MIGRATION, ENVIRONMENT, DISASTER AND CLIMATE CHANGE DATA IN THE EASTERN CARIBBEAN

Saint Lucia Country Analysis

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Cover photo: Along with an observed increase in the frequency and intensity of hurricane activity, Saint Lucia has also witnessed a decline in average annual rainfall, and an observed rise in sea level of 2 to 4 cm per decade over the last 33 years. © IOM/Vynliz DAILEY

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ABBREVIATIONS AND ACRONYMS

BMS	Border Management System
CARICOM	Caribbean Community
CDEMA	Caribbean Disaster Emergency Management Agency
CSO	Central Statistical Office
DANA	Damage Assessment and Needs Analysis
DRR	disaster risk reduction
ED Card	Embarkation/Disembarkation Card
GHG	greenhouse gas
IDHNA	Initial Damage and Human Needs Assessment
IOM	International Organization for Migration
ISO	Initial Situation Overview
LSR-CA	Damage and Assessment Needs Analysis, Local Situation Report – Complementary Assessment
LSR-I	Local Situation Report – Initial
NAP	National Adaptation Plan
NEMO	National Emergency Management Organisation
NGO	non-governmental organization
OECS	Organisation of Eastern Caribbean States
SLC-HBS	Survey of Living Conditions and Household Budgets
TWG	technical working group

EXECUTIVE SUMMARY

Saint Lucia is not only vulnerable to the impacts of climate change but also exposed to volcanic and seismic occurrences due to its geographic location. Like in many other States across the Eastern Caribbean, extreme climatic events such as hurricanes, droughts and other hazards have continuously affected the population. With regional climate scenarios pointing to a higher incidence and intensity of extreme weather events, (forced) population movements in this context are likely to increase, with adverse implications for the country.

In line with efforts to enhance climate, disaster and mobility governance, the issue of climate- and disaster-related human mobility has increasingly been acknowledged in distinct national policy and legal frameworks. Among the 19 policies and legislations related to migration, environment, climate change and disasters that were identified and examined in Saint Lucia, 7 of them have made references to human mobility in the context of climate and environmental change and disasters. In particular, the National Adaptation Plan (NAP) (2018–2028) emphasizes the implications of loss and damage on displacement and migration across communities. The Emergency Management Policy and Guidelines (2006) for internally displaced people also outlines the need and steps towards the development of effective and long-term measures to handle disaster-related displacement. It is thus within the remit of enhancing policy and planning, based on the availability and importance of timely and reliable data, that this study assesses the national data systems on migration, environment, disasters and climate change in Saint Lucia.

This study is part of IOM's project entitled "Regional Dialogue to Address Human Mobility and Climate Change Adaptation in the Eastern Caribbean". The project is implemented under the auspices of IOM's GMDAC (Berlin, Germany) and IOM Dominica, and funded by the Government of the Federal Republic of Germany. The objective of the project is to assess the national data systems of the six Eastern Caribbean countries in relation to migration, environment, and climate change to identify strengths, weaknesses, and opportunities to enhance availability and evidence on environmental migration.

The study adopted a mixed methodological approach involving a triangulation of methods, including desk reviews and interviews with officials, national agencies, and departments, as well as international/regional organizations. Two distinct sets of questionnaires were distributed to 28 national and regional agencies that were identified as relevant sources of data, as part of the initial mapping exercise that was done during the desk reviews. In Saint Lucia, questionnaires (see Annex V) were shared with the Immigration Department, the Central Statistical Office (CSO) and the National Emergency Management Organisation (NEMO) as relevant sources of data at the national level. Alongside the questionnaires, several other national agencies and ministries that collect some level of data on the topic, but were not identified during the mapping process, were also engaged as part of the national validation

workshop. The analysis and findings of the study and consultation process served as the basis for the critical discussion on climate change, environment, disaster and human mobility data in the six Eastern Caribbean countries.

With the aforementioned national agencies that were consulted as sources of data at the national level, a host of gaps, limitations and opportunities were identified with the existing data collection and management systems. The Immigration Department mainly collects data associated with passengers and visitors arriving in or departing from Saint Lucia. The Embarkation/Disembarkation Card (ED Card), deployed by the Immigration Department at the various ports of entry to collect data, does not enable the compilation of information related to population movements that may result from climate and other environmental changes, including disasters.

Despite having a specific cluster dealing with statistics on environment, the CSO does not generate indicators on disasters and other aspects of climate change. It presents only limited information related to national greenhouse gas emissions. When it comes to statistics and indicators related to human mobility, aside from what is shared by the immigration and tourism national agencies, the Department generates statistics on general aspects of migration – collated as part of the national census. The questionnaire that was deployed for the 2010 Population and Housing Census included specific questions on international migration, probing the main reason for moving. However, the questionnaire and embedded options did not take environmental indicators into account.

Also, the 2016 Survey of Living Conditions and Household Budgets (SLC-HBS) presented a whole section on "Shocks and coping strategies" related to the impacts of climate change and disasters on households nationwide. The analysis of the survey questionnaire suggests that there is data that could be translated into statistics on human mobility in the context of climate and environmental change and disasters in Saint Lucia. The SLC-HBS questionnaire provides options to capture some of the critical aspects of migration, displacement and remittances in the context of disasters or emergencies. While the questionnaire does not adequately probe the issue of "forced migration", it provides a viable point of entry to build comprehensive data on human mobility in the context of climate change and disasters in Saint Lucia.

In terms of data on disasters, NEMO primarily draws on the templates presented for assessments as part of the Caribbean Disaster Emergency Management Agency (CDEMA) Damage Assessment and Needs Analysis (DANA) Continuum. The two templates (Local Situation Report – Initial (LSR-I) and Damage Assessment and Needs Analysis, Local Situation Report – Complementary Assessment (LSR-CA)) currently in use by NEMO to compile data on disasters do not allow for the effective quantification of persons forced to move in the wake of disasters and related emergencies. While the template that is used for the development of the Initial Situation Overview (ISO) details the number of evacuated people (in shelters), it does not include fields that could be used to quantify the number of individuals displaced and/or relocated during the emergency. Notwithstanding, both templates present opportunities for the number of displaced persons to be implied from that of the level of housing damages often recorded as part of the assessments. Houses with "minor/major damages" and "destroyed" could be associated with displacement, while the number of shelters or persons provided with temporary shelter could be used to imply evacuation.

In general, the report highlights the main gaps and limitations that hamper the availability of timely and reliable data on environmental migration across the distinct national agencies. Besides the limitation of the ED Card in not presenting climate change impacts and disaster as part of the options provided for the purpose of the visit, the online Travel Registration Form that has been deployed by the Immigration Department, in the wake of the COVID-19 pandemic, does not also probe the reasons for seeking entry into the country. Furthermore, the Department does not have any established database or repository for immigration and emigration. The information that is hosted within the Border Management System (BMS) is limited to just an inventory of the number of people entering or leaving the country. Another gap or limitation is that the Department does not have established protocols or procedures related to the management and sharing of the collected data. Although the data collected is periodically shared with the CSO, it is not clear how far this data is managed and shared with other relevant national agencies.

