and Fisheries, the conclusion is that media-driven outreach to farmers will benefit from bi-lingual messaging when using public service announcements, talk shows and instructional videos.

4.0 DISCUSSION

Taken together, the semi-structured survey results, focus group findings and farmer interview point to some interesting observations. The analysis of the semi-structured survey revealed that 92% of respondents were aware of the term climate change. The most prevalent source of information on climate change among respondents to the questionnaire, was television; with 78.9% of respondents indicating they had heard of the term via this medium. Respondents from each of the nine (9) districts under study reported reasonably high levels of knowledge, ranging from 81% in Soufriere to 100% in Choiseul.

A cross-tabulation explored the relationship between respondents' education levels and knowledge of the term "climate change". Individuals who completed tertiary level education reported higher levels of knowledge of the term. Respondents with Primary School education reported 82.1% knowledge, whilst Bachelor's Degree reported 100%. This suggests that education levels should be considered a key segmentation variable when planning communication-based intervention.

Respondents identified various climatic events which were attributed to climate change. The most prevalent were:

- Increased hurricanes/tropical storms (85.3%)
- Droughts/decrease in rainfall (81.8%)
- Changes/increase in temperature (75.9%)
- Increased flooding (75.7%)

In addition, respondents further outlined events/activities which they believe cause global climate change. The top three were:

- Burning fuels, such as coal, oil and natural gas (78.1%)
- Land clearing (70.6%)
- Industry/factories (68%)

At the community level, respondents identified issues which were also ascribed to climate change. This included decreased agricultural productivity, increased flooding as well as land slippage/landslides.

Throughout the household survey, respondents made the recommendation for increased education on climate-change issues. In response to suggestions on actions to help alleviate climate change, respondents advocated for increased awareness through education. Similarly, increased public awareness/education was identified as very important to help reduce the impact of climate change.

35.2% of households under survey indicated that they were very concerned over climate change issues, with 44% stating that they were very interested in learning about climate change. A comparison of this level of interest vis a vis the respective district suggests a greater level of interest from respondents in Laborie (75%), followed by Anse La Raye/Canaries (60%) and Choiseul (57.1%). Climate change was viewed as a very important issue to Saint Lucia by 39.2% of respondents. The top three courses of action deemed very important to reduce climate change impact were:

- Increased public awareness/education (73.8%)
- Use of flood warning systems (66.1%)
- Establishment of Disaster Management Plans (62.1%)

88.8% of respondents identified local government as the key agency to tackle climate change issues, followed by regional and international organizations (64.3%). 51% of respondents indicated they did not believe government is doing all it can to tackle climate change. Similarly, 57.4% suggested that the information currently being relayed on climate change was inadequate. 47.8% knew a “fair amount” of government’s response to climate change. Respondents offered suggestions on government’s approach to address climate change issues. This included increased education and sensitization, as well as need for community based research that will impact specific approaches to address the issues at the community level.

62.9% of respondents believed that individuals and the public can undertake various courses of action to adapt/deal with climate change. Personal and community based approaches suggested included:

- Greater focus on the environment, including proper garbage disposal practices.

- Staying informed of climate change impacts and possible actions that can be taken.
- Avoid deforestation, instead engage in afforestation.
- Creation of community based groups primarily focused on tackling climate change.

Whilst 67.7% of respondents owned dwelling houses, only 19.5% were aware of their homes being insured against hurricanes/natural disasters. This relatively low proportion is of concern as most districts are coastal in nature and are impacted by climate change in one way or the other. Only 13% of respondents were prepared in the event of climate related disasters. None of the districts under survey revealed a high level of preparedness.

Survey respondents pointed to the factors which they believed hindered actions on climate change. This included lack of knowledge or ignorance on the subject, as well as lack of financial resources.

Respondents identified various courses of action over the last five (5) years that have been undertaken in their households in preparation for climate change related disasters. This included improvements to drainage, rain water harvesting, as well as structural improvement to property. Illegal dumping of garbage was the primary activity identified that worsens climate change impacts within communities.

Overall 85.6% of respondents to the questionnaire identified television as the preferred medium to receive information in general, followed by radio (50.1%). The selection of television as a choice was reflected in all districts ranging from 73% of respondents in Gros Islet to 95.2% in Choiseul. Whilst there has been concerted effort via various ICT initiatives to increase access to internet nationally, internet/websites were most prevalent with respondents from Choiseul, where 76.2% selected this medium and 61.9% selected the use of smart phones in Choiseul. Other districts did not report a great preference for this medium. 91.2% of respondents were willing to read, watch and listen to information on climate change, which augurs well for any future campaign on the subject.

The qualitative analysis based on the focused group discussions also revealed similar findings.

Commercial Sector Focus Group: Lack of education was identified as a primary cause of climate change. Such lack of education resulted in people being unaware of actions that impact climate change or

actions that can positively influence climate change impact. Focus group participants called for greater action with regard to public awareness, further suggesting the need for government to take the lead in increasing knowledge on the subject. It was suggested that Government support, through the provision of incentives to develop alternative energy sources, engage in rain-water harvesting, and tackle waste disposal by way of waste recycling were clearly articulated as options to encourage greater actions to deal with climate change. Competition should also be encouraged in the private sector through the provision of a special awards category as part of the Annual Chamber of Commerce Business Awards.

Similar to the household survey, deforestation, pollution, as well as poor waste disposal methods were identified as primary causes of climate change impacts by participants of the commercial sector FGD. Participants also suggested that companies should be provided with greater encouragement and support to use of alternative energy, rain water harvesting as well as recycling.

Both surveys revealed a level of knowledge of climate change and/or its impact. However, both households as well as the corporate sector highlighted the need for increased awareness. Consequently, efforts at addressing this shortcoming must be considered. The use of the correct media, as well as specific messages to address this lack of education, is critical to any successful communication campaign.

Students Focus Group: Interaction was highlighted as important in communication with students. In addition to social media, internet and television as the appropriate communication mediums for this target audience, participants in the focus group stressed that communication must be interactive and not a one-sided relaying of information. There was also the suggestion of field trips involving activities that address climate change and science fairs around the topic of climate change.

Engineer Focus Group: During the discussion, there was a call for education, not only on the public scale, but within all levels of governance. The group suggested that focus group discussions to identify their KAP/B towards climate change, be conducted with differing levels within government.

Farmer Focus Group: Farmers were presented with a list of seven general farm practices vetted by the Ministry of Agriculture Extension Office, to indicate practices on this list that they undertake as a general

rule. The findings indicate that water conservation and conservation agriculture are practices that are common across respondents. This can also be indicative of the situation across the regions which they represent. More respondents say that they practice agroforestry than those who did not.

The table below provides a summary of the key points of the demographic groups under assessment in this report:

Table 28: Summary of KAP/B for Demographic Groups Under Study

Demographic	Knowledge	Attitudes	Practices / Behaviour
General Population	Over 90% of respondents were aware of climate change, with television being the most popular source of information. Education levels influenced whether or not persons were aware of the term, where individuals who completed tertiary level education reported higher levels of knowledge of the term.	There is a fair level of concern about climate change, with 35.2% of households under survey indicating that they were very concerned over climate change issues and 44% stating that they were very interested in learning about climate change.	Increased public awareness/education was identified as very important to help reduce the impact of climate change. Local government was identified as the key agency to tackle climate change issues.
Commercial Sector	Lack of education is seen as a cause of climate change. Persons who are uneducated about climate change engage in activities that either influence or hinder the addressing of climate change.	All participants believed that they play an important role in addressing climate change, and that a more active role needs to be taken by Government and all concerned entities.	Manufacturers identified waste management and recycling as practices that need to be facilitated and encouraged in the manufacturing sector due to the positive impact on the environment. Rain water harvesting was identified as a key activity that companies can engage in to reduce the strain on the water system. It was suggested that government initiated incentives to encourage use of a broad range of

