

**baseline study REPORT on climate change awaREness in coastal communities**

 

June 9, 2019

Bartholomew Boim Bockarie

Institute for Population Studies, Fourah Bay College, University of Sierra Leone

Contents

[1. Introduction 2](#_Toc13238162)

[1. Overview 2](#_Toc13238163)

[2. Objectives of Study 2](#_Toc13238164)

[3. Study Rationale 2](#_Toc13238165)

[2. Methodology 3](#_Toc13238166)

[1. Design and Approach 3](#_Toc13238167)

[2. Sample Size Calculation 3](#_Toc13238168)

[3. Desk Review & Secondary data Analysis 4](#_Toc13238169)

[4. Primary data collection 4](#_Toc13238170)

[5. Mobile data collection 4](#_Toc13238171)

[6. Data Analysis 4](#_Toc13238172)

[3. Ethical Considerations 5](#_Toc13238173)

[4. Study Findings 5](#_Toc13238174)

[1. Desk Review 5](#_Toc13238175)

[2. Primary Study Findings 5](#_Toc13238176)

[1. Respondent’s Socioeconomic and Demography Characteristics 6](#_Toc13238177)

[2. Community Source of Information 8](#_Toc13238178)

[3. Climate Change awareness: Concepts, Causes and Consequences. 10](#_Toc13238179)

[4. Climate Change Prevention 17](#_Toc13238180)

[5. Awareness of Climate Change Mitigation Strategies 19](#_Toc13238181)

[5. Conclusions and Recommendations 23](#_Toc13238182)

[6. References 24](#_Toc13238183)

# Introduction

## Overview

Climate change is critical to the existence of human population. Rapid and accelerated climate change is expected to have wide-ranging impacts on the sustainability of our planet due to ecological, social and economic disruptions (McMullen and Jabbour 2009). Climate change is driven by an increase in the Earth’s temperature mainly due to human activities such as greenhouse gas emissions and transformation of landscape features. Most such effects will be felt by poor and vulnerable nations in Africa, Asia and Latin America.

Serra Leone has been ranked by the Notre Dame Global Adaptation Initiative (ND-GAIN) Index as the 24th most vulnerable and 46th least ready to adapt to climate change (Sierra Leone’s Climate Change Report 2016). This is mostly due to the many socioeconomic problems faced by the country. The country has always struggled to recover from economic decline as the decade-long civil conflict (1991-2002), left in its wake unprecedented socioeconomic consequences. As such, poverty remains widespread with over 60% of the population classified as poor or living below $ 1.25 a day (UNDP, 2019). The climatic situation of the country is highly unpredictable with seasonal rainfalls resulting in flooding and mud slides and the dry season is regularly characterised by prolonged spells or droughts causing crop failures. Extreme weather events are predicted to disrupt the stability of food production and the livelihood of the population nation-wide, particularly along the coastal areas.

Crucially, knowledge and understanding of these issues on the part of the population remain limited. Also, the ability, or techniques, of coastal residents, who are likely to suffer the most, continues to be either ignored or receive far less attention than necessary. Therefore, a study to advance our understanding of the population’s knowledge on climate change is both timely and essential.

## Objectives of Study

The overall objective was to conduct a baseline study on climate change awareness and associated problems in order to gauge the understanding of the population on key climate change variables in selected communities. To achieve this, the following specific objectives were borne in mind.

* To develop a baseline measure of the coastal population’s understanding and awareness of climate change
* To identify any knowledge gaps, cultural beliefs or behavioural patterns that might affect the people’s adaptation potentials
* To provide recommendations and conclusions that can inform the development of an effective communications strategy.

## Study Rationale

The effects of climate change on Sierra Leone are increasingly being felt in all corners of the country albeit in varied degrees. According to the Sierra Leone Climate Change Action Report (2016), average annual temperature has increased by 0.8o C since 1960 and is projected to increase by 1.0 to 2.6 o C by 2060. Similarly, the average annual rainfall in the country is reported to have been decreasing since 1960 although the incident of flooding has increased posing serious health problems in the country. As noted by MTA, 2007 and McSweeney et al (2010), the incidence of flooding is associated with increase in the number of persons exposed to water-borne diseases including cholera, diarrhea and poor environmental sanitation. While coastal areas are expected to be worst hit by climate change impacts, it was not clear, especially in the case of Sierra Leone, how informed the coastal population was about climate change issues.

Therefore, a baseline study to gauge the population’s understanding and awareness of climate change issues would help MRCG-SL to design media packages that reflect the needs of rural communities especially those located along the coastal areas of the country. It will provide highly useful information to guide the nature and content of messages to be delivered to the affected communities. Thus, the importance and timeliness of this study, along with emerging recommendations, to the development of an effective communications strategy and public awareness campaign to address existing knowledge and behavior gaps cannot be overemphasized.

# Methodology

## Design and Approach

The study is extensively based on a participatory action research (PAR). Bergold and Thomas (2010) have maintained that PAR has gained importance as a research method within social research. It is a pragmatic strategy in which the consultant serves largely as facilitator and pivot of a collaborative process, which ensures the active involvement and input of all stake-holders. Based on this approach the baseline results may be fed back to stakeholders in a format that they can appreciate and understand, in order to confirm that the inputs are correctly reflected in the final reports to ensure the notion of joint ownership, which normally underpins implementation of programme.

In order to address the baseline study objectives as outlined earlier, the study employed a quantitative approach so as to provide statistics on community members’ understanding of climate change issues. The assessment comprised a desk research which involved literature review and primary quantitative data collection, analysis and report writing.

## Sample Size Calculation

A household survey was conducted which largely comprised administration of a closed-ended questionnaire to a total of 384 households that were randomly selected in the six study communities of Hamilton, Conakry Dee, Lakka, Shenge and Turtle Islands. These communities, which are characteristically coastal and fishing communities, served as study clusters from which the surveyed households were selected. The calculation of the 384-sample size was informed by a total population of 45, 0000, being the population of the six study communities as derived from the 2015 national population census database; a confidence level of 95% and a Confidence Interval of +/-5. Using an online standardised sample size calculator which was developed by the Creative Research Systems and available from <http://www.surveysystem.com/sscalc.htm>, the sample size was derived.

While it was ideal for the sample size to be distributed proportionally among the communities in order to promote equal representation, the 384-sample size was distributed equally among the communities mainly due to lack of individual community population size especially in the case for Lakka and Hamilton, but also to ensure equal work load among the six enumerators that were assigned to each of the coastal communities. Therefore, each enumerator was charged with the responsibility of completing 64 survey questionnaires to heads of households or their representatives. A total of 64 surveys per community, irrespective of their population size will provide information that would be representative of the population as long as their selection approach is logical and scientifically acceptable.

Therefore, the enumerators hired were adequately trained and instructed to implement a systematic random sampling technique in their selection of dwelling units and a simple random sampling in their selection of households within sampled dwelling units with more than one household. That is, within the dwelling unit, the enumerator selected only one household using the ‘fish bowl’ (simple random) technique. They were also trained and instructed to administer the questionnaire to the head of household or the spouse or any well-informed adult in the household in the absent of the household head and the spouse respectively. Only one questionnaire was administered per sampled household.