Although the CSO develops some data on environment and greenhouse gas (GHG) emissions, the Office does not present any indicators on climate change and disasters and related migration. Similarly, the census questionnaire that was deployed for the 2010 Population and Housing Census presented questions related to migration. Despite the queries that were made on migration, the questionnaire did not probe the reasons for moving. Consequently, the census questionnaire does not make provision to allow for the capture of environmental factors as reasons for migration. The analysis of the census questionnaire indicates that the collection of data on migration is often done in a generic way, with the primary focus on international migration and people living abroad. Like the national census, the 2014 Labour Force Survey also collected data related to migration. However, the questions presented did not probe the underlying reasons informing the decision to move or migrate. Furthermore, the survey did not consider the role of environmental factors in the decision to stop and/or quit an employment.

On the part of NEMO, a gap with the LSR-I Form used for Stage 2 of the DANA Continuum lies in the fact that it does not collect data directly linked to the human mobility dimension other than the number of shelters or evacuees being hosted in these shelters. Similarly, the LSR-CA that corresponds with Stage 3 (Initial Damage Human Needs Assessment, IDHNA) of the DANA Continuum does not also account for the human mobility dimension. Hence, the possibility to directly capture data on persons who may have been displaced, evacuated or forced to relocate is missing. Another limitation is that NEMO does not have any identifiable or established official database or repository for disaster that could serve as a reference or portal that could be readily accessed by any interested party.

In view of the gaps and limitations identified across the national agencies, the recommendation is for the Immigration Department to, inter alia, consider revising the current Travel Registration Form to include a specific field on "purpose of the visit". This field could encompass environmental factors (e.g. weather conditions and disasters) as part of the options. Alternatively, a specific question explicitly stating impacts related to climate and environmental change or disasters as reasons for seeking entry could be added. In addition, a field could be included to facilitate the capture of data on persons arriving or departing, disaggregated by gender. This could help to plan, mobilize resources and initiate targeted response in the wake of a disaster. It could also help, for example, to ascertain housing needs and spatial planning of settlements and shelters, as well as to inform planning in terms of health-care delivery. Furthermore, the proposition is for the Department to upgrade or transform the BMS as a comprehensive data system that accounts for immigration and emigration, as well as climate- and disaster-related mobility that may be detected at the ports. This could serve to be a one-stop national repository with data on human mobility within the context of disaster, climate and other environmental changes.

Another recommendation is for the CSO to consider the inclusion of statistics and indicators on climate change and disasters in the cluster dealing with environment. The development of environmental statistics and subsequent publications could give consideration to indicators on disasters and climate-related issues with a priority to capture the human mobility dimension. This could facilitate the compilation of comprehensive data by including the critical aspects on drivers, impacts, adaptation and mitigation, with specific focus on communities most vulnerable to the effects of climate change. Given that the next round of Population and Housing Census will soon be held in Saint Lucia, it is recommended that the census questionnaires could be designed (or revised) to allow for the visibility and capture of data on the human mobility categories, such as internal and cross-border migration, displacement, relocation, as well as other forms of movement. Specific questions related to the reason/motivation that led to international migration and/or internal displacement/migration in the census activity may include environmental aspects (e.g. weather conditions and disasters) in the response options.

Furthermore, the revision of questionnaires could be applied to all other upcoming and subsequent national household surveys and other demographic (population-based) surveys. By this, the emphasis could be placed on not only the collection of data on the human mobility dimension, but also the disaggregation of the data being collected. The 2016 SLC-HBS had a whole section on "shocks and coping strategies" related to the impacts of climate change and disasters on households. The survey allowed for the collection of data on perceptions of individuals in relation to environmental factors and

disasters, as well as their impacts on livelihoods, the economic situation, and security – and possible influence on the decision to move and remittances. As such, this survey could serve as good reference in recognizing and further refining data-collection processes on climate- and disaster-related human mobility in the country.

On the collection of data on disaster-related human mobility, NEMO could consider adjusting both the LSR-I and LSR-CA Forms according to the predetermined forms from CDEMA. A revision of the forms to reflect fields that collect information on the mobility dimensions of disaster (e.g. ISO Form) could facilitate the effective accounting of the number of displaced, evacuated and relocated persons. This could also be complemented by developing proxies to determine displacement that may be instigated by disasters, particularly when it is not possible to directly capture data on persons who may have fled or been forced to move as a result of an emergency. More importantly, there is the need to develop a common national database on disaster from which the information compiled and kept in the format of reports could be managed and disseminated. The proposed common repository could make provision to allow for validation of data collected and then present comprehensive data on the human mobility dimensions of disaster in Saint Lucia.

To enhance the effective collection of data, NEMO could build capacity by way of regular training for the team(s) responsible for the DANA Continuum procedures, as well as orienting them on national plans and protocols. This could help build knowledge and awareness of the need to capture comprehensive data on all the human mobility dimensions of disaster for informed planning, management and response. Considering that effective data collection, management and dissemination is key to evidence-based policies related to migration, climate adaptation, as well as disaster management at the national level, proposed guidelines to enhance the collection, quality and accessibility of data on climate- and disaster-related human mobility in Saint Lucia have also been outlined.

The report is organized into five sections. Section 1 provides an introduction and background to the study. In Section 2, the report discusses the conceptual approach to understanding the human mobility outcomes in the context of climate and other environmental changes. It further describes the methodological approach to the study. In Section 3, the discussion narrows down to the issues of data on climate and environmental change, disasters, and human mobility in Saint Lucia. This section also highlights the main sources of information and data on these themes at the national level. It then outlines the gaps and constraints and the opportunities/strategies for improved data collection, management and dissemination in Saint Lucia. Lastly, the report offers guidelines for improved data collection and management systems in Section 4. The discussion concludes in Section 5 by emphasizing the need for reliable data and then makes recommendations for enhanced data collection and management systems for informed decision-making and planning in Saint Lucia.

1. INTRODUCTION

1.1. Migration, climate and environmental change, and issues of data in Saint Lucia

With its distinct topography and location in the Lesser Antilles, Saint Lucia is exposed and vulnerable to the impacts of climate change events and other hazards. As observed elsewhere in the Caribbean, the country has generally witnessed significant warming in surface air temperature since 1961 (Government of Saint Lucia, 2018). Saint Lucia's Third National Communication on Climate Change (2017a) points to an increase in temperature of between 0.1ºC to 0.2ºC in the past three decades. Alongside an observed increase in the frequency and intensity of hurricane activity, the country has also witnessed a decline in average annual rainfall with an observed rise in sea level of 2 to 4 cm per decade over the last 33 years (CARIBSAVE Partnership, 2012; Government of Saint Lucia, 2017a). In September 2016, an estimated 25,000 people were affected by Hurricane Matthew. According to the Saint Lucia Red Cross Society, an estimated 250 families were displaced while the strong winds led to damage of housing on the island (IFRC, 2017).

Recent climate-modelling projections for Saint Lucia suggest that the island will witness a significant increase in temperature of between 2.4ºC and 3.3ºC by 2080 in a scenario of higher GHG emissions, while hurricane activity will increase in intensity with devastating consequences for livelihoods, the tourism sector and the national economy (CARIBSAVE Partnership, 2012). Given that key infrastructure, majority of the population (more than 60%), and livelihoods are located along low-lying coastal areas between Gros Islet and Castries, Saint Lucia is exposed and will greatly be affected by tropical storms, storm surges, hurricanes and other weather-related hazards (Hogarth and Wójcik, 2016; Slinger-Friedman et al., 2017). It is recognized that climate-related risks will interact with a multiplicity of complex socioeconomic factors and existing vulnerabilities (Benson and Clay, 2004), in aggravating the displacement of people, as well as accentuating existing mobility patterns within and across other islands (Kelman, 2018; Vinke et al., 2020).