Demographic	Knowledge	Attitudes	Practices / Behaviour
			alternative energy sources, rain water harvesting and recycling may motivate businesses to participate in solutions to climate change
Students	All showed a fair level of understanding about climate change, its impact and causes. Students identified television, internet and school as the main sources of information on climate change.	The level of concern about climate change ranges from 3 to 5, (with 5 being the highest level of concern). Students were able to easily identify the impact that climate change has had on their communities.	Students identified activities that they could get on board with, with regard to addressing climate change. These include: afforestation, carpooling, clean up campaigns and clearing of drains, promoting cleanliness, lack of support of companies without a go green mandate and the use of alternative energy sources. With most of the suggestions identified, adult involvement would be necessary for facilitation.
Engineers	This group demonstrated knowledge of climate change. They added additional perspectives to the topic of climate change, by suggesting that maybe the climate isn't what is changing, but rather man's impact on the climate. It was also suggested that climate change needs to be viewed, not only with regard to changing weather patterns, but also take into account the impact on vulnerable groups.	Addressing climate change means addressing the lifestyle of individuals, not just the behaviour or practices.	This group discussed that climate change has impacted their professions by their having to adjust and change their designs, practices and costs to resist greater climatic forces. Respondents have noticed industries trying to innovate in terms of alternative energy to reduce the cost of consumption of fossil fuels, by incorporating alternative forms of energy and alternative building materials. The suggested more

Demographic	Knowledge	Attitudes	Practices / Behaviour
			involvement and enforcement from government with regard to squatting. This may include the provision of housing for persons who are unable to afford such, to prevent the widespread squatting on lands that are unsuitable for building on.
Farmers	Knowledge of climate change was found as evinced by each farmer's ability to identify at least 3 global climate change phenomena, correctly describe changes in the weather patterns and trends in the agricultural sector resulting from these weather patterns. Food Security: The belief that a link exists between climate change and food security suggests knowledge of the cross cutting issues between the two. Most farmers were familiar with the term "climate smart agriculture" and could give a basic explanation of the concept.	There is high concern about climate change in general, as it relates to Saint Lucia, and specifically, the Agricultural sector. There is very high interest in learning more about climate change and ways that farmers can build resilience to its impacts. The view that "All Stakeholders" have equal responsibility to tackle climate change issues was commonly held. Farmers feel that the sector is important for food security. Key recommendations were Education and training, greenhouse technology, access to financing and proactive feeder road rehabilitation. The focus of training should be adaptation and mitigation against loss.	Water conservation (through rain-water harvesting, creation of dams/ pools, and storage in large receptacles/ water sheds) and drainage as adaptation practices during the rainy season; and irrigation, drain blocking and mulching during the dry season were common practices; Other practices noted: composting, ridging, banking, agro-forestry and conservation agriculture, and to a lesser extent afforestation.

4.1 A Look at the 2011 KAP Study

In this section, the results of the 2011 KAP study are assessed to identify any similarities or glaring differences in the results of both studies. The summary observations, similarities and differences are presented in the table below.

Table 29: Key differences identified between 2011 survey and 2016 survey

VARIABLE	2011 SURVEY	2016 SURVEY
Level of Knowledge of Climate Change	87%	92%
Household Insurance	32.9%	19.5%
Structural improvements to Homes	34.5%	32.2%
Knowledge of whether individuals lived in areas impacted by climate change	30.1%	64%
Phenomenon observed by respondents:		
Increased storms/hurricanes	49.1%	52.2%
Increased droughts/decrease in rainfall	34.6%	71.3%
Coastal erosion	43.2%	34.7%
Changes/increases in temperature	67.4%	67.6%
Change in crops	44.4%	58.4%
Explanation of climate change among respondents:		.
Changing weather patterns	60.3%	49.3%
Changes in atmosphere	6.3%	25.1%
Not sure	5.6%	5.2%
Inadequate information on climate change	72%	57.4%

The positive shift in respondents' knowledge, as well as observations, may be attributed to the impact of past campaigns on climate change impact.

The top five effects of climate change identified in the 2011 study were:

- Increase tropical storm / hurricanes (71.2%).
- Decrease in agricultural production (70.5%).
- Coastal flooding (67.2%).
- Increased flooding (66.7%).

- Longer dry seasons / droughts (63.8%).

Similarly, in the 2016 survey, the top five (5) were identified as:

- Increased hurricanes/tropical storms (85.3%)
- Droughts /decrease in rainfall (81.8%)
- Changes/increase in temperature (75.9%)
- Increased flooding (75.7%)
- Global warming (75.4%),

Within the past 5 years, there has not been much change to the opinions on the conditions that bring about climate change. Table 30 below summarizes respondents' views. Both studies highlighted burning of fossil fuels as a key factor to cause climate change.

Table 30: Causes of climate change between 2011 and 2016

CAUSES OF CLIMATE CHANGE	PERCENTAGE (%) 2016	PERCENTAGE (%) 2011
Burning fuels, such as coal, oil and natural gas	78.1%	80%
Land clearing	70.6%	63%
Industry / factories	68.0%	67%
Transportation, such as driving a car, bus or boat	60.4%	63%
Electricity generation	39.6%	45%
Improper agriculture practices	35.7%	35%

Whilst 88.8% of the respondents in the 2016 survey believed that local government is primarily responsible for tackling climate change, both surveys revealed the need for increased education / public awareness. The top five suggestions among respondents in 2016 were:

Table 31: Top five suggestions to combat climate change in 2016 and 2011

TOP FIVE SUGGESTIONS (2016)	PERCENTAGES	TOP FIVE SUGGESTIONS (2011)	PERCENTAGES
Education on climate change & ways to protect environment	20.3%	Greater awareness/concern/education	25.7 %
Proper garbage disposal / Recycle options	15.9%	Change in lifestyle/behavioral/attitude change	14.0 %
Stop deforestation / Engage in	8.9%	Practicing environmental	16.6 %

TOP FIVE SUGGESTIONS (2016)	PERCENTAGES	TOP FIVE SUGGESTIONS (2011)	PERCENTAGES
afforestation / invest in agriculture		friendliness/preservation	
Build stronger homes / Provision of financial support for this and repairs / Enforce building codes	6.3%	Lowering carbon & other harmful emissions	12.5 %
Improve drainage	6.0%	Going Green	1.5 %

In 2011, respondents reported various levels of familiarity with government responses to environmental issues. 6% reported that they were very familiar, 44% were somewhat familiar and 50% were not familiar with government responses. Similarly, in 2016, 11.8% of respondents knew a great deal, 47.8% reported a fair amount, 27.1% did not know much, 5.4% hardly knew anything and 7.9% were unsure. This suggests that importance should be placed on highlighting projects or activities, undertaken by Government, whether solely or in collaboration with other agencies, with the wider public.

The top three medium for information preferences in the two surveys are outlined in the table below:

Table 32: Primary source for information

MEDIUM	2011 PERCENTAGES	2016 PERCENTAGES
Television	62%	85.6%
Radio	13%	50.1%
Website/Internet	21%	33%

Respondents' perception of what constitutes the most serious environmental issue facing Saint Lucia in 2016 were similar to findings in 2011, with improper waste disposal reported as a key factor. In 2016, participants also identified illegal dumping of garbage in their communities as a key issue that exacerbates the impact of climate change. This suggests the need to develop measures to educate the public on the impact of such indiscriminate garbage disposal habits on the environment.

5.0 CONCLUSION

Overall, this study supported the need for increased public education and awareness activities as a critical measure to tackle the impact of climate change. Respondents articulate the need for continued education on the subject matter.

Whilst 92% were aware of the term "climate change", there is a need for increased public education and awareness as suggested by respondents. 91.2% of respondents were interested in more information on climate change. With the exception of students in the focus group (aged 13 – 17 years), who preferred to receive information via social media, generally, television was identified as the preferred choice to receive information on climate change by the other respondent groups surveyed. However, any successful communication approach must be tailored to influence actions and behaviour over time.

6.0 RECOMMENDATIONS

Communication-based interventions should take the following into consideration when planning a response to address the current levels of knowledge, attitude and practices:

- Continued public education and awareness on climate change and its impact is necessary. This will ensure a continued high level of knowledge on the subject matter and can perhaps contribute to more positive actions in the future. With respect to farmers, such education should promote proper farm practices, organic farming, new climate change adaptation and mitigation technologies and should ideally be accompanied by various levels of material support.

- Television is the most predominant medium to convey information on climate change. This was widely reported among all communities. Consequently, this medium can be effectively utilized to reach the wider population. Additionally, social media platforms should be utilised to engage with a younger demographic.