## Desk Review & Secondary data Analysis

The consultant undertook a desk study during the initial phase of the study. The essence was to review relevant project literature and collect, analyse and synthesise available secondary data relating to climate change issues. This provided useful insights and background information on climate change baseline study objectives, specific variables of interest, methodologies and findings and conclusions. This informed the design and review of baseline study instrument and provided useful materials and information which helped to guide the field work and structuring of the finale baseline report.

## Primary data collection

Primary data was collected with the use of a structured questionnaire that captured key variables on climate change awareness in study communities. The questionnaire was structured in English but administered in local languages such as Krio, Temne and Mende which were considered as common medium of communication in the communities. This was useful in creating a more familiar and less official atmosphere. However, and consistent with the report writing in the country, the final report was written in English for official consumption.

## Mobile data collection

The consultant adopted the use of Kobo-toolbox Server and koboCollect application for mobile data collection. The Kobo-toolbox server was used for designing and deploying data collection forms on Android Mobile devices and the various android devices were equipped with kobocollect application for data collection in the field. The use of this technique facilitated real time monitoring of data collection and helped to save time and improve the quality of data.

## Data Analysis

Since this study was based entirely on quantitative primary data, SPSS was used for appropriate statistical data analysis. SPSS is extensively used and is a highly flexible and simple statistical tool. The SPSS package was effectively used to generate relevant statistics and produce results to address the study objectives.

# Ethical Considerations

The consultant adhered to the ethical Principles and standards of social research especially those relating to respondent protection issues in studies of this nature. Therefore, all the hired field staff were sufficiently trained on the ethical principles of social research of this kind with special focus on how children who participate in the study should be treated. Such fundamental ethical values and principles which the training emphasized and which all field officers signed up included the right to choose whether or not to participate in the study (or to withdraw at any point) was adopted for all participants. Similarly, the consultant and field staff were transparent and accountable respondents during discussions and interviews and ensured confidentiality and anonymity for all study participants. Finally, the consultant together with field staff signed up to and was given a code of conduct, which required him never not to hit respondents; physically or emotionally abuse respondents in any way whatsoever.

# Study Findings

This chapter presents findings of the baseline study. It has two subsections with the first being the results obtained from desk review and the second being results from primary data that involved a questionnaire survey. In the desk review, information is provided on various efforts made to raise climate change awareness in coastal communities including the six study communities, variables of interest and main ethnicity and common spoken language(s) in each of the communities. In the second section results are presented from the primary survey relating to information collected on climate change awareness and related issues

## Desk Review

The desk study focused on the analysis of the secondary data to establish the primary spoken language in each of the six communities and the findings are presented in Table 1. The findings have suggested communities differed relative to their primary spoken languages. While Sherbro was observed to be spoken by 78.0% and 72.2% in Turtle and Shenge respectively, Temne was more a primary spoken language in Conakry Dee (72.6%) compared with Lakka and Tombo with 58.6% each. Krio was common in Hamilton community with 47.4% of respondents that reported it as a primary spoken language from the community. Mende and Susu were not very popular.

|  |
| --- |
| Table 1: Percent of Respondents by Primary Spoken Language |
| Primary Language | Hamilton  | Conakry Dee  | Lakka  | Shenge  | Tombo  | Turtle Island  |
| Krio | 47.4 | .7 | 26.6 | 6.2 | 26.6 | .6 |
| Mende | 11.2 | .1 | 2.0 | 7.6 | 2.0 | 14.1 |
| Temne | 20.3 | 72.6 | 58.6 | 9.1 | 58.6 | 2.7 |
| Sherbro | 0.7 | 0 | 3.1 | 72.2 | 3.1 | 78.0 |
| Susu | .8 | 15.3 | 2.0 | 1.0 | 2.0 | 1 |

Source: 2015 Population and Housing Census Database (Statistics Sierra Leone, 2016)

## Primary Study Findings

A total of 373 questionnaires were administered out of the planned 384 sample size, the difference being as a result of a few people, a total of 11 (3%), refusing to participate in the survey (see Table 2). The reasons provided for refusal to take part included being too busy, not interested or tired of providing information without results. However, a response rate of 97% is adequate for the required statistical analysis of this nature.

|  |
| --- |
| **Table 2: Respondents by Consent Given** |
| **Community** | **Hamilton** | **Conakry Dee** | **Lakka** | **Shenge** | **Tombo** | **Turtle Island** | **Total** |
| Yes | 61 | 63 | 63 | 60 | 63 | 63 | 373 |
| No | 3 | 1 | 1 | 4 | 1 | 1 | 11 |
| Total | 64 | 64 | 64 | 64 | 64 | 64 | 384 |
| Response Rate  | 95 | 98 | 98 | 94 | 98 | 98 | 97 |

### Respondent’s Socioeconomic and Demography Characteristics

Various Sociodemographic questions were included in the survey questionnaire to help provide detailed information on the respondents. As shown in Tables 3, such information included age, sex, occupation, marital status, income and expenditure and the length of years spent in community.

|  |
| --- |
| **Table 3: Percent Respondents by Community, Age Group, Sex and Occupation** |
| Variable | Category | Hamilton (n=61) | Conakry Dee (n=63) | Lakka (n=63) | Shenge (n=60) | Tombo (n=63) | Turtle Island (n=63) | Total (n-373) |
| Age Group | Young Adults | 16.4 | 28.6 | 22.2 | 20.0 | 3.2 | 27.0 | 19.6 |
| Adults | 73.8 | 66.7 | 74.6 | 70.0 | 71.4 | 66.7 | 70.5 |
| Aged | 9.8 | 4.8 | 3.2 | 10.0 | 25.4 | 6.3 | 9.9 |
|  |
| Sex | Male | 54.1 | 47.6 | 39.7 | 53.3 | 65.1 | 66.7 | 54.4 |
| Female | 45.9 | 52.4 | 60.3 | 46.7 | 34.9 | 33.3 | 45.6 |
|  |
| Occupation | Farmer | 0.0 | 6.3 | 0.0 | 11.7 | 0.0 | 0.0 | 2.9 |
| Civil Servant | 14.8 | 4.8 | 11.1 | 3.3 | 11.1 | 7.9 | 8.8 |
| Business | 44.3 | 55.6 | 52.4 | 36.7 | 42.9 | 41.3 | 45.6 |
| Fishing | 11.5 | 27.0 | 15.9 | 23.3 | 30.2 | 39.7 | 24.7 |
| Wood cutting | 0.0 | 0.0 | 0.0 | 0.0 | 6.3 | 0.0 | 1.1 |
| Sand Mining | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Other Specify | 27.9 | 6.3 | 20.6 | 25.0 | 9.5 | 11.1 | 16.6 |
|  |
| Marital Status | Single | 18.0 | 9.5 | 6.3 | 5.0 | 4.8 | 1.6 | 7.5 |
| Married | 62.3 | 66.7 | 71.4 | 68.3 | 85.7 | 90.5 | 74.3 |
| Divorced | 9.8 | 6.3 | 6.3 | 11.7 | 1.6 | 0.0 | 5.9 |
| Widowed | 4.9 | 15.9 | 12.7 | 11.7 | 7.9 | 7.9 | 10.2 |
| Other Specify | 4.9 | 1.6 | 3.2 | 3.3 | 0.0 | 0.0 | 2.1 |

Majority (70.5%) of the respondents were adults aged 30 to 59 years compared with young adults or adolescents (19.6%) and the aged (9.9%) within the age bracket of 15 – 29 years and 60 years and above respectively. Community level analysis indicates that Tombo (3.2%) and Hamilton (16.4%) communities had less than the average of young adult respondents. However, Tombo recorded the highest percentage of respondents within the aged category. While it is clear that respondents are mostly adults it should be noted that this is purely because household heads were targeted for interview and typically household headship in Sierra Leone is a reflection of how old the individual is; nevertheless, the result suggests that all age categories were represented in the baseline line survey. It also indicates that the respondents are old enough and, by extension, well informed about their community issues and could all be expected to provide useful perspectives on the subject of interest to the study.