As exemplified by the enhanced Saint Lucia Comprehensive Disaster Risk Management (CDRM) Framework, the National Climate Change Policy and Adaptation Plan, and the Immigration Act (Chapter 10.01 of 2017), key normative frameworks in the country recognize the need for effective disaster risk reduction (DRR) and migration management as critical tools for sustainable development. Alongside these, several other national environment and climate change adaptation policies and plans have been geared at addressing issues of climate change and disaster risks and impacts in the country (see Table 3). IOM's recent migration governance and needs assessments, conducted in the 10 island States of the Commonwealth Caribbean, showed that Saint Lucia and all the other member States have national plans to guide the effective management of emergencies and disasters. Also, the national Government has designated agencies and institutions in charge of implementing the proposed actions and interventions (Aragón and El-Assar, 2018).

Despite the relative strides that have been made, there is still limited integration of human mobility issues into climate change and disaster plans and strategies. Even in instances where the Immigration Department is drawn or deployed to handle issues of human mobility as part of emergency committees, their involvement is often on an ad hoc basis. This is because there are often no formally documented protocols for coordinating with immigration authorities (ibid., 51). This limitation is further compounded by the lack of data and evidence on climate- and environment-related mobility as critical elements that could be accessed in a timely manner for effective planning or deployment of interventions. At the national level, available information on migration is mostly based on census data collected by the CSO, as well as administrative data on entries and exits, visas, and residence permits generated by the Immigration Department. Alongside these, there are scanty statistics from other national agencies like NEMO, the Saint Lucia Tourism Authority, and related ministries that also highlight the number of people affected or displaced by climate-related disasters.

Although the data at the regional level and from other global sources provide information on climate risks, disasters and impacts across the region, there is a need for country-specific, disaggregated, and comprehensive data on climate change and disaster-related human mobility. More importantly, there is a need to assess the reliability of data by probing the data collection, management and sharing mechanisms at the national level. The availability of adequate and reliable data is crucial in helping the national Government of Saint Lucia to plan and develop evidence-based policies to effectively address the adverse impacts of climate and environmental change and disasters on human mobility in the country.

1.2. Scope and objective of the study

This study is part of IOM's project entitled "Regional Dialogue to Address Human Mobility and Climate Change Adaptation in the Eastern Caribbean", under the auspices of IOM's GMDAC in Berlin, Germany, and IOM Dominica, and funded by the Government of the Federal Republic of Germany. The project seeks to build a regional dialogue series in Eastern Caribbean States that will enhance the capacities of governments to collect, analyse, and utilize data on human mobility and vulnerability derived from environmental change. It is being implemented by IOM in six independent member States of the OECS – namely, Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines. Its objective is to assess the national data systems of the six countries in relation to migration, environment, and climate change to identify strengths, weaknesses, and opportunities to enhance availability and evidence on environmental migration. The ultimate goal is to enhance the availability of reliable data on environmental migration for informed planning and policy.

Generally, inter-island mobility across the Eastern Caribbean States is facilitated through the two main free-movement arrangements established under the CARICOM and the OECS. Alongside these regional mobility frameworks, there are other existing regional climate change and disaster governance frameworks and institutional structures that seek to enhance climate change adaptation, as well as disaster response and management in the region. Given that this assessment focuses on human mobility in the context of climate and environmental change and disasters, CARICOM's CDEMA is also of importance in understanding climate- and disaster-related mobility management in the region. A detailed discussion of these aforementioned mobility, climate and disaster governance frameworks is outlined in Section 3 of the Regional Report. This report focuses exclusively on Saint Lucia.

2. CONCEPTUAL AND METHODOLOGICAL FRAMEWORK

2.1. Conceptual framework: Understanding the climate and environmental change, disaster, and human mobility nexus and outcomes

The role of environmental factors in influencing patterns of human mobility has long been a focus of scientific research and policy (Piguet, 2011 and 2013; Ionesco et al., 2017; Flavell et al., 2020). However, recent attention to DRR and climate change adaptation policy has invigorated calls to mainstream the human mobility dimensions of climate and disaster impact in political, development and climate action (Mercer, 2010; Wilkinson et al., 2016). The increasing policy attention and evolving perspectives on the climate and environmental change, disaster, and human mobility nexus indicate the extent to which climate change impact and DRR have gained traction.

The broad distinction between the different types of human mobility (i.e. migration, displacement and planned relocation) in the context of climate change also highlights the complexity of multiple factors that come into play in precipitating movements under circumstances of real or perceived climate and environmental risks (Renaud et al., 2011; Warner et al., 2013; IOM, 2018 and 2019; Bower and Weerasinghe, 2021). In particular, the conceptual framework developed as part of the Foresight project provides a good point of entry to understanding mobility outcomes or decision-making in the context of climate and environmental change and disasters (Government Office for Science, 2011; Black et al., 2013). The Foresight framework[1] explains that mobility outcomes (including displacement and the decision to stay or being unable to leave) are influenced by a multiplicity of complex interrelated forces operating at the macro (social, economic, environmental and political), meso (mostly intervening obstacles and facilitators), and micro (personal and household characteristics) levels.

The emphasis on the need for evidence in collecting, analysing and using reliable data on patterns of mobility, as well as understanding the links with environmental degradation, climate change, and crises to inform and foster policy coherence (IOM, 2014b), is of particular relevance for the purposes of this study. In this regard, IOM recognizes the need to link research and policy in support of efforts by national governments at promoting effective migration governance as one of its key commitments (Melde et al., 2017). It is thus within the remit of enhancing policy, based on the availability and importance of timely and reliable data, that this study assesses the national data systems on migration, environment, disasters and climate change of Saint Lucia.

2.2. Data collection in Saint Lucia

The research approach for this study is based largely on a triangulation of methods, including desk reviews and interviews with officials, national agencies, and departments, as well as international/regional organizations. For the data collection, the study began with an extensive desk review, involving the identification and mapping of global, regional, and national sources of information and data-sharing systems, as well as governance frameworks on migration, environment and climate change across the OECS. A description of the whole research process is further detailed in the Regional Report (see Section 2).

In Saint Lucia, three main national agencies were identified as relevant sources of data and statistics on climate and environmental change, disasters, and human mobility. The agencies identified included the

[1] See Section 2 of the Regional Report for a detailed discussion of the Foresight Migration Decision Framework.

Immigration Department, the CSO and NEMO. These agencies received 3 out of the 18 questionnaires that were distributed to all the national agencies identified as relevant sources of data across the six OECS countries of focus. Ten other questionnaires were sent to regional stakeholders (Annex I). Two different questionnaires were deployed to cater to the distinct stakeholders identified. Although the questionnaires were developed in this way to allow for distinction between the different stakeholders, the questions did not differ much. The questions presented were mostly open-ended and allowed for the collection of qualitative data. Both questionnaires solicited information relating to climate change impacts at both regional and national levels; existing climate, disaster and migration governance frameworks; available official and secondary sources of data at the national and regional levels; as well as gaps and options in enhancing data on migration, environment, disasters and climate change at all levels.