- Whilst there were reasonably high levels of knowledge across education levels, it may be beneficial to target information dissemination at the primary school level. Targeting this group

may have positive impact on future actions, as this group is generally considered as the leaders of the next generation.

- Government must increase its visibility on actions related to climate change, as a total of 40.4% of respondents were unaware of any government actions. Respondents generally believed that government must play the key role to address climate change. This suggests the need for increased government campaigns and/or collaboration with community based organizations to tackle climate change issues. Such partnership may positively impact perceptions of government action.

- Improper waste disposal was identified as a key activity that affected communities in tackling climate change. Consequently, there is a continued need to educate and raise awareness on waste disposal practices.

- Establishment of an award for the best approach to "'going green" in support of environmental preservation was identified. This award should form part of the annual Chamber of Commerce awards and have the potential to motivate and encourage increased actions on climate change.

- Generally, individuals respond when there is a perception of immediate and clear gain. Therefore, incentives can be offered with respect to designing buildings that incorporate rainwater-harvesting systems, flood mitigation techniques and use of alternative energy sources. At the community level, a competitive spirit may be encouraged, whereby a best village that develops and implements activities to address climate change can be rewarded.

- Respondents cited actions regarding proper garbage disposal as one which they could individually engage in to help prevent or reduce the effects of climate change. Other areas were also highlighted. Such suggestions can further inform the development of key messages to promote and encourage personal action and responsibility.

- The survey offered recommendations and practical suggestions to address climate change impacts. These include: (1) promoting afforestation, (2) promoting community groups

dedicated toward environmental protection, (3) encouraging car-pooling and greater use of public transportation, (4) encouraging recycling options/manufacturers to become involved in developing recycling options for waste material, (5) enforcing building codes, (6) enforcing policies with regard to climate change/environmental protection, (7) installation of water conservation methods; (8) installation of alternative and renewable energy sources, (9) provision of concessions, incentives or financial support for those who would use alternative energy sources and (10) continuous adaptation and mitigation focussed farmer education.

All of these can assist with development of effective communication strategies and tools to address KAP/B.

- Alternative means of communication, such as use of interactive town hall meetings, may be a useful tool to reach communities.

- Employ online and social media channels specifically to target school aged individuals, incorporating competition and interaction. Field trips and science fairs were also suggested as means of communicating on the topic of climate change.

- Benchmarking and data collection with regard to climate change should be ongoing and not tied to specific projects that are carried out only when these projects are underway.

- Both English and Creole are to be used simultaneously in the communication campaign. However, more importance should be placed on the tools of communication, suggested use of cultural art forms, skits, drama, popular theatre and entertainment pieces involving well-known local entertainers.

- These findings also suggest the importance of an integrated approach to engendering a greater sense of environmental citizenship among Saint Lucians. A cooperative approach by environmental, agricultural, disaster management and sustainable development agencies will achieve the level of harmonised effort and exploitation of synergies to bring coherence in deploying climate change adaptation and mitigation measures.

- The recommendation by the 2016 Agriculture Disaster Risk Management Guide[4] with respect to the use of message pre-testing and feedback and evaluation of all campaign messages and campaigns in general, while made with reference to farmers, applies for all demographics.

[4] AGRICULTURE DISASTER RISK MANAGEMENT (ADRM): A Communication and Information Management Guideline for the Agriculture Sector in Saint Lucia, Inter-American Institute for Cooperation on Agriculture (IICA) January 2016

7.0 APPENDICIES

Appendix A. Additional / Supplemental Tables and Figures

Table 33: Frequency distribution of demographic variables for participants of household survey

Demographic Variables	Categories	Frequency	Percentage
Gender	Female	244	59.1%
	Male	166	40.2%
	Missing responses	3	0.7%
	Total	***413***	**100.0%**
Age	18 - 25	95	23.0%
	26 - 30	48	11.6%
	31 - 35	57	13.8%
	36 - 40	44	10.7%
	41 - 45	47	11.4%
	46 - 50	38	9.2%
	51 - 55	33	8.0%
	56 - 60	19	4.6%
	61 - 65	12	2.9%
	66 - 70	11	2.7%
	Over 70	8	1.9%
	Non-response	1	0.2%
	Total	***413***	**100.0%**
Marital Status	Common law marriage	85	20.6%
	Divorced	15	3.6%
	Married	95	23.0%
	Single	203	49.2%
	Widowed	13	3.1%
	Non-response	2	0.5%
	Total	***413***	***100.0%***
District of Residence	Anse La Raye & Canaries	25	6.1%
	Castries	122	29.5%
	Choiseul	21	5.1%
	Dennery	40	9.7%

Demographic Variables	Categories	Frequency	Percentage
	Gros Islet	75	18.2%
	Laborie	20	4.8%
	Micoud	45	10.9%
	Soufriere	21	5.1%
	Vieux Fort	44	10.7%
	Total	***413***	***100.0%***
Level of Education	Primary School	123	29.8%
	Secondary School	178	43.1%
	A level / Associate's Degree	79	19.1%
	Bachelor's Degree	21	5.1%
	Master's Degree or higher	10	2.4%
	Non-response	2	0.5%
	Total	***413***	***100.0%***
Occupation	Managers	5	1.2%
	Professionals	46	11.1%
	Technicians and Associate Professionals	19	4.6%
	Clerical Support Workers	18	4.4%
	Services and Sales Workers	112	27.1%
	Skilled Agricultural, Forestry and Fishery Workers	20	4.8%
	Craft and Related Trades Workers	34	8.2%
	Plant and Machine Operators and Assemblers	9	2.2%
	Elementary Occupations	22	5.3%
	Student	15	3.6%
	Unemployed	89	21.5%
	Retired	20	4.8%
	Non-response	4	1.0%
	Total	***413***	***100.0%***

Table 34: Detail of respondents' occupations within each ISCO category

International Standard Classification of Occupations	Participants' Occupations within Category	Frequency	Percentage
Managers	Hotelier	1	0.4%
	Logistics Manager	1	0.4%
	Finance Manager	1	0.4%

International Standard Classification of Occupations	Participants' Occupations within Category	Frequency	Percentage
	Restaurant Manager	1	0.4%
	Systems Manager	1	0.4%
	Total	***5***	***1.8%***
Professionals	Accountant	3	1.1%
	Compliance officer	1	0.4%
	Entrepreneur	8	2.8%
	Librarian	2	0.7%
	Nurse	4	1.4%
	Pastor	1	0.4%
	Fashion designer	4	1.4%
	Teacher	20	7.0%
	Telecommunication analyst	1	0.4%
	Veterinarians	2	0.7%
	Total	***46***	***16.1%***
Technicians and Associate Professionals	Administrative assistant	10	3.5%
	Airport co-ordinator	1	0.4%
	Chef	3	1.1%
	Conservation officer	1	0.4%
	Public servant	2	0.7%
	Marine communication	1	0.4%
	Warehouse supervisor	1	0.4%
	Total	***19***	***6.7%***
Clerical Support Workers	Accounts clerk	3	1.1%
	Bank teller	3	1.1%
	Bursar	1	0.4%
	Clerk	1	0.4%
	Debt collector	1	0.4%
	Data collection	1	0.4%
	Inventory clerk	1	0.4%
	Secretary - 4	4	1.4%
	Statistics assistant	1	0.4%
	Steward	1	0.4%
	Trainee	1	0.4%
	Total	***18***	***6.3%***
Services and Sales Workers	Aviation security	1	0.4%
	Baby sitter	3	1.1%