There were more (54.4%) male respondents than female (45.6%) participants in the baseline study; the overall picture reflects the gender disparity that traditionally characterises household headship, in favour of men, in Sierra Leone. However, differences were observed at the community level with Lakka (60.3%) and Conakry Dee (54.1%) having majority of respondents being female compared to the other community with male respondents in dominance.

The occupation of respondents was investigated and it was observed that the respondents are mostly engaged in business (45.6%) and fishing (24.7%). Turtle Island (39.7%) and Tombo (30.2%) had more respondents engaged in fishing compared with all the other communities especially Hamilton which records the lowest percentage (11.5%) of such respondents. Hamilton, on the other hand, recorded a higher percentage of civil servants (14.8%) and sand miners (1.6%) than any of the other communities. ‘Other’ (16.6%) included being a student, house wife, pastors and those not doing anything. Hamilton (27.9%), Shenge (25.0%) and Lakka (20.6%) accounted for majority of this category of respondents as compared to Tombo, Turtle Island and Conakry Dee.

The assessment of the marital status of respondents shows that 74.3% are married with 7.5% and 10.2% that were single and widowed respectively. Turtle Island recorded the highest percentage of respondents that were married, 90.5%, followed by Tombo, 85.7% while, Hamilton (62.3%) accounted for the lowest percentage of all the study communities. The total percentage of respondents that reported to be divorced is less than ten (5.9%), but more than ten (11,7%) for Shenge and 9.8% for Hamilton.

|  |
| --- |
| **Table 4: Percentage of Respondents by School Attendance and Educational Attainment** |
| **Variable** | Category | Hamilton (n=61) | Conakry Dee (n=63) | Lakka (n=63) | Shenge (n=60) | Tombo (n=63) | Turtle Island (n=63) | Total (n-373) |
| **School Attendance** | No | 13.1 | 65.1 | 36.5 | 36.7 | 65.1 | 46.0 | 44.0 |
| Yes | 86.9 | 34.9 | 63.5 | 63.3 | 34.9 | 54.0 | 56.0 |
|  |
| Educational Attainment |  | N=53 | N=22 | N=40 | N=38 | N=22 | N=34 | N=209 |
| Pre-primary | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.8 | 1.4 |
| Lower Primary (class 1 – 3) | 13.2 | 9.1 | 7.5 | 18.4 | 0.0 | 17.6 | 12.0 |
| Upper Primary (class 4-6) | 18.9 | 22.7 | 30.0 | 28.9 | 27.3 | 29.4 | 25.8 |
| JSS | 26.4 | 31.8 | 15.0 | 13.2 | 18.2 | 29.4 | 22.0 |
| SSS | 18.9 | 9.1 | 25.0 | 31.6 | 22.7 | 14.7 | 21.1 |
| Tertiary | 22.6 | 18.2 | 22.5 | 7.9 | 31.8 | 0.0 | 16.7 |
| Other Specify | 0.0 | 9.1 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |

School attendance and educational attainment of respondents were investigated to provide an understanding of the level of formal education of the population of the study communities. “one would expect a close association between the individual’s level of education and their understanding of, resilience or vulnerability to climate change and its effects. It was thus important to explore the communities’ current educational attainment and possibly gauge it against the communities understanding of and attitude towards climate change.

The results in Table 4 reveal that 56,0% of persons interviewed have been to school compared unlike 44.0% who never attended school. There are disparities between the communities with 65.1% respondents each of Tombo and Conakry Dee reporting that they never went to school as compared to 13.1% from the Hamilton community. While majority (59.8%) of those that reported having been to school have either attained secondary or tertiary level of education, a smaller but significant percentage (39.2%) of the respondents had only basic primary education.

|  |
| --- |
| **Table 5: Percentage of Respondents by Household Size** |
| Variable | Category | Hamilton (n=61) | Conakry Dee (n=63) | Lakka (n=63) | Shenge (n=60) | Tombo (n=63) | Turtle Island (n=63) | Total (n-373) |
| Household Size | Ten or more | 6.6 | 30.2 | 20.6 | 18.3 | 33.3 | 9.5 | 19.8 |
| Seven, Eight or more | 18.0 | 27.0 | 12.7 | 26.7 | 25.4 | 11.1 | 20.1 |
| Six | 14.8 | 19.0 | 11.1 | 6.7 | 17.5 | 12.7 | 13.7 |
| Five | 16.4 | 12.7 | 15.9 | 15.0 | 12.7 | 17.5 | 15.0 |
| Four | 14.8 | 4.8 | 14.3 | 15.0 | 9.5 | 22.2 | 13.4 |
| One, Two or Three | 29.5 | 6.3 | 25.4 | 18.3 | 1.6 | 27.0 | 18.0 |

The household size, as shown on Table 5, was observed to be mostly below the national average of 6 persons per household (Statistics Sierra Leone, 2016). That is, only 14% of the respondent had household size within the national average of 6 persons per household compared with 46.4% that had household size less than the national average. However, there was still a larger proportion (40%) of respondents with household size above national average.

Based on the presentations above, it can be concluded that the baseline study covered men and women of different age groups, sex, educational and socio-economic characteristics which are useful for this kind of study and underscores the strength of randomness of the sample selection.

### Community Source of Information

Where a community has limited access to information this can be a serious setback for its development and may culminate in deepening deprivation and limited participation in socioeconomic processes. What is more important in this modern era is the diverse sources of information at the disposal of individuals and communities.

Results on the sources of information for the study communities are presented on Figure 1 and Table 6. Accordingly, the most common source of information was radio as confirmed by 63% of respondents followed by friends (47%) and community meetings (37%). The use of Newspaper (3%), Internet (7%) and Television were less common sources of information generally. However, the pattern is very different at community level. While radio remains the most popular source of information for Hamilton (90.2%), Turtle Island (86.4%), Lakka (59.7%) and Tombo (50.0%), the most common sources for Conakry Dee and Shenge communities were different. In the case of Shenge, Friends (83.3%) and family (80.0%) were identified as most common sources of information compared with Conakry Dee where Community meetings were confirmed by 81.0% of respondents as the most popular source of information followed by Friends (61.9%). Television as a source of community information was only reported in Lakka (33.9%) and Hamilton (21.3%) communities just as internet as a source of information was reported in Lakka, Hamilton and Shenge although by comparatively fewer respondents.

|  |
| --- |
| Table 6: Percent of Respondents by Source of Information and Community |
| Source  | Lakka | Hamilton | Conakry Dee | Shenge | Tombo | Turtle Island |
| Television | 33.9 | 21.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Radio | 59.7 | 90.2 | 44.4 | 45.0 | 50.0 | 86.4 |
| Newspaper | 4.8 | 8.2 | 0.0 | 0.0 | 1.7 | 0.0 |
| Internet | 21.0 | 11.5 | 0.0 | 8.3 | 0.0 | 0.0 |
| Friends | 58.1 | 6.6 | 61.9 | 83.3 | 26.7 | 45.8 |
| Community meetings | 19.4 | 0.0 | 81.0 | 50.0 | 21.7 | 32.2 |
| Family member | 43.5 | 14.8 | 52.4 | 80.0 | 8.3 | 22.0 |

The results suggest that different types of information sources are used for accessing information by the six communities hence no one single source can be adequate for any of the communities. Also, worth nothing is the high percentages of direct human sources ‘friend and family members’ which, when probed further, suggested that the bulk of such information shared by friends and family members are in essence sourced from social media. Consequently, while the use of social medial was not directly instigated, it was captured from probing questions linked to ‘family member and friends’ to be an important source of information for the communities.