As a follow-up on the questionnaires distributed, complementary online interviews were conducted with the three national agencies that had received them. With the support of IOM Dominica, several other national agencies and ministries that collect some level of data on the topic, but were not identified during the mapping process, were also engaged. These included the following: Ministry of Equity, Social Justice, Empowerment, Youth Development, Sports and Local Government; Ministry of External Affairs, International Trade and Civil Aviation; Ministry of Health and Wellness; Ministry of Infrastructure, Ports, Energy and Labour; and Ministry of Tourism, Information and Broadcasting – Saint Lucia Tourism Authority. Together with the three main national agencies, these other agencies and ministries were extensively consulted as part of the national validation workshop that was held in March 2021. The national workshop provided critical insights into the issues of climate and environmental change, disaster, and human mobility data in Saint Lucia.

With the data analysis, the secondary quantitative data/statistics and information helped to ascertain the availability of data on the topic, and how far this data was being collected in Saint Lucia. The quantitative data also served as reference in discussing the issues that came up in the qualitative interviews and data. Based on the findings of the study and consultation process, technical guidelines for enhanced data collection, management, and dissemination on migration, environment, disasters and climate change in Saint Lucia have been drafted as well. Alongside these, a checklist of proposals or recommendations has been formulated to assist in building national capacities, and to facilitate a better understanding in effectively addressing climate change and disaster impacts on human mobility at the national level.

3. DATA ON CLIMATE AND ENVIRONMENTAL CHANGE, DISASTERS, AND HUMAN MOBILITY: A FOCUS ON SAINT LUCIA

3.1. Country profile

As part of a volcanically active ridge formed along the Lesser Antilles in the Eastern Caribbean, Saint Lucia connects to the islands of Martinique to the north and Saint Vincent and the Grenadines to the south (Figure 1). With the island consisting mainly of the mainland and Maria Islands to the southeast, the country has a total land surface of 620 sq. km with an estimated population of 183,000 people (mid-2019) (Slinger-Friedman et al., 2017; Government of Saint Lucia, 2017a; UN DESA, 2019). Since 1990, the national economy has seen the service and tourism sectors overtake the agricultural sector as the main drivers of economic growth. Between 1990 and 2015, the contribution of the agriculture sector to the GDP witnessed a significant decline from 13.85 per cent to 3 per cent, while that of the tourism sector witnessed a growth from 9.18 per cent to 10.9 per cent within the same period (Government of Saint Lucia, 2017a). The GDP per capita in the country was estimated to be worth USD 2.12 billion in 2019 with the annual growth pegged at 1.7 per cent in the same year (World Bank, n.d.). Since the rapid global spread of COVID-19 in 2020, Saint Lucia's GDP growth rate has contracted to -18.1 per cent, marking a year of negative growth for the country (Alleyne et al., 2021).

Figure 1. Map of Saint Lucia

Source: Encyclopædia Britannica, 2021.

Note: This map is for illustration purposes only. The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by IOM.

Table 1. Background of key socioeconomic information in Saint Lucia

Capital	Castries
Form of government	Constitutional monarchy
Location	Lesser Antilles, Eastern Caribbean
Total land area	616 sq. km
Population	183 000 (2019)
Main economic activities	Tourism, agriculture and manufacturing
GDP (annual growth)	1.7% (2019)
Main hazards that may lead to displacement	Cyclonic wind, storm surge, earthquake
Estimated number of people at risk of future displacement	2 395 people per year

Sources: Government of Saint Lucia, 2017a; Slinger-Friedman et al., 2017; IDMC, n.d.; UN DESA, 2019; World Bank, n.d.

As a small island developing State, Saint Lucia is vulnerable to ongoing climate change impacts. The country is not only exposed to extreme weather events, such as hurricanes, but also vulnerable to volcanic and seismic occurrences. Given the country's vulnerability to climate change and related disaster impacts, Saint Lucia is currently ranked as 123rd on the World Risk Index – meaning a relatively low exposure and vulnerability to the impacts of climate change (Behlert et al., 2020). While its global rank may seem to mask its high level of vulnerability, the country has nonetheless been afflicted by recurring disaster events over the years (Table 2).

Table 2. Impact of disaster by event type: Saint Lucia (1760–2014)

Event	Number of occurrences	Deaths	Injured	Missing	Houses destroyed	Houses damaged	Directly affected	Indirectly affected	Relocated	Evacuated
Accident	2	70		2			134			
Biological	13	9					916	104 000		
Coastal erosion	6				40			200		14
Drought	11						31 668	200 500		
Earthquake	12	1								
Epidemic	14	1 381					1 151	29 000		
Fire	14	6	1		1 666		7 628	63 217		
Flash flood	2					169	590	5 466		
Flood	40	5	3		2	2				10
Hurricane	42	877	89	5	249	1 623	11 953	216 317		10 763
Landslide	21	97	33		799	5	472		102	507
Rains	5	5								
Storm	33	7	24	6	311	4	6 017	750		875
Tsunami	2									
Other	6	8	200				257	156 000		
Total	223	2 466	350	13	3 067	1 803	60 786	775 450	102	12 169

Source: UNSDRR DesInventar Sendai, 2020.

Saint Lucia recorded a total of 223 disasters and emergencies between 1760 and 2014, indirectly affecting more than 775,450 people within the period (UNSDRR DesInventar Sendai, 2020). Although the magnitude of climate change impact in the country remains unclear, it is estimated that nearly 2,400 residents are at risk of being displaced in the context of sudden-onset hazards (i.e. extreme weather events such as cyclonic winds and storm surges) every year (IDMC, n.d.). In what could translate as proactive measures to enhancing disaster preparedness and management, distinct policy and legal frameworks have been established in the country. The next section examines how far the distinct national policy and legal frameworks related to migration, climate change, environment and disasters consider or make provision to address human mobility in the context of climate and other environmental changes.

3.2. National governance of the climate and environmental change, disaster, and human mobility nexus

At the national level, several normative frameworks have been enacted to enhance the governance of not only (im)migration and related topics, but also disaster management and adaptation measures relating to the impacts of climate change. Table 3 shows that 7 out of 19 migration, environment, climate change, and DRR policy and legal frameworks identified have at least made some reference to population movements in the context of climate and other environmental changes, including disasters. Despite this recognition, none of them make provision as to long-term and comprehensive responses to the phenomenon, as well as the establishment of related databases and repositories of information at the national level.