International Standard Classification of Occupations	Participants' Occupations within Category	Frequency	Percentage
	Bartender	5	1.8%
	Caretaker	6	2.1%
	Cashier	6	2.1%
	Firefighter	4	1.4%
	Hairdresser	4	1.4%
	Housekeeper	6	2.1%
	Housewife	16	5.6%
	Merchandiser	1	0.4%
	Nail technician	1	0.4%
	Police officer	4	1.4%
	Purchase officer	1	0.4%
	Sales representative	13	4.6%
	Security guard	11	3.9%
	Shopkeeper	14	4.6%
	Street vendor	6	2.1%
	Tour guide	2	0.7%
	Travel agent	2	0.7%
	Waiter / waitress	6	2.1%
	Total	***112***	***39.3%***
Skilled Agricultural, Forestry and Fishery Workers	Farmer	13	2.8%
	Fisherman	6	3.9%
	Landscaper	1	0.4%
	Total	***20***	***7.0%***
Craft and Related Trades Workers	Air condition technician	1	0.4%
	Assistant maintenance officer	1	0.4%
	Carpenter	7	2.5%
	Cooks	3	1.1%
	Electrician	1	0.4%
	Joiner	3	1.1%
	Mechanic	4	1.4%
	Mason	8	2.8%
	Painter	4	1.4%
	Plumber	1	0.4%
	Pool technician	1	0.4%
	Total	***34***	***11.9%***
Plant and Machine Operators and	Bus driver	3	1.1%

International Standard Classification of Occupations	Participants' Occupations within Category	Frequency	Percentage
Assemblers	Delivery driver	1	0.4%
	Factory worker	1	0.4%
	Heavy truck driver	1	0.4%
	Taxi driver	2	0.7%
	Truck driver	1	0.4%
	Total	***9***	***3.2%***
Elementary Occupations	Cleaner	1	0.4%
	Construction worker	13	4.6%
	Janitor	4	1.4%
	Porter	3	1.1%
	Stevedore	1	0.4%
	Total	*22*	*7.7%*
TOTAL		**285**	**100.0%**

Table 35: Question 18 and Question 19: "Events occurring in the Community and what do you think can be done to alleviate these issues?"

Event	Frequency N=359	% of Respondents overall	Suggested solutions	% of responses to event
Increased flooding	179	49.9%	Keep drains clean / improve drainage systems	23.1%
			Education campaign on climate change, its impact, and what can be done to alleviate	13.9%
			Nothing can be done / it is an act of God	13.4%
			Stop deforestation / engage in afforestation	12.0%
			Keep environment clean / less pollution / go green campaigns	8.8%
			Stop illegal dumping of garbage	7.5%
			Back fill the rivers / clearing rivers & banks / desilting rivers / enlarging rivers	6.5%
			Construction to prevent flooding / elevate buildings / retaining walls	6.5%
			Don't know	6.0%
			Enforcement of laws	1.3%
			Burn less fossil fuels	0.9%
			TOTAL	**100%**
Land slippage / landslides	154	42.9%	Stop deforestation / engage in afforestation	24.0%
			Observe building codes / don't build on slopes & low lying areas / build retaining walls / gabion baskets	16.8%
			Keep drains clean / improve drainage systems	13.8%
			Nothing can be done / it is an act of God	12.6%
			Education campaign on climate change, its impact, and what can be done to alleviate	12.6%

Event	Frequency N=359	% of Respondents overall	Suggested solutions	% of responses to event
			Keep environment clean / less pollution / go green campaigns	7.8%
			Adhere to good agricultural practices / better irrigation	4.1%
			Don't know	4.1%
			Stop illegal dumping of garbage	4.1%
			TOTAL	**100%**
Decreased agricultural productivity	126	35.1%	Stop deforestation / engage in afforestation / plant more food / diversify crops	28.8%
			Nothing can be done / it is an act of God	15.3%
			Education campaign on climate change, its impact, and what can be done to alleviate	13.5%
			Don't know	12.6%
			Adhere to good agricultural practices and penalise violators	10.8%
			Better irrigation & drainage / Implement water saving techniques	9.0%
			Develop pest management strategies / use of less chemicals / keep soil fertile	5.4%
			Government intervention	2.7%
			Create greenhouses	1.8%
			TOTAL	
Less rainfall	116	32.3%	Nothing can be done / it is an act of God	30.3%
			Stop deforestation / engage in afforestation	19.1%
			Practice water conservation / practice rainwater harvesting	18.0%
			Education campaign on climate change, its impact, and what can be done to alleviate	16.9%

Event	Frequency N=359	% of Respondents overall	Suggested solutions	% of responses to event
			Don't know	15.7%
			TOTAL	**100%**
Coastal flooding	102	28.4%	Education campaign on climate change, its impact, and what can be done to alleviate	24.7%
			Improve drainage	19.4%
			Nothing can be done / it is an act of God	13.0%
			Keep beach environment clean	11.7%
			Don't know	11.7%
			Build sea walls / retaining walls	7.8%
			Stop sand mining / stop cutting of mangrove	5.1%
			Stop illegal dumping of garbage (in or near sea)	3.9%
			Build far away from sea	2.6%
			TOTAL	**100%**
Decreased productivity of fisheries	102	28.4%	Nothing can be done / it is an act of God	24.0%
			Stop illegal dumping of garbage (in or near sea) / Keep beach environment clean	22.8%
			Education campaign on climate change, its impact, and what can be done to alleviate	19.0%
			Encourage better fishing habits / Enforcement of laws / use of new techniques or technology	13.9%
			Don't know	8.9%
			Better protection for coral reefs	6.3%
			Stop sand mining / building near coastal areas	5.1%

Event	Frequency N=359	% of Respondents overall	Suggested solutions	% of responses to event
			TOTAL	**100%**
Increased severity of tropical storms and hurricanes	91	25.3%	Education campaign on climate change, its impact, and what can be done to alleviate	31.1%
			Nothing can be done / it is an act of God	24.6%
			Keep drains clean / improve drainage	14.8%
			Build hurricane shelters / build retaining walls / build stronger houses	11.5%
			Don't know	9.8%
			Preparation / cut over hanging branches / stock food and supplies	8.2%
			TOTAL	**100%**
Deterioration of coral reefs	65	18.1%	Stop illegal dumping of garbage (in or near sea) / Keep beach environment clean	24.4%
			Education campaign on climate change, its impact, and what can be done to alleviate	17.1%
			Don't know	14.6%
			Nothing can be done / it is an act of God	14.6%
			Better protection for coral reefs	12.2%
			Stop sand mining / building near coastal areas	9.8%
			Encourage better fishing habits / Enforcement of laws / use of new techniques or technology	7.3%
			TOTAL	**100%**
Coastal erosion	62	17.3%	Education campaign on climate change, its impact, and what can be done to alleviate	23.8%
			Stop sand mining / building near coastal areas / monitor coast line	19.0%
			Stop deforestation / engage in afforestation	14.3%

Event	Frequency N=359	% of Respondents overall	Suggested solutions	% of responses to event
			Don't know	11.9%
			Nothing can be done / it is an act of God	11.9%
			Stop illegal dumping of garbage (in or near sea) / Keep beach environment clean	9.5%
			Build retaining walls / sea walls	9.5%
			TOTAL	**100%**

Table 36: Question 24: Importance of activities to reduce the impact of climate change

Level	Frequency	%	Actions
Very Important	305	73.8%	Increased public awareness/ education
	277	67.1%	Disaster management plans
	273	66.1%	Flood warning systems
	241	58.4%	Improved water storage
	241	58.4%	Increased research and development of renewable energy technologies
	236	57.1%	Insurance for disaster related events
	223	54.0%	Improved crop cultivation in the agricultural sector
	222	53.8%	Reduction in fossil fuel (coal, oil, natural gas) use
	218	52.8%	Rain water harvesting
	210	50.8%	Observing building codes
	205	49.6%	Improved pest management strategies
	203	49.2%	Stricter penalties for violations
	199	48.2%	Better enforcement of existing legislation
	190	46.0%	Implementation of energy efficient measures in industrial and commercial sectors
	152	36.8%	Increased and better surveillance systems
	139	33.7%	Rewards and incentives for good or exemplary behaviour
	129	31.2%	Reduction in consumption of electricity
Moderately important			
	156	37.8%	Reduction in consumption of electricity
	142	34.4%	Increased and better surveillance systems
	135	32.7%	Implementation of energy efficient measures in industrial and commercial sectors
	133	32.2%	Rain water harvesting
	132	32.0%	Improved pest management strategies
	128	31.0%	Better enforcement of existing legislation