### Climate Change awareness: Concepts, Causes and Consequences.

This section provides an understanding of the respondent’s awareness of climate change and related concepts. Climate change awareness, according to Shaid and Piracha (2016), is an imperative to attaining sustainable development in developing countries. Lack of climate change awareness is a critical obstacle to climate change adaptation and resilience in developing countries hence the desire of government agencies and development partners to improve climate change awareness in various communities. It is, therefore, important to explore the level of community’s climate change awareness and sources of information from the outset to guide the improvement of climate change awareness process. As such, this study explored various issues relating climate change awareness as discussed below.

Up to 66.0% of the respondents have spent over 10 years in their communities compared with 17.7% that have spent 6-10 years as shown on Table 7. This pattern was equally replicated at community level although slight variations were observed among study communities. Turtle and Lakka were observed to have the highest percentage of respondents that have spent more time in their community with a percentage of 71.4 each compared with Conakry Dee that recorded 57.4% of respondents in the same category. The percentage of respondents that had just moved into the communities were very small (2.7%) but relatively substantial in Conakry Dee (9.8%) and Shenge (5.0%). The result can be interpreted to mean that most of the respondents have stayed in their communities long enough and hence well informed to provide accurate data relating to key changes affecting their communities although their level of education and other socioeconomic factors equally remain relevant predictors.

|  |
| --- |
| **Table 7: Percent of Respondents by Number of years spent/lived in Community** |
| Years | Hamilton (n=61) | Conakry Dee (n=63) | Lakka (n=63) | Shenge (n=60) | Tombo (n=63) | Turtle Island (n=63) | Total (n-373) |
| Less than 1 year | 1.6 | 9.8 | 0.0 | 5.0 | 0.0 | 0.0 | 2.7 |
| 1-5 years | 17.5 | 19.7 | 9.5 | 21.7 | 4.8 | 9.5 | 13.7 |
| 6-10 years | 12.7 | 13.1 | 19.0 | 13.3 | 28.6 | 19.0 | 17.7 |
| Over 10 years | 68.3 | 57.4 | 71.4 | 60.0 | 66.7 | 71.4 | 66.0 |

Respondents were asked if they have ever heard of climate change and their responses are summarised in Figure 1. The global picture indicates that 53.0% of the respondents have heard of climate change compared to 47.0% that had never heard of it. The pattern at community level is mixed with three of the six study communities having more respondents that have heard of climate change than others. Turtle Island and Conakry Dee were observed to have the highest percentage (76% and 75% respectively) of respondents that had heard of climate change compared to Lakka (29%) and Tombo (32%). While a majority of the respondents have heard of climate change the proportion who indicated not having heard about climate change is substantial enough to negatively reflect impact on climate change adaptation and or resilience in these communities.

|  |
| --- |
| **Table 8: Percent of Respondents by Source of Climate Change Information and Community** |
| Source | Hamilton (n=30) | Conakry Dee (n=46) | Lakka (n=18) | Shenge (n=37) | Tombo (n=20) | Turtle Island (n=48) | Total (n-199) |
| Television | 6.7 | 8.7 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 |
| Radio | 66.7 | 89.1 | 100.0 | 29.7 | 85.0 | 45.8 | 64.8 |
| Internet | 13.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |
| Friend | 3.3 | 0.0 | 0.0 | 18.9 | 5.0 | 0.0 | 4.5 |
| Family member | 0.0 | 2.2 | 0.0 | 13.5 | 0.0 | 2.1 | 3.5 |
| Other | 10.0 | 0.0 | 0.0 | 37.8 | 10.0 | 52.1 | 22.1 |

As shown in Table 8, the main sources of climate change information were radio (64.8%) and Other sources which included mainly social media. Television and internet were not popular as sources of climate change information in these coastal communities as these accounted for only 3.0% and 2.0% respectively. Radio was reported as the only source of climate change information in Lakka community but radio was the very popular source of information in Shenge being reported by only 29.7% of respondents that have heard of climate change in that community. Television was limited to Hamilton and Conakry Dee and was confirmed as a source of climate change information by 8.7% and 8.7% of respondents respectively. Similarly, internet was only reported in Hamilton community by 13.3% of respondent. In Turtle Island and Shenge communities, Other sources of climate change information were very high accounting for 52.1% and 37.8% of respondents respectively. Such sources were mainly identified as community meetings, social media or mobile phones and NGOs.

The respondent’s knowledge of events that could be caused by climate change was also explored and the findings are presented in Figure 2 and Table 8. The most popular consequence of climate change as identified by 60.8% of respondents was rise in sea level, global warming (58.8%) and increased tropical storm (58.3%) (Figure 3). Mudslides (4.5%) was the least reported as climate caused event followed by short raining season and prolonged dry season with a percentage of 12.1% and 13.1% respectively.

At community level, awareness of events caused by climate change varied greatly as presented in Table 9. While some communities recognised particular events to be caused by climate changed, such events were not as popular in other communities. For example, while global warming and sea level rise were more popular in Shenge (94.6% and 97.3% respectively) and Turtle Island with 89.6% and 58.3% respectively), increased tropical storm was more a climate change caused event for Lakka and Conakry Dee where 93.1% and 83.3% respectively. There were more events that were confirmed by most respondents as caused by climate change in Conakry Dee. Over 70% of respondents recognised increased tropical storm, sea level rise, increase in temperature and frequent flooding as events caused by climate change compared with Lakka and Tombo where only two events, increase in temperature (63.3% and 85.0% respectively) and tropical storm (93.3% and 60.0% respectively) were confirmed as climate change caused events.

|  |
| --- |
| **Table 9: Percent of Respondents by Events that are being Caused by Climate Change.** |
| Events | Lakka | Hamilton | Conakry Dee | Shenge | Tombo | Turtle Island |
| Increased Tropical Storm | 93.3 | 65.2 | 83.3 | 40.5 | 60.0 | 33.3 |
| Prolonged Dry Season | 43.3 | 10.9 | 0.0 | 2.7 | 0.0 | 14.6 |
| Short raining season | 26.7 | 4.3 | 5.6 | 27.0 | 0.0 | 6.3 |
| Frequent Flooding | 43.3 | 2.2 | 72.2 | 0.0 | 20.0 | 6.3 |
| Mudslides | 20.0 | 2.2 | 0.0 | 0.0 | 0.0 | 4.2 |
| Increase in Temperature | 63.3 | 58.7 | 72.2 | 18.9 | 85.0 | 70.8 |
| Global warming | 6.7 | 76.1 | 27.8 | 94.6 | 5.0 | 89.6 |
| Sea level rise | 46.7 | 6.5 | 72.2 | 97.3 | 40.0 | 58.3 |
| Other | 6.7 | 2.2 | 0.0 | 16.2 | 5.0 | 2.1 |