Table 3. Policies related to migration, environment, climate change and disaster risk reduction in Saint Lucia

Governance sphere	Year	Policy	Acknowledgement of the climate and environmental change, disaster, and human mobility nexus	Provisions on data-sharing mechanisms
Migration	2017	Immigration Act (Chapter 10.01 of 2017)[a]	No	No provisions
	-	Saint Lucia Diaspora Policy (Draft)[b]	Yes	No provisions
Environment	2005	National Environment Policy and National Environmental Management Strategy (Revised)[c]	No	No provisions
	2006	Environmental Protection Levy Act (Chapter 15.20)[d]	No	No provisions
Climate change	2001	Initial National Communication on Climate Change[e]	Yes	No provisions
	2003	National Climate Change Policy and Adaptation Plan[f]	No	No provisions
	2011	Second National Communication on Climate Change[g]	No	No provisions
	2015	Climate Change Adaptation Policy[h]	No	No provisions
	2015	Intended Nationally Determined Contribution[i]	No	No provisions
	2017	Third National Communication on Climate Change[j]	Yes	No provisions
	2018	National Adaptation Plan[k]	Yes	No provisions
Disaster risk reduction	1995	Emergency Powers (Disasters) Act (No. 5 of 1995)[l]	No	No provisions
	2000	Disaster Preparedness and Response Act[m]	No	No provisions
	2001	Emergency Shelter Policy[n]	No	No provisions
	2006	Emergency Housing Management Policy and Guidelines[o]	Yes	No provisions
	2006	Disaster Management Act[p]	Yes	No provisions
	2006	Hazard Mitigation Policy[q]	Yes	No provisions
	2007	National Emergency Management Plan[r]	No	No provisions
	2009	Comprehensive Disaster Management Strategy and Programme Framework[s]	No	No provisions

Sources: [a]Government of Saint Lucia, 2017b; [b]Government of Saint Lucia, n.d.; [c]Government of Saint Lucia, 2004; [d]Government of Saint Lucia, 2008; [e]Government of Saint Lucia, 2001a; [f]Government of Saint Lucia, 2003; [g]Government of Saint Lucia, 2011; [h]Government of Saint Lucia, 2015a; [i]Government of Saint Lucia, 2015b; [j]Government of Saint Lucia, 2017a; [k]Government of Saint Lucia, 2018; [l]Government of Saint Lucia, 1995; [m]Government of Saint Lucia, 2000; [n]Government of Saint Lucia, 2001b; [o]Government of Saint Lucia, 2006a; [p]Government of Saint Lucia, 2006b; [q]Government of Saint Lucia, 2006c; [r]Government of Saint Lucia, 2007; [s]Government of Saint Lucia, 2009.

3.2.1. (Im)migration policies and legislation

The Immigration Act (Chapter No. 10.01 of 2017) outlines criteria relating to entry, residence and citizenship in Saint Lucia (Government of Saint Lucia, 2017b). While nationals from specific countries are exempted from visa requirements, the Act does not make any provision for consideration of persons who may be seeking entry due to climate and other environmental changes. However, in the wake of a disaster or emergency in Saint Lucia, the Act allows for the prohibition of entry of any person who is not a national. Furthermore, there is no special regulation for the concerted collection of data on migration or the establishment of a national database to that effect. Regardless of the gaps identified, citizens from other (Eastern) Caribbean States who may be seeking entry or residence due to environmental factors could exercise their right to do so under the existing CARICOM Single Market Economy and OECS free-movement arrangements.

Aside from the Immigration Act, the related draft Saint Lucia Diaspora Policy has made some relative strides in galvanizing support to address disaster impacts in the country. Specifically, the policy advocates for diaspora members to focus on coordinating among themselves in order to galvanize support for the country in effectively addressing disaster and emergency situations when the need arises. Despite the generic recognition of the topic, the draft Diaspora Policy does not specify any provisions to effectively address and respond to the specific needs of those on the move due to disasters. Nevertheless, the call on the diaspora members to offer support for the country may well implicitly cover the human mobility dimensions of disasters (Government of Saint Lucia, n.d.).

3.2.2. Climate and environmental change policies and legislation

As shown in Table 3, only three (out of nine) of the national environmental and climate policy and legal documents examined mention the challenges of human mobility in the context of climate and environmental change and disasters in the country. Whereas the Initial National Communication on Climate Change attests that hurricanes play a major role in continued coastal erosion, and stresses that hillsides are ideal relocation sites (Government of Saint Lucia, 2001a), the Third National Communication on Climate Change has been categorical in identifying adaptation options for coastal zones to, inter alia, include economic resources, technical knowledge, and land for people who may have been displaced (Government of Saint Lucia, 2017a).

In order to address the impacts of climate change and related disasters on the country, as well as enhance the protection of displaced people, the need and advocacy is for the establishment of financial and institutional response mechanisms in the country. To this end, the country's Third National Communication on Climate Change further advocates that measures should be put in place by way of continuous data collection, along with the establishment of a reliable database on climate change and related topics that would be accessible to all relevant governmental agencies and other stakeholders (ibid.). With regard to data sharing, several measures have also been proposed alongside the identification of existing policies and legislation, to promote cross-cutting information sharing and networking (ibid., 277).

With the NAP (2018–2028), the country also explicitly acknowledges the effect of loss and damage on the displacement and migration of communities. Most especially, the Plan raises concerns about the potential for an increase in rural–urban migration due to climate change impacts (Government of Saint Lucia, 2018). Despite the concerns expressed, the national Government states clearly in the NAP that it does not recognize migration as an acceptable form of adaptation strategy. But in the wake of constraints to effective adaptation, as well as loss and damage, the Government may consider partnering with other States and organizations in instituting proactive measures to tackle the challenge of displacement and planned relocation of vulnerable communities (ibid., 133).

A key national challenge that has been identified by the Government in the NAP relates to data and information gaps in critical sectors of the economy. While it is admitted that this critical challenge tends to undermine effective planning and decision-making at the national level, the recommendations advanced in the NAP for effective data collection systems, as well as effective monitoring and forecasting

of climatic and meteorological parameters, seem to be limited to only the key sectors like agriculture and health. The establishment of strategic digital platforms or repositories for data and information sharing has been endorsed as a key element to enhanced adaptation as well. In spite of the key propositions outlined, the NAP has not made any reference to the relevance of also consolidating data on migration, displacement and planned relocation. Notwithstanding, there is no discernible attempt in the NAP at establishing any data-sharing mechanisms on the themes. The same observation can be made for the other national climate and disaster governance frameworks examined. Although the frameworks have mostly been categorical in acknowledging that data collection and management are central to climate change adaptation, none have been forceful in submitting strongly for data considerations on the human mobility dimensions of climate and disaster impacts across the island.

3.2.3. Disaster management policies and legislation

Out of the eight normative instruments related to DRR that were examined, only three make reference to the challenges of disaster displacement (see Table 3). Even with this acknowledgement, the issue of data capture and availability is largely missing. While the limited recognition of the mobility dimensions of climate change and disasters across the DRR policy fields may invariably serve to reflect an apparent lack of data or efforts to capture information on these dimensions, nonetheless there appears to be commitment to addressing disaster impacts.

Similar to other Eastern Caribbean States, in Saint Lucia, disaster preparedness, management and recovery are governed within the context of the Emergency Powers (Disasters) Act (No. 5 of 1995) and the Disaster Management Act (No. 30 0f 2006). The provisions of the Emergency Powers (Disasters) Act supplement Section 17 of the national Constitution by setting out the hierarchy of responsibilities and actions to be taken after the proclamation of an emergency.[2] The Minister responsible for DRR at the domestic level is authorized to make orders during a public emergency. These orders relate to requisitioning of transport, food, clothing and other necessities of life during an emergency.