Level	Frequency	%	Actions
	126	30.5%	Rewards and incentives for good or exemplary behaviour
	125	30.3%	Stricter penalties for violations
	122	29.5%	Improved crop cultivation in the agricultural sector
	117	28.3%	Improved water storage
	116	28.1%	Reduction in fossil fuel (coal, oil, natural gas) use
	105	25.4%	Observing building codes
	100	24.2%	Disaster management plans
	99	24.0%	Insurance for disaster related events
	98	23.7%	Increased research and development of renewable energy technologies
	96	23.2%	Flood warning systems
	77	18.6%	Increased public awareness/ education
Not Important			
	88	21.3%	Rewards and incentives for good or exemplary behaviour
	76	18.4%	Reduction in consumption of electricity
	51	12.3%	Increased and better surveillance systems
	40	9.7%	Observing building codes
	40	9.7%	Insurance for disaster related events
	39	9.4%	Implementation of energy efficient measures in industrial and commercial sectors
	38	9.2%	Reduction in fossil fuel (coal, oil, natural gas) use
	36	8.7%	Stricter penalties for violations
	32	7.7%	Improved pest management strategies
	32	7.7%	Rain water harvesting
	31	7.5%	Improved crop cultivation in the agricultural sector
	30	7.3%	Better enforcement of existing legislation
	27	6.5%	Improved water storage
	20	4.9%	Flood warning systems
	17	4.1%	Increased research and development of renewable energy technologies
	15	3.6%	Disaster management plans
	12	2.9%	Increased public awareness/ education
Don't know			
	55	13.3%	Increased and better surveillance systems
	53	12.8%	Rewards and incentives for good or exemplary behaviour
	47	11.4%	Increased research and development of renewable energy technologies
	45	10.9%	Observing building codes
	45	10.9%	Better enforcement of existing legislation
	44	10.7%	Reduction in consumption of electricity
	42	10.2%	Implementation of energy efficient measures in industrial and commercial sectors
	42	10.2%	Stricter penalties for violations
	31	7.5%	Improved pest management strategies
	30	7.3%	Reduction in fossil fuel (coal, oil, natural gas) use
	30	7.3%	Improved crop cultivation in the agricultural sector
	27	6.5%	Insurance for disaster related events
	22	5.3%	Rain water harvesting

Level	Frequency	%	Actions
	17	4.1%	Improved water storage
	14	3.4%	Flood warning systems
	13	3.1%	Disaster management plans
	9	2.2%	Increased public awareness/ education
Non-Response	13	3.1%	Increased and better surveillance systems
	13	3.1%	Observing building codes
	13	3.1%	Improved pest management strategies
	11	2.7%	Better enforcement of existing legislation
	11	2.7%	Insurance for disaster related events
	11	2.7%	Improved water storage
	10	2.4%	Increased research and development of renewable energy technologies
	10	2.4%	Flood warning systems
	10	2.4%	Increased public awareness/ education
	8	1.9%	Reduction in consumption of electricity
	8	1.9%	Rain water harvesting
	8	1.9%	Disaster management plans
	7	1.7%	Rewards and incentives for good or exemplary behaviour
	7	1.7%	Implementation of energy efficient measures in industrial and commercial sectors
	7	1.7%	Stricter penalties for violations
	7	1.7%	Reduction in fossil fuel (coal, oil, natural gas) use
	7	1.7%	Improved crop cultivation in the agricultural sector

Table 37: Question 30: Level of agreement with statements on climate change

Level	Frequency	%	Actions
Strongly Agree	250	60.5%	My government should take a stronger role in addressing the impacts of climate change on my community
	143	34.6%	I am very interested in learning how climate change affects tropical storms /hurricanes
	141	34.1%	I am very interested in learning how climate change affects drought
	125	30.3%	I am very interested in learning how climate change affects rainfall
	124	30.0%	I am very interested in learning how climate change affects rises in sea level
	124	30.0%	I am very interested in learning how climate change affects flooding
	123	29.8%	I am very interested in learning how climate change affects seasonality of crops
	119	28.8%	I am very interested in learning how climate change affects coastal erosion
	102	24.7%	People have little or no control over climate change because it is an act of God.
	95	23.0%	I am prepared to pay a little more or put up with some inconvenience to help preserve the environment.
	21	6.3%	I am not interested in learning anything about climate change.
	26	5.1%	There is nothing a small country like Saint Lucia can do about climate change.
Agree			
	197	47.7%	I am very interested in learning how climate change affects flooding
	192	46.5%	I am very interested in learning how climate change affects rainfall
	184	44.6%	I am very interested in learning how climate change affects drought
	182	44.3%	I am very interested in learning how climate change affects rises in sea level
	183	44.1%	I am very interested in learning how climate change affects coastal erosion
	180	43.6%	I am very interested in learning how climate change affects tropical storms /hurricanes
	180	43.6%	I am very interested in learning how climate change affects seasonality of crops
	170	41.2%	I am prepared to pay a little more or put up with some inconvenience to help preserve the environment.

Level	Frequency	%	Actions
	115	27.8%	My government should take a stronger role in addressing the impacts of climate change on my community
	62	15.0%	People have little or no control over climate change because it is an act of God.
	16	8.0%	I am not interested in learning anything about climate change.
	33	3.9%	There is nothing a small country like Saint Lucia can do about climate change.
Neutral	95	23.0%	I am prepared to pay a little more or put up with some inconvenience to help preserve the environment.
	90	21.8%	I am very interested in learning how climate change affects coastal erosion
	90	21.8%	I am very interested in learning how climate change affects seasonality of crops
	83	20.1%	I am very interested in learning how climate change affects rises in sea level
	74	17.9%	I am very interested in learning how climate change affects tropical storms /hurricanes
	74	17.9%	I am very interested in learning how climate change affects flooding
	31	16.9%	I am not interested in learning anything about climate change.
	70	16.7%	I am very interested in learning how climate change affects drought
	69	16.5%	I am very interested in learning how climate change affects rainfall
	68	14.5%	There is nothing a small country like Saint Lucia can do about climate change.
	60	9.2%	People have little or no control over climate change because it is an act of God.
	38	7.5%	My government should take a stronger role in addressing the impacts of climate change on my community
Disagree	176	42.6%	There is nothing a small country like Saint Lucia can do about climate change.
	130	31.5%	People have little or no control over climate change because it is an act of God.
	41	9.9%	I am not interested in learning anything about climate change.
	30	7.3%	I am prepared to pay a little more or put up with some inconvenience to help preserve the environment.

Level	Frequency	%	Actions
	12	2.9%	I am very interested in learning how climate change affects rises in sea level
	12	2.9%	I am very interested in learning how climate change affects coastal erosion
	12	2.9%	I am very interested in learning how climate change affects seasonality of crops
	11	2.7%	I am very interested in learning how climate change affects rainfall
	10	2.4%	I am very interested in learning how climate change affects flooding
	10	2.4%	I am very interested in learning how climate change affects drought
	8	1.9%	My government should take a stronger role in addressing the impacts of climate change on my community
	7	1.7%	I am very interested in learning how climate change affects tropical storms /hurricanes
Strongly Disagree	69	26.6%	I am not interested in learning anything about climate change.
	110	16.7%	There is nothing a small country like Saint Lucia can do about climate change.
	55	13.3%	People have little or no control over climate change because it is an act of God.
	21	5.1%	I am prepared to pay a little more or put up with some inconvenience to help preserve the environment.
	6	1.5%	I am very interested in learning how climate change affects rainfall
	4	1.0%	I am very interested in learning how climate change affects coastal erosion
	3	0.7%	I am very interested in learning how climate change affects rises in sea level
	3	0.7%	I am very interested in learning how climate change affects flooding
	3	0.7%	I am very interested in learning how climate change affects tropical storms /hurricanes
	2	0.5%	I am very interested in learning how climate change affects seasonality of crops
	2	0.5%	I am very interested in learning how climate change affects drought
	1	0.3%	My government should take a stronger role in addressing the impacts of climate change on my community

Level	Frequency	%	Actions
Non- Responses	235	56.9%	I am not interested in learning anything about climate change.
	10	2.4%	I am very interested in learning how climate change affects rainfall
	9	2.2%	I am very interested in learning how climate change affects rises in sea level
	6	1.5%	I am very interested in learning how climate change affects tropical storms /hurricanes
	6	1.5%	I am very interested in learning how climate change affects seasonality of crops
	6	1.5%	I am very interested in learning how climate change affects drought
	5	1.2%	I am very interested in learning how climate change affects coastal erosion
	5	1.2%	I am very interested in learning how climate change affects flooding
	4	1.0%	People have little or no control over climate change because it is an act of God.
	2	0.5%	I am prepared to pay a little more or put up with some inconvenience to help preserve the environment.
	1	0.3%	My government should take a stronger role in addressing the impacts of climate change on my community
	0	0.0%	There is nothing a small country like Saint Lucia can do about climate change.