The respondents’ knowledge of key climate change events occurring in their community in the past five years was explored and the findings are presented in Figure 4 and Table 10. Accordingly, the information in Figure 4 shows that none of the events was confirmed by majority of the respondents as climate change related events occurring in their communities. However, nearly half of the respondents (48.8%) confirmed their awareness of increased tropical storm and sea level rise followed closely by increased temperature (44.2%). Most of the respondents were not aware of the seasonal changes, including prolonged dry and short raining seasons just as there were not informed about land reclamation/destruction and mudslides as climate events in their communities with only 4.6%, 8.3%, 9.7% and 0.0% respectively of respondents that were aware of the occurrence of these events their communities.

|  |
| --- |
| **Table 10: Respondents by Knowledge of key Climate change events occurring in their community in the Past 5 Years by Community** |
| Events | Lakka | Hamilton | Conakry Dee | Shenge | Tombo | Turtle Island |
| Increased Tropical Storm | 98.4 | 59.0 | 44.4 | 50.0 | 14.3 | 27.0 |
| Prolonged Dry Season | 15.9 | 4.9 | 0.0 | 1.7 | 0.0 | 4.8 |
| Short raining season | 9.5 | 3.3 | 0.0 | 31.7 | 3.2 | 3.2 |
| Frequent Flooding | 44.4 | 8.2 | 68.3 | 0.0 | 14.3 | 12.7 |
| Mudslides | 1.6 | 0.0 | 1.6 | 0.0 | 0.0 | 0.0 |
| Increase in Temperature | 49.2 | 36.1 | 68.3 | 11.7 | 22.2 | 76.2 |
| Global worming | 0.0 | 67.2 | 4.8 | 70.0 | 3.2 | 81.0 |
| Sea level rise | 41.3 | 6.6 | 85.7 | 93.3 | 9.5 | 57.1 |
| Destruction of homes | 33.3 | 1.6 | 12.7 | 0.0 | 4.8 | 4.8 |
| Other Specify | 1.6 | 8.2 | 1.6 | 13.3 | 68.3 | 4.8 |

Compared to the general picture presented in Figure 4, community level data, shown in Table 10, suggest marked variation with majority remarkably high proportion of respondents in particular communities reporting the occurrence of a key climate change event. For instance, 98.4% of respondents in Lakka community confirmed the occurrence of increased tropical storm in their community in the past five years, and 93.3% and 85.7% reported the occurrence of sea level rise in Shenge and Conakry Dee communities respectively. However, the limited awareness of seasonal changes relative to prolonged dry season and shortened raining season, is replicated at the community level although 31.7% of the respondents from Lakka did report the latter.

The results could be a reflection of the population’s low awareness of climate change related events taking place in their communities in the last five years although the occurrence of specific events was reported by most respondents. This suggests that particular change events have been so impactful in their community as to have made an impression on the respondents despite the generally limited knowledge about climate change. Effort toward mitigating climate change effects and prompting community resilience could meaningfully build upon such level of appreciation of climate-change related occurrences on the part of community members.

The study findings on the location of respondents with respect to climate change affected areas suggested that more than half (53.8%) were aware of their living very close to places described as climate change affected areas compared with 23.6% that reported living far off such areas (Table 11). This problem is worst for Lakka, Turtle Island and Shenge where 80.0%, 79.2% and 70.3% of the study population confirmed living close to climate change affected areas respectively. In contrast, 71.7% of the respondents in Hamilton reported not living close to climate change affected areas compared with Conakry Dee where 44.4% were not too sure.

|  |
| --- |
| Table 11: Percent of respondents by Closeness to Climate Change affected areas |
| Closeness | Lakka (n=30) | Hamilton (n=46) | Conakry Dee (n=18) | Shenge (n=37) | Tombo (n=20) | Turtle Island (n=48) | Total (n=199) |
| Very Close | 80.0 | 17.4 | 38.9 | 70.3 | 20.0 | 79.2 | 53.8 |
| Somewhat close | 0.0 | 4.3 | 44.4 | 29.7 | 50.0 | 18.8 | 20.1 |
| Not close | 20.0 | 71.7 | 16.7 | 0.0 | 25.0 | 0.0 | 23.6 |
| Don’t know | 0.0 | 6.5 | 0.0 | 0.0 | 5.0 | 2.1 | 2.5 |

|  |
| --- |
| **Table 12: Respondents by Knowledge of the Causes of Climate Change** |
| Causes | Lakka | Hamilton | Conakry Dee | Shenge | Tombo | Turtle Island | Total |
| Burning Firewood &Charcoal | 76.7 | 100.0 | 83.3 | 8.1 | 65.0 | 45.8 | 61.3 |
| Carbon monoxides from Cars | 83.3 | 0.0 | 50.0 | 2.7 | 5.0 | 2.1 | 18.6 |
| Deforestation | 100.0 | 13.0 | 88.9 | 8.1 | 80.0 | 62.5 | 50.8 |
| Agriculture | 96.7 | 13.0 | 5.6 | 97.3 | 0.0 | 43.8 | 46.7 |
| Industry/Factories | 56.7 | 4.3 | 5.6 | 0.0 | 0.0 | 2.1 | 10.6 |
| Sand mining | 86.7 | 56.5 | 5.6 | 100.0 | 45.0 | 56.3 | 63.3 |
| Poverty | 3.3 | 0.0 | 5.6 | 8.1 | 10.0 | 4.2 | 4.5 |
| Other Specify | 0.0 | 2.2 | 0.0 | 0.0 | 5.0 | 0.0 | 1.0 |

Respondents’ awareness of the causes of climate change was investigated and the results are summarised in Table 12. Generally, majority of the respondents were aware of Sand Mining (63.3%), Burning firewood and charcoal (61.3%) and deforestation (50.8%) as causing climate change in their communities and beyond. Surprisingly, awareness of poverty, a fundamental driver of the three recognised causes of climate change, as cause of climate change was very low with only 4.5% of respondents recognised it as such. Carbon monoxides from cars and industrial activities were also not well known as causes of climate change.