The Disaster Management Act, which served to repeal and replace the 2000 Disaster Preparedness and Response Act, recognizes human mobility by including displacement and planned relocation in the definition of "evacuation". According to the Act, evacuation encapsulates the resettlement of "persons and their belongings from a specific well-defined endangered area, under the threat or impact of a hazard, disaster or emergency, to another safer place" (Government of Saint Lucia, 2006b:355). The objective is to relocate or evacuate people at risk or affected by the disaster or emergency to less vulnerable areas so they can lead normal lives. To operationalize this commitment, the Act stipulated the establishment of NEMO, which is responsible for notifying the public of hazards and emergencies, as well as facilitating assistance during disaster and emergency situations in the country.[3]

Whereas the Disaster Management Act defined the institutional arrangements to deal with the different stages of the disaster cycle in Saint Lucia, it did not include specific provisions on the issue of data and its importance to effective disaster preparedness, management and recovery. However, the need to develop and establish a comprehensive and reliable database, as well as an emergency operations system, is mentioned in the context of the country's obligations towards CDEMA. In line with this expectation, the national Government envisages the establishment of a computerized database system, enabling information sharing and integration into an automated emergency data system. Whereas this obligation is not explicitly related to the collection of specific data on migration, displacement and

[2] Section 17(1) of the Constitution states that the Governor General may, by proclamation published in the Official Gazette, declare that a state of emergency exists. Further, Section 17(2) states that such proclamation "shall not be effective unless it contains a declaration that the Governor General is satisfied (a) that a public emergency has arisen as a result of the imminence of a state of war between Saint Lucia and a foreign state; (b) that a public emergency has arisen as a result of the occurrence of any earthquake, hurricane, flood, fire, outbreak of pestilence or of infectious disease, or other calamity whether similar to the foregoing or not; or (c) that action has been taken, or is immediately threatened, by any person, of such a nature and on so extensive a scale, as to be likely to endanger the public safety or to deprive the community or any substantial portion of the community of supplies or services essential to life".

[3] The Director of NEMO superintends disaster management activities along with a National Emergency Advisory Committee chaired by the Prime Minister. The Committee's responsibilities include establishing additional district committees to assist in carrying out the objectives and functions of the organization as stipulated in the Act and in accordance with the national plan of the State. The Disaster Management Act also authorizes the Governor General to proclaim the whole or part of any treaty to be law during an emergency period. This provision is important in that it allows for the assimilation of systems and guidelines that facilitate and encourage international mutual assistance during disaster and emergency situations. In addition to giving legitimacy to the establishment of the organization, the Act details the provisions in regard to the functions and operation of NEMO.

planned relocation, it is expected that any attempt to establish a national database on disaster in the country could ultimately encompass the human mobility dimensions of disasters or emergencies (Government of Saint Lucia, 2006b).

On the issue of addressing disaster impacts, the Hazard Mitigation Policy and Natural Hazard Mitigation Plan (2006) was developed as a framework in guiding the efforts of the national Government at planning and implementing measures to reduce impacts and vulnerability. Despite setting a host of objectives and activities to advance the DRR agenda, the document only mentions "displacement" once and nothing on other forms of migration, by drawing attention to the impact of flood hazard on the displacement of people and destruction of property (Government of Saint Lucia, 2006c:2). But with "planned relocation" as an important element of human mobility in the context of climate change, the Plan reiterates the need and commitment to relocate human settlements from vulnerable areas, as well as to enforce codes and ensure standard infrastructure as critical measures to addressing hazard impact (ibid.). Similar propositions have been made to develop a comprehensive land use and management plan that prioritizes the aforementioned critical themes, apart from mainstreaming climate change and hazards in physical planning and environmental impact assessments (EIA).

A related disaster governance framework that is worth mentioning is the Emergency Shelter Policy (2001). As part of the National Emergency Management Plan, the purpose of the Emergency Shelter Policy is to spell out the contextual circumstances that will warrant the establishment and subsequent provision of emergency shelters within the national emergency management system (Government of Saint Lucia, 2001b). The goal of the policy is to, inter alia, extend adequate and prompt support in the form of temporary shelters to persons who have been rendered homeless or displaced by disaster. It seeks to be proactive in expediting rehabilitation by also establishing minimum shelter requirements for emergencies and to link shelter management with national evacuation and relief programmes (ibid.).

Finally, the Emergency Housing Management Policy and Guidelines for Internally Displaced Persons (2006) complements the goals outlined in the aforementioned policy and focuses on the establishment of a mechanism to provide emergency housing assistance for households displaced in the context of disasters (Government of Saint Lucia, 2006a). The Policy and Guidelines plans to facilitate recovery by supporting the reconstruction of houses, as well as by offering relocation options for vulnerable or affected communities. Although the Policy and Guidelines implicitly addresses the challenges of displacement and planned relocation in the wake of a disaster, it is silent on the relevance of data collection on the themes that are critical to comprehensive disaster management and response. No provisions have also been made or communicated in terms of establishing any database or data-sharing systems.

3.3. Sources of information and/or data on migration, climate and environmental change, and disaster risk reduction in Saint Lucia

The availability of reliable data and associated databases or repositories at the national level is critical to a better understanding of human mobility in the context of climate and other environmental changes and disasters. In line with this recognition, the Immigration Department, the CSO and NEMO were consulted to determine how they collect, manage, and disseminate data and related information on the topic.

3.3.1. The Immigration Department

In view of the current COVID-19 pandemic, Saint Lucia has transitioned to using a generic online Travel Registration Form, which all persons – both residents and visitors – entering its territory are required to fill (Ministry of Health and Wellness, n.d.). The document collects personal information such as age, sex, marital status, home address and next of kin. However, it does not include any information on nationality and country of birth and/or residence, and it also does not consider the purpose of the visit. Until then, the Immigration Department used the printed Passengers Declaration Under Section 9(1)(A) – Embarkation/Disembarkation Card (ED Card) to capture information related to individuals arriving in or departing from the island nation. Whereas arrival information often recorded includes country and date of birth, home address, marital status, sex, length of stay and purpose of the

visit (vacation, business, visiting friends/relatives, honeymoon/wedding, study, meeting, convention, sport and other), departure information encompasses country and date of birth, nationality, sex, as well as port of final destination. Neither the Travel Registration Form nor the ED Card provides opportunities for capturing information on individuals moving in the context of climate and environmental change and disasters.

Hence, the data gathered by the Department's staff is mostly related to passengers and visitors arriving in and departing from the island nation. The information about the number of people entering or leaving the country and whether they are residents or non-residents is stored in the BMS and regularly shared with other national agencies, such as the statistics and tourism departments. This means that the public and any interested or relevant stakeholders do not have access to the information. There is also no indication of collection, management, and dissemination of data associated with immigration and emigration in the country. According to the Immigration Department, data on climate and environmental change and disaster-related human mobility could assist diplomatic missions in locating their nationals for evacuation during and in the aftermath of a disaster. Nevertheless, human and financial resources, combined with the use of new technologies, are crucial to this end.

3.3.2. The Central Statistical Office

The CSO develops statistics and indicators on key national parameters relating to the economy, society and other critical sectors. Despite generating specific statistics on the environment,[4] it does not produce independent indicators associated with migration, aside from what is shared by the immigration and tourism departments. Moreover, the statistics generated from the information collected on "population"[5] and "tourism" do not give any information that can be related to the general aspects of migration, nor to population movements in the context of climate and environmental change and disasters.