Appendix B. Semi-structured Household Survey

Survey on Climate Change

Introduction: Hello, my name is _____ and I am working on behalf of the United Nations Development Programme (UNDP). We are conducting a survey about climate change, with people in this area.

Your household was chosen from a random sample, and we would like to invite someone hereto participate. The survey will take about 20 minutes. All the information that we get from you will be treated confidentially. First, who was the last person above the age of 18 to have a birthday in this household? …

[Locate and Repeat Intro] … We would really appreciate your participation in this survey. Your answers will help us to plan environmental programs and set better climate change policies.

Remember, this is not a test – only a survey – we just want to know how you feel about these things. There are no "right" or "wrong" answers.

Demographics: To begin I will start with a few questions about yourself:

1. Gender:
   Male ☐ Female ☐

2. How old are you?
   18 – 25 ☐
   26 – 30 ☐
   31 – 35 ☐
   36 – 40 ☐
   41 – 45 ☐
   46 – 50 ☐
   51 – 55 ☐
   56 – 60 ☐
   61 – 65 ☐
   66 – 70 ☐
   Over 70 ☐

3. What is your current marital status?
   Single ☐
   Married ☐

Common law marriage☐
Divorced ☐
Widowed ☐

4. Are there any members of your household who are below the age of 18?
   YES ☐ NO ☐

5. How many persons reside in your household? _____

6. Is there anyone in your household who is a single parent?
   YES ☐ NO ☐

7. What is your occupation?
   _____

8. How many years have you lived in this community?
   Less than 1 Year ☐
   1 – 5 years ☐
   5 – 10 years ☐
   Over 10 years ☐

9. What is your highest level of education?
   Primary School ☐
   Secondary School ☐
   A Level / Associates Degree☐
   Bachelor's Degree ☐
   Master's Degree or higher☐

10. Have you heard of the term climate change?
    YES ☐ NO ☐

11. If yes, where have you heard the term 'climate change'?

TV ☐ Radio ☐ Newspaper ☐ Internet ☐
Friend ☐ Family member ☐ School ☐ Other _____

12. Explain what you understand by climate change?

_____
_____

13. What does climate change mean to you?

_____
_____
_____

Tick all that you think apply.	14. What sort of events do you think of as being caused by climate change?	15. What sort of events have you noticed / are aware of occurring in St. Lucia in the past 5 years?
INCREASED HURRICANES / TROPICAL STORMS	☐	☐
DROUGHTS/ DECREASE IN RAINFALL	☐	☐
EXCESSIVELY HIGH TIDES/STORM SURGE	☐	☐
TSUNAMI	☐	☐
INCREASED FLOODING	☐	☐
CHANGES / INCREASE IN TEMPERATURE	☐	☐
GLOBAL WARMING	☐	☐
INCREASE IN RAINFALL	☐	☐

Tick all that you think apply.	14. What sort of events do you think of as being caused by climate change?	15. What sort of events have you noticed / are aware of occurring in St. Lucia in the past 5 years?
COASTAL EROSION	☐	☐
DISEASES IN CROPS AND LIVESTOCK?	☐	☐
LANDSLIDES	☐	☐
PREVALENCE OF INSECTS / PESTS	☐	☐
DECREASE IN FISH / SEAFOOD LEVELS	☐	☐
EARTHQUAKE / VOLCANIC ACTIVITY	☐	☐
EL NINO	☐	☐
DAMAGE TO CORAL REEF HABITATS	☐	☐
OTHER?		

16. Which of the following do you think are causing global climate change? Tick all that you think apply.

Burning fuels, such as coal, oil and natural gas ☐
Transportation, such as driving a car, bus or boat ☐
Land clearing ☐
Agriculture ☐
Industry/Factories ☐
Electricity generation ☐
Other (please specify) _____

17. How close do you think you are living to an area that could be affected by climate-related disasters?

VERY CLOSE ☐
SOMEWHAT CLOSE ☐

NOT CLOSE ☐
DON'T KNOW ☐

18. Do the following occur in your community as a result of climate change?
    Coastal flooding ☐
    Coastal erosion ☐
    Increased severity of tropical storms and hurricanes ☐
    Decreased agricultural productivity ☐
    Deterioration of coral reefs ☐
    Decreased productivity of fisheries ☐
    Increased flooding ☐
    Land slippage / landsides ☐
    Less rainfall ☐
    Other (please specify)_____

19. For those you selected above, what do you think can be done to alleviate these issues?
_____
_____
_____

20. On a scale of 1 to 5 (with 5 being the highest), how would you rate your concern over climate change issues?
    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

21. How interested are you to learn more about climate change and ways you can help?
    VERY INTERESTED ☐
    SOMEWHAT INTERESTED ☐
    NOT INTERESTED AT ALL ☐
    DON'T KNOW / NOT SURE ☐

22. On a scale of 1 to 5, with 5 being the most important, how important do you think climate change issues are to Saint Lucia?
    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

23. On a scale of 1 to 5, with 5 being the most important, how important do you think climate change issues are to your village/community?
    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

24. How important do you think the following are in helping reduce climate change impacts?

	Very Important	Moderately Important	Not Important	Don't Know
Reduction in fossil fuel (coal, oil, natural gas) use	☐	☐	☐	☐
Reduction in consumption of electricity	☐	☐	☐	☐
Implementation of energy efficient measures in the industrial and commercial sectors	☐	☐	☐	☐
Increased research and development of renewable energy technologies	☐	☐	☐	☐
Improved crop cultivation in the agricultural sector	☐	☐	☐	☐
Increased public awareness/ education	☐	☐	☐	☐
Improved pest management strategies	☐	☐	☐	☐
Increased and better surveillance systems	☐	☐	☐	☐
Rain water harvesting	☐	☐	☐	☐
Improved water storage	☐	☐	☐	☐
Observing building codes	☐	☐	☐	☐
Insurance for disaster related events	☐	☐	☐	☐
Flood warning systems	☐	☐	☐	☐
Disaster management plans	☐	☐	☐	☐
Better enforcement of existing legislation	☐	☐	☐	☐
Stricter penalties for violations	☐	☐	☐	☐
Rewards and incentives for good or exemplary behavior	☐	☐	☐	☐
Other (please specify)_____				

25. Who do you think should be responsible for tackling climate change issues? Please tick all that you think apply.
    THE LOCAL GOVERNMENT ☐
    REGIONAL AND INTERNATIONALORGANISATIONS ☐
    DEVELOPED COUNTRIES
    ME AND MY FAMILY ☐
    THE YOUNGER / FUTURE GENERATIONS ☐
    COMMUNITY GROUPS ☐
    VOLUNTEER ORGANISATIONS ☐
    PRIVATE SECTOR ☐

26. Is the Saint Lucian Government doing all that it can to tackle climate change issues?
    YES ☐(proceed to Q27) NO ☐(proceed to Q28)

27. If YES, how much do you know about our Government's response to climate change?
    A GREAT DEAL ☐
    A FAIR AMOUNT ☐
    NOT MUCH ☐
    HARDLY ANYTHING ☐
    DON'T KNOW ☐

28. If NO, what do you think the Government should be doing?
    _____
    _____
    _____

29. Do you think that adequate information is being shared or distributed on climate change at the national level?
    Yes ☐ No ☐ Don't know/Not sure ☐

30. How well do you agree with the following statements:

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
My government should take a stronger role in addressing the impacts of climate change on my community	☐	☐	☐	☐	☐
I am prepared to pay a little more or put up with some inconvenience to help preserve the environment.	☐	☐	☐	☐	☐
There is nothing a small country like Saint Lucia can do about climate change.	☐	☐	☐	☐	☐
People have little or no control over climate change because it is an act of God.	☐	☐	☐	☐	☐
I am very interested in learning how climate change affects **flooding**	☐	☐	☐	☐	☐
I am very interested in learning how climate change affects **seasonality of crops**	☐	☐	☐	☐	☐
I am very interested in learning how climate change affects **coastal erosion**	☐	☐	☐	☐	☐
I am very interested in learning how climate change affects **rises in sea level**	☐	☐	☐	☐	☐
I am very interested in learning how climate change affects **tropical storms /hurricanes**	☐	☐	☐	☐	☐
I am very interested in learning how climate change affects **drought**	☐	☐	☐	☐	☐
I am very interested in learning how climate change affects **rainfall**	☐	☐	☐	☐	☐
I am not interested in learning anything about climate change.					