Lakka community was better informed and more aware of the causes of climate change than all other communities investigated as the community was only less aware of poverty (3.3%) as a cause of climate change (Table 12). Sand mining did not feature much as a cause of climate change in Conakry Dee (5.6%) even when it was reported by majority of respondents of other communities. Similarly, while over 50% of respondents for most communities were aware of ‘burning firewood and charcoal’ as a cause of climate change, this was not the case for Shenge in particularly that recorded 8.1% of respondents that were aware of it as a cause of climate change. The results showed a large divergence among communities with respect to awareness of the causes of climate change. The low awareness of carbon monoxides from cars and industrial activities as causes of climate change is understandable as the communities studied have limited direct usage or experience of such amenities/activities.

|  |
| --- |
| **Table 13: Respondents by Knowledge of the Consequences of Climate Change in their Communities** |
| Events | Lakka | Hamilton | Conakry Dee | Shenge | Tombo | Turtle Island | Total |
| Coastal flooding | 49.2 | 8.3 | 1.6 | 3.3 | 1.6 | 58.7 | 20.8 |
| Coastal erosion | 11.1 | 8.3 | 0.0 | 65.0 | 19.7 | 57.1 | 26.8 |
| Increased severity of tropical storms | 92.1 | 53.3 | 68.3 | 25.0 | 9.8 | 3.2 | 42.2 |
| Decreased agricultural productivity | 25.4 | 10.0 | 3.2 | 80.0 | 3.3 | 71.4 | 32.2 |
| Deterioration of coral reefs | 4.8 | 15.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.2 |
| Reduction in fish Productivity | 54.0 | 0.0 | 4.8 | 46.7 | 6.6 | 19.0 | 21.9 |
| Increased flooding | 46.0 | 8.3 | 95.2 | 0.0 | 13.1 | 6.3 | 28.6 |
| Land/Mud slides | 0.0 | 0.0 | 20.6 | 0.0 | 0.0 | 3.2 | 4.1 |
| Reduced rainfall | 6.3 | 20.0 | 0.0 | 73.3 | 0.0 | 4.8 | 17.0 |
| Drought | 0.0 | 11.7 | 0.0 | 6.7 | 18.0 | 0.0 | 5.9 |
| Other Specify | 0.0 | 3.3 | 0.0 | 1.7 | 67.2 | 12.7 | 14.1 |

To every cause of an event, there is bound to be a kind of consequence and climate change is no exception. Therefore, the study explored the awareness of climate change effects or consequences and the results are presented in Table 14. Generally, the results have shown that there was low awareness of Climate effects among the study population. Increased severity of tropical storms was comparatively well known as climate change effects with 42.1% of respondents that were aware of it followed by decreased agricultural productivity which was known by 32.2% of the respondent. In contrast, mudslides and draught were less known as climate change effects having been reported by 4.1% and 5.9% respectively,

While most of the respondents were unaware of most climate change effects, certain climate change effects were well known in some communities. This means that communities differed greatly relatively to awareness of climate change effects. For instance, decreased agricultural productivity was only recognised by majority of respondents in Shenge (80.0%) and Turtle Island (71.4%) as climate change effect, compared with increased flooding that recorded 95.2% awareness in Conakry Dee. Similarly, its only Shenge community that had majority (73.3%) of respondents that were aware of reduced rainfall as climate change effect. The results could be interpreted as indicating that communities experience climate change effects in different ways possibly due to their specific geography and economic activities that are linked to climate change.

|  |
| --- |
|  **Table 14: Percent of Respondents by Level of Awareness of Climate Change Concepts, Causes and Consequences** |
| Category | Variable | Unaware | Moderately Aware | Fully Aware |
| Sex | Male | 33.0 | 18.7 | 48.3 |
| Female | 62.9 | 14.7 | 22.4 |
| **Total** | **46.6** | **16.9** | **36.5** |
|   |   |   |   |   |
| Community | Lakka | 52.4 | 6.3 | 41.3 |
| Hamilton | 24.6 | 52.5 | 23.0 |
| Conakry Dee | 71.4 | 3.2 | 25.4 |
| Shenge | 38.3 | 10.0 | 51.7 |
| Tombo | 68.3 | 17.5 | 14.3 |
| Turtle Island | 23.8 | 12.7 | 63.5 |
|   |   |   |  |   |
| Locality Status | Rural | 44.4 | 12.8 | 42.8 |
| Urban | 48.9 | 21.0 | 30.1 |

A composite measure was used to determine the percentage of respondents by level of awareness of climate change concepts, causes and consequences as shown in Table 14. Generally, more (46.6%) of the respondents were completely unaware of climate change concepts, causes and climate change related effects, compared with 36.5% that were fully informed and 16.9% that were aware of some of the climate change events but completely unaware of other key climate change effects.

Men were better informed of climate change effects than women with 48.3% and 22.4% respectively of respondents that were had full knowledge of the effects of climate change. 62.9% of the female respondents were completely unaware of all the key climate change effects compared with 33.0% that were male respondents.

Turtle Island community had the highest percentage (63.5%) of respondents that were well informed about climate change effects followed by Shenge community with slightly over half (51.7%) of the respondents who were fully aware of the various climate change effects. Tombo Community was the least informed about the climate change effects recording only 14.3% of respondents the reported being aware of it. Conakry Dee, Tombo and Lakka communities had over half of the respondents that were unaware of climate change effects with 71.4%, 68.3% and 52.4% respectively. In Hamilton community, 52.5% of respondents were moderately aware of climate change effects.

### Climate Change Prevention

Efforts to prevent climate change and its effects have become very popular over the past few decades. It had been established that preventing climate change effects is cheaper than its mitigation strategies after climate change effect had been experienced. Equally, communities that are batter aware of climate change prevention strategies and adapt to them are more resilient than those that are not. This study thus explored the awareness among respondents of climate change prevention strategies applicable to coastal communities as presented and discussed in this subsection.

The first thing was to find out whether respondents were aware that they and their community can do anything to prevent climate change and their responses are presented on Table 15. Accordingly, 90.5% confirmed that they and their community can take actions to prevent climate change effect compared to only 6.5% that said ‘No’ and 3.0 that didn’t respond. The pattern was replicated at the community level with majority of respondents in all the communities confirming that they and their community can take action to avert climate change effects. Conakry Dee community had 100% respondents who were convinced that they and their community could take action to prevent climate change compared with Lakka community that registered the lowest percentage of 66.7%. The result is encouraging and can be regarded as an opportunity and a step in the right direction for climate change prevention. It is in line with what Sahid, (2016) has suggested that increased awareness helps in preparing and implementing climate change adaptation measures.

|  |
| --- |
| **Table 15: Percent of Respondents by Whether Respondent and Community Can Do Anything to prevent climate change** |
| Action | Lakka (n=30) | Hamilton (n=46) | Conakry Dee ((n=18) | Shenge (n=37) | Tombo (n=20) | Turtle Island (n=48) | Total (n=199) |
| No | 26.7 | 0.0 | 0.0 | 10.8 | 0.0 | 2.1 | 6.5 |
| Yes | 66.7 | 95.7 | 100.0 | 89.2 | 95.0 | 95.8 | 90.5 |
| No response | 6.7 | 4.3 | 0.0 | 0.0 | 5.0 | 2.1 | 3.0 |

Respondents’ awareness of what they and their community could do to prevent climate change and climate change effects was generally below the 50% margin for all possible actions as shown in Table 16. Public education on a) the causes and b) the effects of climate change was the most popular action as confirmed by 46.4% and 42.9 of respondents, respectively.

|  |
| --- |
| **Table 16: Percent of Respondents by What the Community Can do to Prevent Climate Change Effects** |
| Variable Response | Frequency | Percent of Cases |
| Provision of alternative livelihood support | 105 | 28.2 |
| Public education on the causes of climate change | 173 | 46.4 |
| Monitoring and enforcing environmental protection law | 133 | 35.7 |
| Put a stop to or regulate sand mining | 123 | 33.0 |
| Public education on the effects of climate change | 160 | 42.9 |
| Other Specify | 13 | 3.5 |