Statistics on the environment presented as part of the Compendium of Environmental Statistics (2001) highlight key variables related to housing, land use, energy and sanitation. Other statistics presented mostly cover information captured on themes such as human settlements, land use, agriculture, forestry, coastal zone and marine resources, water resources, energy, air, climate and tourism. The Compendium dedicates a chapter to "Natural hazards", listing a matrix of disasters recorded in Saint Lucia between 1780 and 2001 (CSO, 2001:63). While the natural (climate) disasters seem to be the most frequent events, the casualties in terms of the number of people rendered homeless is of particular relevance. The total number of people recorded to have been rendered homeless in relation to the different events may be used as a proxy for displaced persons. Although the entries might suffice as data on disaster displacement for the period, the column information does not provide any form of disaggregation. Furthermore, the matrix gives information as to whether those persons who have been rendered homeless (displaced) have relocated or not. But in collecting and presenting statistics and indicators on the environment, the CSO not only acknowledges the existence of environmental factors and their relevance in other social aspects of human life, but also highlights the relevance of presenting data on human mobility in the context of disaster (even if provided by secondary sources of information).

Aside from the environmental statistics and compendium, additional data is also produced as part of the national censuses. The process that resulted in the most recent 2010 Population and Housing Census of Saint Lucia involved the collection of information on housing, population structure, education, as well as fertility and infant mortality (CSO, 2020). However, the thematic analysis presented at the time did not target any information linked to migration or the mobility dimensions of climate and disaster impacts. The raw data set only presents population numbers of the different age groups by districts (CSO, 2018a).

However, the 2010 Census Household and Person Questionnaires (CSO, 2010a and 2010b) outline a specific section on international migration. In addition to asking about household members who have moved abroad within the intercensal period (2001 and 2011), the main reasons for departure or

[4] Environment statistics encompass data on water output and consumption (2012–2019), electricity output consumption in kilowatt-hours (kWh) (2010–2019), distribution of households by type of lighting and district (1991–2010), protected areas, land use, land cover, GHG emissions, as well as forest reserves.

[5] Statistics on population capture data on population estimates and projections, population growth rates, poverty, national insurance and general elections.

return were also probed. The possible options as reasons for migration were limited to the following: "income", "employment", "study", "medical", "marriage", "other family reason", "crime rate" and "other".[6] On the question of reasons for returning to Saint Lucia, the options presented included these: "regard it as home", "family is here", "involuntary return/deported", "to start a business/employment" and "retired".[7] For both sets of questionnaires, environmental factors (e.g. weather conditions, disasters) were not taken into account.

Text box 1. Saint Lucia's Survey of Living Conditions and Household Budgets 2016

Section 9: Shocks and coping strategies

9.1. Did your household experience any significant [SHOCK] due to climatic events during the past five years?
Single-select: Yes/no.

9.2. Rank the three most significant shocks you experienced in the past five years:
Multi-select: Christmas Eve Through (December 2013), Hurricane Tomas (October/November 2010), Drought of 2009–2010, landslides/erosion, drought, flood, other.

9.3. When did the shock first occur (month)?
Single-select: January, February, March, April, May, June, July, August, September, October, November, December.

9.4. When did the shock first occur (year)?
Single-select: 2015, 2014, 2013, 2012, 2011, 2009–2010.

9.4.1. As a result of the [SHOCK], was there a decline in the household income?
Single-select: Yes/no.

9.4.2. Size of decline in household income?
Single-select: Significant (10% or more), moderate (5%–10%)/temporary, minor (1%–5%), no impact (0%).

9.5. As a result of the [SHOCK], did you lose your job?
Single-select: Yes – permanently, yes – temporarily, no.

9.6. Did you experience loss in your household assets?
Multi-select: Income-generating assets, damage to dwelling unit – roof, damage to dwelling unit – walls, damage to dwelling unit – other, damage/loss of vehicle, loss of furniture, loss of electronic equipment (television, stereo, etc.), none of the above.

9.7. Select the area(s) where your household experienced a decline:
Multi-select: Livestock, food production, food purchases, food stocks, none of the above.

9.8. Was the health of anyone in the household affected?
Single-select: Yes/no.

9.8.1. Select the area(s) in which household health was affected:
Multi-select: Digestive, respiratory, emotional, other.

9.9. How did your household cope with this/the [SHOCK]?
Multi-select: Remittances provided by relatives/friends, help provided by government or NGOs, relied on less preferred food options, reduced the proportion or number of meals per day, skipped days without eating, household member(s) took on another job, household member(s) migrated, relied on savings, obtained credit, sold durable household assets, sold livestock, sold land/building, rented out land/building, sent children to live elsewhere, reduced expenditures on health, reduced expenditures on education.

Source: CSO, 2017.

[6] See questions 2 to 10 of the Saint Lucia 2010 Population and Housing Census – Household Questionnaire
[7] See questions 40 to 56 of the Saint Lucia 2010 Population and Housing Census – Person Questionnaire.

With regard to household and other demographic (population-based) surveys, the CSO undertook a Labour Force Survey in 2014 to measure the levels and rates of (un)employment and economic activity at the national level (CSO, 2019). The Labour Force Survey Questionnaire that was deployed for the activity presented questions related to migration in the section dealing with national demographic characteristics, education and training. However, the questions do not probe the reasons for moving (CSO, 2010c). Furthermore, in 2016 the CSO conducted a Survey of Living Conditions and Household Budgets (SLC-HBS) for Saint Lucia. In addition to providing a detailed analysis of the living conditions nationwide, the SLC-HBS served as the basis for the preparation of a programme of action, which set out strategies targeting impoverished population groups and for addressing critical issues and priorities emerging from the activity (CSO, 2018b). Most importantly, the questionnaire for the SLC-HBS presented a whole section on "Shocks and coping strategies" (see Text box 1). The section not only asked whether the household experienced any significant shock due to climatic events in the previous five years, but also requested the ranking of the three most significant shocks encountered during the period (CSO, 2017). Also, in probing how the household coped with such events, the questionnaire listed migration as a possible option. By introducing a whole section on the impacts of climate change and disaster on households, this survey represents an important step towards the recognition of climate- and disaster-related human mobility both at the national and regional levels.

The report released as a result of the SLC-HBS presents a section on "Environment" that covers climate change and disasters. Similarly, the section on "The environment and living conditions" also addresses climate change and disasters from the following perspectives: (a) vulnerability of Saint Lucia's housing stock, (b) adaptive capacity of households, and (c) experiences with recent climatic shocks (CSO, 2018b). Whereas the section on "Environment" highlights that "environmental concerns such as climate change, land degradation, indoor air pollution, and other environmental hazards have been linked to the issues of poverty and social justice" (ibid., 29), it is the section on "The environment and living conditions" that reflects the results of the questions related to shocks and coping strategies.