31. Do you think that you and the public in general can do anything to adapt to/deal with climate change?

Yes ☐ No ☐ Don't know/Not sure ☐

32. If yes, what is it that you think you or the public can do?

_____
_____
_____
_____

33. What type of support would you need to implement these activities that you have identified?

_____
_____
_____

34. Your dwelling or house is:
    - OWNED☐
    - LEASED☐
    - RENTED☐
    - RENT FREE ☐
    - NOT STATED ☐
    - OTHER (SPECIFY) _____

35. Do you know whether your home is insured against hurricanes / other natural disasters?
    YES ☐ NO ☐

36. How prepared are you for climate-related disasters?
    - VERY PREPARED ☐
    - SOMEWHAT PREPARED ☐
    - NOT PREPARED ☐
    - DON'T KNOW ☐

37. In the past 5 years, what repairs or changes have you made to your household as a result of, or in preparation for, landslides / hurricanes / storms / flooding / drought? (Tick all that apply)

New roof ☐	Elevation of building ☐
Installation or repair of roof guttering☐	Improved drainage ☐
Retrofitted roof ☐	Water Storage – rainwater harvesting☐
Reinforced windows / doors ☐	Water Storage – Other (e.g. water from main)☐
New foundation ☐	Solar panels – electricity☐
Structural improvements ☐	Solar panels – water heater☐

Retaining walls ☐ Solar panels – other ☐

Other _____

38. Have you participated in any of the following activities:
    DEFORESTATION ☐
    SAND MINING ☐
    BURNING OF WASTE MATERIAL ☐
    IMPROPER DISPOSAL OF WASTE/HAZARDOUS MATERIAL (e.g. in seas / rivers) ☐
    IMPROPER AGRICULTURAL PRACTICES (e.g. use of harmful pesticides, clearcutting slopes for agriculture) ☐
    SLOPE AND RIVER BANK DESTABILISATION ☐

39. Have you actively tried to prevent any of the following activities:
    DEFORESTATION ☐
    SAND MINING ☐
    BURNING OF WASTE MATERIAL ☐
    IMPROPER DISPOSAL OF HAZARDOUS MATERIAL ☐
    VEHICLE EMISSIONS / EXHAUST ☐
    IMPROPER AGRICULTURAL PRACTICES (e.g. use of harmful pesticides) ☐
    SLOPE AND RIVER BANK DESTABILISATION ☐

40. What are three things you think can be done in Saint Lucia to adapt to or deal with climate change?

_____
_____
_____
_____

41. What activities have you noticed in your community that help address or alleviate issues of climate change?

_____
_____
_____
_____

42. What activities have you noticed in your community that worsen issues of climate change?

_____
_____
_____
_____

43. What are some of the things that you think hinders action from being taken to improve climate change issues in Saint Lucia?

_____
_____
_____
_____

44. Which do you consider the most effective at relaying information to you?

Television ☐
Radio ☐
Newspapers ☐
Websites/Internet ☐
Community groups ☐
Lectures/Workshops ☐
Pamphlets/Brochures ☐
Posters ☐
Online Videos ☐
Schools ☐
Friends/Family ☐
Faith-based organization ☐
Government ☐
Mailings ☐
Cell Phones / Smart Phones ☐
Town Criers ☐
Other (specify) _____

45. In the past 6 months, where have you noticed (seen, heard, been exposed to) information on climate change?

Television ☐
Radio ☐
Newspapers ☐
Websites/Internet ☐
Community groups ☐
Lectures/Workshops ☐
Pamphlets/Brochures ☐
Posters ☐
Online Videos ☐
Schools ☐
Friends/Family ☐
Faith-based organization ☐
Government ☐
Mailings ☐
Cell Phones / Smart Phones ☐
Town Criers ☐
Other (specify) _____

46. Would you be interested in listening / watching information / stories on climate change in the future?

YES ☐ NO ☐

47. If no, why are you not interested?

_____

48. Are there any additional comments you would like to make with regard to climate-change or the environment in general?

_____
_____
_____
_____
_____

Thank you so much for your time and participation.

Appendix C. Focus Group Discussion Guide – Commercial Sector

Questions:

- What do you understand by the term climate change? What about climate change issues?
- How would you say climate change affects the work that you do?
- Q14 – What sort of events do you think of a being caused by climate change?
- From the events we've just talked about, are there any that directly impact your work or business? Or has impacted your business in the past? <<Probe to discuss the effects on their business>>
- In what way do you think your industry may contribute to climate change issues? Either contributing to lessening the effects or towards increasing the effects?
- Is there a move towards relying less on fossil fuel generated electricity, and more towards alternative sources of energy... for example wind powered energy or solar power in your company?
- Are there any activities that your company engages in with the purpose of helping to alleviate climate change issues?
- If not, what are some things you think your company can do to lessen the impact of climate change?
- What do you think the government can do to empower your industry to tackle climate change issues?
- Q40 – What are 3 things you think can be done in St. Lucia to adapt to or deal with climate change?
- Q43 – What are some of the things that you think hinders action from being taken to improve climate change issues in St. Lucia?

Is there anything else you would like to add?

Appendix D. Focus Group Discussion Guide – Students

1. Gender:
2. How old are you?
3. What community are you from?
4. Have you heard of the term climate change?
5. If yes, where have you heard the term 'climate change'?

   TV ☐ Radio ☐ Newspaper ☐ Internet ☐
   Friend ☐ Family member ☐ School ☐ Other _____

6. Explain what you understand by climate change?
7. What sort of events do you think of as being caused by climate change?
8. What sort of events have you noticed / are aware of occurring in St. Lucia in the past 5 years?
9. On a scale of 1 to 5 (with 5 being the highest), how would you rate your concern over climate change issues? What about importance, how important do you feel it is to your community and St Lucia?

   1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

10. How interested are you to learn more about climate change and ways you can help?

    VERY INTERESTED ☐
    SOMEWHAT INTERESTED ☐
    NOT INTERESTED AT ALL ☐
    DON'T KNOW / NOT SURE ☐

11. Have you discussed climate change in any of your subjects at school? What subjects?

12. What are some things you think you can do to help protect the environment from climate change?

13. So let's say we have some information on climate change and we want to share it with you, what's the best way to do that? Do you prefer this information to be relayed in English or Creole?

14. So let's look at social media now, how often do you use:
    a. Facebook
    b. Youtube
    c. Twitter
    d. Instagram
    e. Snapchat

Thank you so much for your time and participation.

Appendix E. Focus Group Discussion Guide – Engineers

1. What do you understand by the term climate change? What about climate change issues?
2. What sort of events/ phenomena do you think of as being caused by climate change?
3. How has climate change impacted your profession?
4. As an engineer / contractors/ builders, have you seen an increase in clientele requesting alternative/renewable sources of energy for:

   1) Households ☐ 2) businesses ☐ 3) Govt infrastructure? ☐

5. Are there any activities that you/your company engage/s in with the purpose of helping to mitigate climate change effects/ impacts or building resilience to climate change?
6. In your opinion, what are some of the attitudes and perceptions to 1) climate change adaption and 2) C.C. mitigation activities on island. Also recommend measures/activities that may help improve these attitudes/perception towards C.C. locally.
7. What can Government do to increase practices that help mitigate/adapt to climate change
8. Have you noticed clients being more mindful of climate change with regards to the design of their buildings and the building process?
9. In what specific ways have you noticed this mindfulness of climate change?
10. In what ways do you believe you can inform clients in terms of climate change adaptation and mitigation?
11. Describe your clients' attitudes towards adhering to building codes?