Again, the study used a composite measure to determine the percentage of respondents by level of awareness of climate change prevention and the findings are shown on Table 17. Only 8.0% of respondents were fully aware of climate change prevention strategies, compared with 46,6% that were unaware and 45.3% moderately aware. The urban communities were comparatively better aware of climate change prevention strategies than rural communities recording 12.4% and 3.7% respectively although 51.9% of rural respondents were moderately aware compared with 38.7% of the urban respondents.

|  |
| --- |
| Table 17: Percent Respondent by Community awareness of Climate Change Prevention |
| Category | Unaware | Moderately Aware | Aware |
| Rural | 44.4 | 51.9 | 3.7 |
| Urban | 48.9 | 38.7 | 12.4 |
| Total | 46.6 | 45.3 | 8.0 |
|   |   |   |   |
| Lakka | 52.4 | 31.7 | 15.9 |
| Hamilton | 24.6 | 73.8 | 1.6 |
| Conakry Dee | 71.4 | 9.5 | 19.0 |
| Shenge | 38.3 | 60.0 | 1.7 |
| Tombo | 68.3 | 31.7 | 0.0 |
| Turtle Island | 23.8 | 66.7 | 9.5 |
| Total | 46.6 | 45.3 | 8.0 |
|   |   |   |   |
| 15-29 (Young Adults) | 41.1 | 50.7 | 8.2 |
| 30-59 (Adults) | 46.4 | 45.6 | 8.0 |
| 60 and Above (Aged) | 59.5 | 32.4 | 8.1 |
|   |   |   |  |
| Male | 33.0 | 57.6 | 9.4 |
| Female | 62.9 | 30.6 | 6.5 |

Conakry Dee and Lakka had more respondents that were fully aware of climate change prevention strategies than the other communities having recorded the highest percentages 19.0% and 15.9.% respectively; yet Conakry Dee also recorded the highest percentage of respondents (71.4%), followed by Tombo community (68.3%) that were unaware of climate change prevention during the survey. Tombo, Hamilton and Shenge recorded the least proportion of respondents aware of climate change prevention, accounting for 0.0%, 1.6 and 1.7 respectively

There is generally little or no age difference among the age groups with all three age groups having recorded 8% each of respondents that were fully aware of climate change prevention. Age differences were only noted among age groups of unaware and moderately aware categories. For instance, 59.5% of the aged were unaware compared with 41.1 and 46.4 of adults and young adults respectively and complete reverse in the moderately aware category.

The statistics confirmed that more male (9.4%) than female (6.5%) had full awareness of climate change prevention strategies. Similarly, 57.6% of male respondents were moderately aware compared to 30.6% female. Consequently, female respondents were worse off with respect to climate change prevention strategies, as reported by 62.9% that were unaware of such prevention strategies.

### Awareness of Climate Change Mitigation Strategies

The study investigated the communities’ awareness of climate change mitigation strategies. This was because having knowledge on climate change mitigation strategies is important for promoting climate change adaptation and improvement of community’s resilience to climate change. The respondents were asked about what they would do to mitigate climate change effects and who they think was responsible for climate change effects. As summarised in Table 18, the respondents’ awareness of climate change impact mitigation strategies was limited to one variable as shown. That is, raising awareness in communities was the only mitigation strategy reported by more than half (87.4%) of the respondents. Empowerment of youth groups through various skill trainings was second most important climate change mitigation strategy reported by 42.2% of the respondents. Encouraging local community groups to return to artisanal fishing and embracing eco-friendly and sustainable fisheries were the least recognised strategies for climate change mitigation as reported by 14.6% and 16.6% of respondents respectively.

|  |
| --- |
| **Table 18: Percent of Respondents by What the Community Can do to Prevent Climate Change Effects** |
| Mitigation Strategies | Frequency | Percent in Cases |
| Raise awareness in the communities | 174 | 87.4 |
| Provide alternative and innovative activities | 47 | 23.6 |
| Provide alternative and innovative livelihoods  | 64 | 32.2 |
| Encourage local groups to return to artisanal fishing | 29 | 14.6 |
| Embrace ecofriendly and sustainable fisheries | 33 | 16.6 |
| Empower youth groups through various skill trainings | 84 | 42.2 |
| Other Specify | 6 | 3.0 |

|  |
| --- |
| **Table 19: Percent of respondents by Awareness of Climate Change Effects Mitigation Strategies** |
| Mitigation Strategies | Lakka | Hamilton | Conakry Dee | Shenge | Tombo | Turtle Island |
| Raise awareness in the communities | 86.7 | 93.5 | 94.4 | 97.3 | 90.0 | 70.8 |
| Provide alternative and innovative activities | 36.7 | 2.2 | 77.8 | 18.9 | 25.0 | 18.8 |
| Provide alternative and innovative livelihoods to strengthen women & youths | 13.3 | 6.5 | 88.9 | 10.8 | 0.0 | 77.1 |
| Encourage local groups to return to artisanal fishing | 43.3 | 6.5 | 11.1 | 2.7 | 10.0 | 16.7 |
| Embrace ecofriendly and sustainable fisheries | 43.3 | 6.5 | 66.7 | 5.4 | 0.0 | 6.3 |
| Empower youth groups through various skill trainings | 76.7 | 6.5 | 27.8 | 0.0 | 60.0 | 85.4 |
| Other Specify | 3.3 | 0.0 | 5.6 | 5.4 | 5.0 | 2.1 |

The findings presented in Table 19 indicate that raising awareness in the communities was similarly very popular in all communities with more than 70.0% of the respondents reporting this as a climate change mitigation measure. It was a more popular mitigation strategy for Shenge community (97.3%) than all other communities especially Turtle Island that had only 70.8% of respondents that reported it. It was also clear that each of the other climate change mitigation strategies were more important to one or two communities than others. For example, while provision of alternative and innovative activities was more important for Conakry Dee community (77.8%), it was provision of alternative and innovative livelihoods to strengthen women & youths that was a popular strategy for both Conakry Dee (88.9% and Turtle Island (77.1%). While only Raise awareness in the communities was popular in Hamilton, Four of the six mitigation strategies were recognized as important in Conakry Dee Community. In summary, all mitigation strategies identified by the study were popular. However, most of the strategies were more community specific than being generic.

The respondent’s knowledge on who is responsible for climate change mitigation was equally explored by the study and findings presented on Tables 20 and 21. Up to 88.4% of respondents said the local government is responsible for climate change mitigation followed by community groups (45.2%). Regional and International organizations (5.5%) and younger/future generations (7.0%) were not viewed as key in climate change mitigation. The individual respondent with his/her family, the most important agents of climate change mitigation, were also not very popular being reported by only 14.6% of respondents.