Rank your view of how important the following languages are in conveying the climate change message around St. Lucia with 1= very important; 2= somewhat important; 3= neutral; 4 = Not important; 5 = I don't know.

Language	Staff	Labourers	Foremen	Electricians	Masons
English					
Kweyol					

12. Which do you consider the most effective at relaying information on climate change to you?

Television ☐
Radio ☐
Newspapers ☐
Websites/Internet ☐
Community groups ☐
Lectures/Workshops ☐
Pamphlets/Brochures ☐
Posters ☐

Online Videos ☐
Schools ☐
Friends/Family ☐
Faith-based organization ☐
Government ☐
Mailings ☐
Cell Phones / Smart Phones ☐
Town Criers ☐
Other (specify) _____

Is there anything else you would like to add?

Appendix F. Focus Group Interview Guide – Farmers

KNOWLEDGE

1. Have you heard of the term climate change?
   YES ☐ NO ☐

2. If yes, where have you heard the term 'climate change'?

   TV ☐ Radio ☐ Newspaper ☐ Internet ☐
   Friend ☐ Family member ☐Extension Officer/s ☐ Agricultural NGOs ☐
   Other ☐
   If other, where did you hear about climate change:_____

3. Explain what you understand by climate change? What does it mean to you?

	4. What sort of events do you think of as being caused by climate change?	5. What sort of events have you noticed / are aware of occurring in St. Lucia in the past 5 years?
HURRICANES / TROPICAL STORMS	☐	☐
DROUGHTS	☐	☐
HIGH TIDES	☐	☐
TSUNAMI	☐	☐
FLOODING	☐	☐
CHANGES / INCREASE IN TEMPERATURE	☐	☐
GLOBAL WARMING	☐	☐
INCREASE RAINFALL	☐	☐
COASTAL EROSION	☐	☐

DISEASES IN CROPS	☐	☐
LANDSLIDES	☐	☐
PREVALENCE OF INSECTS / PESTS	☐	☐
DECREASE IN FISH / SEAFOOD LEVELS	☐	☐
EARTHQUAKE / VOLCANIC ACTIVITY	☐	☐
EL NINO	☐	☐
DAMAGE TO CORAL REEF HABITATS	☐	☐
HURRICANES / TROPICAL STORMS	☐	☐

6. Which of the following do you think is/are contributing global climate change? Tick all that you think apply.

   Burning fuels, such as coal, oil and natural gas ☐
   Transportation, such as driving a car, bus or boat ☐
   Land clearing ☐
   Agriculture ☐
   Industry/Factories ☐
   Electricity generation ☐
   Other (please specify) _____

7. Has climate change affected you?

   Yes ☐ No ☐

8. Share some actual examples of things that have impacted your farming enterprise as a result of climate change?

   _____

9. Do you think there is a connection between climate change and food security?

   Yes ☐ No ☐

10. Have you heard of the term climate smart agriculture?
    Yes ☐ No ☐

    If yes, where did you hear the term climate smart agriculture and what do you understand it to mean?

_____

11. Do you know of any measures that have been or are being implemented by the Ministry of Agriculture / Agricultural NGOs to cushion the impact of climate change in the sector?

    Yes ☐ No ☐

12. If yes, what are some of the measures put in place to cushion the impact of climate change in the sector? Not aware

_____

13. Which of these measures are you adopting in your farming?

_____

ATTITUDES

14. On a scale of 1 to 5 (with 5 being the highest) how would you rate your concern over climate change issues?
    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

15. How interested are you to learn more about climate change and ways you can help?
    VERY INTERESTED ☐
    SOMEWHAT INTERESTED ☐
    NOT INTERESTED AT ALL ☐
    DON'T KNOW / NOT SURE ☐

16. On a scale of 1 to 5, with 5 being most important, how important do you think climate change issues are to St. Lucia?
    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

17. On a scale of 1 to 5, with 5 being most important, how important do you think climate change issues are to the agricultural sector?
    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

18. Who do you think should be responsible for tackling climate change issues? All stakeholders
    THE GOVERNMENT ☐
    THE ASSOCIATION/ COOPERATIVE
    AGRICULTURAL NGOs
    REGIONAL ORGANISATIONS ☐
    ME AND MY FAMILY ☐
    THE YOUNGER / FUTURE GENERATIONS ☐
    COMMUNITY GROUPS ☐
    VOLUNTEER ORGANISATIONS ☐
    PRIVATE SECTOR ☐

19. Is the Ministry of Agriculture doing all that it can to assist farmers in adapting to climate change issues?
    YES ☐ NO ☐

20. If YES, how much do you know about the Ministry's response to climate change?
    A GREAT DEAL ☐
    A FAIR AMOUNT ☐
    NOT MUCH ☐
    HARDLY ANYTHING ☐
    DON'T KNOW ☐

21. If NO, what are some of the things you think can be done in St. Lucia to help farmers adapt to climate change?

22. Do you think that adequate information is being shared / distributed on climate change to farmers?
    Yes ☐ No ☐ I don't know/not sure ☐

BEHAVIOUR / PRACTICES:

What do you think are some of the activities you engage in your farming that worsen the impact of climate change for you as a farmer?

23. Have you participated in any of the following activities:
    DEFORESTATION ☐
    BURNING OF WASTE MATERIAL ☐
    IMPROPER DISPOSAL OF CHEMICALS (e.g. in seas / rivers) ☐
    IMPROPER AGRICULTURAL PRACTICES (e.g. use of pesticides) ☐
    SLOPE AND RIVER BANK DESTABILISATION ☐

24. Have you actively tried to prevent any of the following activities:
    DEFORESTATION ☐
    BURNING OF WASTE MATERIAL ☐
    IMPROPER DISPOSAL OF HAZARDOUS MATERIAL ☐
    IMPROPER AGRICULTURAL PRACTICES (e.g. use of pesticides) ☐
    SLOPE AND RIVER BANK DESTABILISATION ☐

25. Generally speaking, which of the following Farm practices do you engage in on your Farm

    a. Irrigation
    b. Composting
    c. Ridging
    d. Contour marking
    e. Aforestation
    f. Agro-forestry
    g. Conservation agriculture

26. What are your reasons for not practicing those you did not select?

_____

27. Are there mitigation practices you engage in specifically during the rainy season?
    Yes ☐ No ☐

If yes, list them and say why:

28. Are mitigation practices you engage in specifically during drought?
    Yes ☐ No ☐

29. If yes, list them and say why:

30. What are three things you think can be done in St. Lucia to help farmers adapt to climate change?

Media Preference & Usage

31. Which do you consider the most effective at relaying information to you?

Television ☐
Radio ☐
Newspapers ☐
Websites/Internet ☐
Community groups ☐
Lectures/Workshops ☐
Pamphlets/Brochures ☐
Posters ☐
Online Videos ☐
Schools ☐
Friends/Family ☐
Faith-based organization ☐
Government ☐
Mailings ☐
Cell Phones / Smart Phones ☐
Town Criers ☐
Other (specify) _____

32. In the past 6 months where have you noticed information on climate change?

_____

Demographic Information

33. What is your gender?

Male ☐ Female ☐

34. How old are you?

18 – 25 ☐
26 – 30 ☐
31 – 35 ☐
36 – 40 ☐
41 – 45 ☐
46 – 50 ☐
51 – 55 ☐
56 – 60 ☐
Over 60 ☐

35. What is your current marital status?

Single ☐
Married ☐
Divorced ☐
Widowed ☐

36. Do you belong to a cooperative/ Agricultural Association.

37. How many years have been engaged in farming?

Less than 1 Year ☐

1 – 5 years ☐

5 – 10 years ☐

Over 10 years ☐

38. What is your highest level of education?

Primary School ☐

Secondary School ☐

A Level / Associates Degree☐

Bachelor's Degree ☐

Master's Degree or higher☐

39. Are there any additional comments you would like to make with regards to climate-change?

RESOURCES

Agriculture Sector in Saint Lucia (2016) Agriculture Disaster Risk Management (ADRM): *A Communication and Information Management Guideline*

Accela Marketing (2011) Climate Change Knowledge, Attitude & Practice (KAP) Survey Report for Strategic Programme for Climate Resilience (SPCR), Ministry of Sustainable Development and the Environment

J-CCCP In-Country Communication
Consultant, Saint Lucia