|  |
| --- |
| **Table 20: Percent of Respondents by Knowledge on who is responsible for Climate Change effect mitigation** |
| Responsible  | Frequency | Percent  |
| Local Government | 176 | 88.4 |
| Regional and International Organizations | 11 | 5.5 |
| Me and my family | 29 | 14.6 |
| Younger/future generations | 14 | 7.0 |
| Community groups | 90 | 45.2 |
| Volunteer organization | 27 | 13.6 |
| NGOs | 33 | 16.6 |
| Other Specify | 10 | 5.0 |

|  |
| --- |
| **Table 21: Percent of Respondents by Knowledge on who is responsible for Climate Change effect mitigation** |
| Responsible | Lakka | Hamilton | Conakry Dee | Shenge | Tombo | Turtle Island |
| Local Government | 76.7 | 95.7 | 83.3 | 75.7 | 95.0 | 97.9 |
| Regional and International Organizations | 6.7 | 6.5 | 22.2 | 0.0 | 0.0 | 4.2 |
| Me and my family | 0.0 | 2.2 | 94.4 | 27.0 | 0.0 | 2.1 |
| Younger/future generations | 0.0 | 0.0 | 27.8 | 5.4 | 10.0 | 10.4 |
| Community groups | 56.7 | 56.5 | 44.4 | 29.7 | 80.0 | 25.0 |
| Volunteer organization | 16.7 | 0.0 | 0.0 | 0.0 | 35.0 | 31.3 |
| NGOs | 40.0 | 8.7 | 11.1 | 2.7 | 0.0 | 29.2 |
| Other Specify | 6.7 | 0.0 | 0.0 | 18.9 | 5.0 | 0.0 |

However, 94.4% of Conakry Dee community confirmed that the individual respondent with his/her family was responsible for climate change mitigation (Table 21). At least 76% and at most 98% of respondents in each of the six communities reported that local government was responsible for climate change mitigation. In Tombo community 80.0% of respondents indicated that community groups were key compared with 57% in Lakka and Hamilton communities. NGO was fairly popular in Lakka and Turtle communities as reported by 40.0% and 29.2% of respondents reported respectively. This result has indicated that local government and community groups are generally more important responsible bodies for climate change mitigation although the ‘individual and family’ is surprisingly important in Conakry Dee just while the NGO is fairly key for climate change mitigation at Lakka Community.

Here to a composite measure to investigate the percentage of respondents by level of awareness of climate change mitigation and results are shown on Table 22. There were 17.2% of respondents that were fully informed of climate change mitigation, compared with 82.3% that were unaware. There were no gender differences observed 17% of both male and female were fully aware compared with 82.9% female and 82.3% male that were unaware.

|  |
| --- |
| **Table 22: Percent of Respondents by Level of Awareness of Climate Change Mitigation Strategies** |
| Category | Variable | Unaware | Moderately Aware | Aware |
| Sex | Male | 82.3 | 0.5 | 17.2 |
| Female | 82.9 | 0.0 | 17.1 |
| Total | 82.6 | 0.3 | 17.2 |
|  |
| **Community** | Lakka | 82.5 | 0.0 | 17.5 |
| Hamilton | 68.9 | 1.6 | 29.5 |
| Conakry Dee | 100.0 | 0.0 | 0.0 |
| Shenge | 68.3 | 0.0 | 31.7 |
| Tombo | 98.4 | 0.0 | 1.6 |
| Turtle Island | 76.2 | 0.0 | 23.8 |
|  |
| Locality Status | Rural | 81.3 | 0.0 | 18.7 |
| Urban | 83.9 | 0.5 | 15.6 |
|  |
| Age Group | 15-29 (Young Adults) | 82.2 | 0.0 | 17.8 |
| 30-59 (Adults) | 81.4 | 0.4 | 18.3 |
| 60 and Above (Aged) | 91.9 | 0.0 | 8.1 |

Shenge and Hamilton communities had higher percentages of respondents that were fully aware of climate change strategies than the other communities with 31.7% and 29.5% respectively compared with 1.6% in Tombo. While all six communities had over 68% that reported unaware of climate change mitigation strategies, Conakry Dee and Tombo communities had the highest percentages (100% and 98.4% respectively) of their respondents reportedly unaware of climate change mitigation strategies. Only Hamilton community had reported cases of 1.6% of respondents who were moderately unaware.

The urban and rural differential was minimal although more rural than urban communities were fully aware of climate change mitigation strategies. That is, 18.7% of the rural respondents were fully aware compared with 15.6% reported for urban communities. Over 80% of both rural and urban respondents were unaware of any mitigation strategies. Similarly, majority of respondents across age groups were unaware of the mitigation strategies but the aged had the highest percentage of 91.9% compared with 82.2% and 81.4% respectively. The adults (18.3%) were better informed on climate change mitigation strategies than the aged (8.1%) and young adults (17.8%).

# Conclusions and Recommendations

The overall objective of the study was to assess climate change awareness in six coastal communities in Bonthe, Moyamba, Port Loko and Western Rural Districts of Sierra Leone. The study adopted a quantitative approach with the use of both secondary and primary data collection methods. Generally, this study results firmly supported the necessity for increased public awareness and education campaigns as key climate change mitigation strategies. The study respondents vividly expressed the need for constant public education climate change issues including the concept itself.

With 47% that have never heard of climate change and with the low levels of awareness of climate change causes, effects, prevention and mitigation strategies among respondents, it is essential to increase public education and awareness campaigns in the study communities. 63% of all respondents and 64.8% of those that have heard of climate change confirmed radio as the source of community information. Other sources of climate change information, although of comparatively lesser importance, included friends (47%) and family members (37%), both of which were probed to be linked to sharing of information through social media. Therefore, while it is important that any effective communication strategy should be heavily grounded on the use of radio, the use of other sources including social media and community meetings should be appropriately adopted. Evidence from secondary data analysis on primary spoken languages and primary findings on main spoken language of communities, have suggested that message must be tailored and delivered in languages typical of the communities.

The following are salient recommendations for any audio-visual Communication-based interventions to consider when planning and implementing such interventions to address the existing low levels of climate change awareness in coastal communities:

* Increased and continuous advocacy and sensitization on climate change awareness relative to understanding the climate change concepts, causes, effects, prevention and mitigations strategies. It is expected that the constant engagement of communities with climate change education and sensitization can create positive outcome in the near future relative to improvement of climate change awareness.
* Messages to be designed and delivered in local languages typical of communities. While it is strongly recommended that Krio, Temne, Sherbro, Mende be considered for specific communities, Krio should be part of each community’s package of messages as this widely spoken and understood medium of communication irrespective of the location of communities.
* Radio was the most popular means of source of information for the community and for information on climate change as extensively reported among all the study communities. Accordingly, the consultant is of strong conviction that this medium can be efficiently excellently be used to convey climate change education and sensitization messages. Similarly, the use of social media platforms which was linked to friends and family members as source of information should be strongly considered for any audio-visual climate change sensitization and education campaigns. It is recommended that online and social media channels which are specifically focused on individuals and combine interaction should be adopted.
* Local government and community groups must be seeing actively involved in promoting climate change mitigation strategies. This is because over 88.4% and 45.2% of respondents are aware that it is the local government and community groups that are responsible for climate change mitigation respectively. Partnership between government and community groups will be a helpful recipe for climate change mitigation. However, it will be important for communities to know that climate change mitigation is every person’s business. Therefore, sensitization and education on climate change mitigation should be geared towards this.

# References

Bergold, J. and Thomas, S. (2012). Participatory Research Methods: A Methodological Approach in Motion. Available from: <http://www.qualitative-research.net/index.php/fqs/article/view/1801/3334>

McSweeney et al (2010): UNDP Climate Profile for Sierra Leone.

McMullen CP and Jabbour J (eds). 2009. Climate Change Science Compendium. UN Environmental Programme, Geneva. 72 pp.

Shahid, Z and Piracha, A. (2016). Awareness of Climate Change Impacts and Adaptation at Local Level in Punjab, Pakistan. Online, Available From: <https://link.springer.com/chapter/10.1007/978-3-319-28112-4_25>