The section on "The environment and living conditions" indicates that the proportion of households affected by climatic events in the five-year period was higher in districts where vulnerability to landslides and flooding was already high (ibid., 195). Furthermore, even though both poor and non-poor households were affected (8.8%) compared to richer households (7.6%) by climate change and disasters, survey data suggests that non-poor households are likely to have greater potential to adapt to anticipated impacts of climate change and disasters (ibid., 206). As may further be seen from the 2016 SLC-HBS questionnaire (Text box 1), there is a question highlighting the possibility of persons migrating, or households receiving remittances and support from the Government or other non-governmental organizations (evacuation, aid or shelter), as coping strategies during a disaster (see question 9.9). However, forced migration was not presented as a likely effect of disaster or shock. While the number of persons or households displaced could be implied from the number of received support in the form of evacuation or temporary shelter, or job losses, the focus of the questionnaire remains on loss and damage, along with the health impact on the household. In effect, the questionnaire does not allow for the comprehensive capture of persons who may have been forced to move or are on the move because of disaster or shock – as a critical stand-alone category or dimension.

As a whole, the CSO collects and analyses a variety of information on demographic dynamics, socioeconomic indicators and environmental parameters (with the agency's environmental compendium citing data related to disaster displacement, as well as the SLC-HBS questionnaire dedicating a whole section on climate change and disasters and coping strategies). However, there is no evidence of any established database beyond the reports and basic statistics that are published online. Some of the data generated are made available only upon request. Also, no proposition has so far been made to formally establish a comprehensive repository that could serve to support the collection, management, and dissemination of data on human mobility in the context of climate and environmental change and disasters.

3.3.3. The National Emergency Management Organisation

In the event of a disaster in Saint Lucia, NEMO initiates the protocols and procedures established under the CDEMA DANA Continuum. Against this background, NEMO conducts a preliminary qualitative assessment (Stage 2 – ISO) of the impacts within the first 24 hours of the disaster. The initial overview is then followed by a quantitative assessment, which is done within seven days after the event (Stage 3 – IDHNA). Besides providing a quick impression of the extent of the impacts, the assessment helps to guide response by identifying priority areas for attention in order to accelerate recovery. Even though the CDEMA DANA Continuum stages are accompanied by predetermined templates, these have been adjusted by NEMO in order to enable the gathering of information that is of most relevance to the context of Saint Lucia.

For the compilation of information as part of the ISO and IDHNA stages, NEMO respectively uses the LSR-I (see Annex II) and the LSR-CA (see Annex III) Forms. The LSR-I Form enables the collection of data disaggregated by age and disabilities. With regard to human casualties, it accounts for the initial number of deaths and injured people. Despite detailing the number of evacuated people (shelters), NEMO's template does not include fields that could be used to quantify the number of individuals displaced during the emergency. Nevertheless, the quantification of displaced people could be implied from the number of damaged houses in the field showing information on "housing and public buildings", as well as the "level of damage" (minor, major and destroyed). Houses with major damages and houses destroyed could be associated with displacement.

The LSR-CA Form, on the other hand, incorporates data disaggregated by age, sex and disabilities. With regard to human casualties, the form includes the number of deaths, injured and missing people. A limitation, however, is that the LSR-CA does not include the number of evacuated people or any of the human mobility dimensions (e.g. displacement and relocation). Nonetheless, in the field related to "family information", the number of affected people could be quantified from the number of families (members) listed in the form. Similarly, the number of displaced people could be derived from the number of houses damaged and the level of damage. Those with major damages or destroyed could be associated with displacement. Whereas the information gathered through the LSR-I (Stage 2 – ISO) is available to the public, the report produced as an outcome of the LSR-CA (Stage 3 – IDHNA) is submitted to the Cabinet for approval before circulation with CDEMA and other national agencies and departments. This may suggest that not all the data collected through the form is publicly available.

At the national level, NEMO publishes a national disaster catalogue detailing different disaster events in the country. In particular, the Saint Lucia Disaster Catalogue, published by the NEMO Secretariat in 2011, provides some data on disaster events and related impacts. In brief, the Catalogue presents a record of the major disasters and emergencies that took place in Saint Lucia, presenting two databases: one set limited to the period between 1780 and 2011 and the other by events (earthquake, fire, landslide, medical, oil spill, storm and flood, other). Besides providing the date and event, the document points out the number of deaths and people rendered homeless, as well as the economic costs and losses caused by the emergency. Importantly, data on the number of people rendered homeless details information on affected, displaced, evacuated and relocated people. While the inventory of disasters and related information seems to give a fairly quantitative and qualitative insight into the number of disaster events and impacts, the number of people affected, displaced or relocated is not disaggregated (i.e. by age and sex/gender). Notwithstanding, the Catalogue is the only source of information that could serve as reference for the design of a comprehensive national data repository for disasters. Even though NEMO has been actively engaged in collecting data in the wake of disasters through the CDEMA DANA Continuum, the country does not hold any national data-sharing mechanism with which all the data collected could be managed and disseminated. Given that the information generated is directly shared with CDEMA, data is managed by the regional agency and hence not always publicly available.

3.3.4. Other national agencies

Aside from the Immigration Department, the CSO and NEMO, several other national agencies were further extensively engaged to ascertain how far data on human mobility in the context of climate and other environmental changes is being collected, managed and disseminated in Saint Lucia. These other national agencies examined include the following: (a) Ministry of Equity, Social Justice, Empowerment, Youth Development, Sports and Local Government; (b) Ministry of External Affairs, International Trade and Civil Aviation; (c) Ministry of Health and Wellness; (d) Ministry of Infrastructure, Ports, Energy and Labour; and (e) Ministry of Tourism, Information and Broadcasting – Saint Lucia Tourism Authority.

For all these national ministries and agencies that were engaged as part of the national validation workshop, it became apparent that they also undertake some form of data collection on different forms of population mobility in Saint Lucia. Whereas some of the ministries collect information ranging from labour mobility to international migration, all these agencies do not specifically collect data on climate- and disaster-related mobility. The kinds of data and sharing mechanisms that these aforementioned ministries and national agencies present, and the corresponding gaps and opportunities to promote the effective collection of data on climate- and disaster-related mobility, are further elaborated in Annex IV.

3.4. Gaps and limitations to enhanced data collection, analysis and dissemination on human mobility in the context of climate and environmental change and disasters

With global warming projected to continue into the future, the expectation is that climate change risks and impacts will become more frequent and widespread, with devastating outcomes in vulnerable regions of the globe. Because of their location and exposure as small island developing States, Eastern Caribbean countries like Saint Lucia will bear the brunt of extreme events due to ongoing climate change. Addressing climate change and disaster impacts on human mobility across Saint Lucia will require strategic planning and appropriate measures. In this regard, the need for effective data collection and management systems remains crucial to informed policies, climate adaptation, as well as disaster preparedness, response and recovery. To promote coherent and comprehensive data collection where it has not yet been streamlined, this section builds upon an overview of the major gaps and limitations in data availability that have been identified across the distinct national agencies and departments examined as part this study. Besides the gaps, this section also identifies opportunities as basis to outline guidelines and recommendations to enhance the availability, quality and accessibility of data on climate change and disaster-related human mobility in Saint Lucia.

3.4.1. Identified gaps in relation to the Immigration Department

The generation of data on human mobility in the context of climate and environmental change and disasters by the Immigration Department could be facilitated by way of adjusting the established procedures at the various ports of entry. With all persons arriving or departing, either by air or sea, expected to fill out the generic entry/departure form, the established procedures at the various ports of entry/departure provide the opportunity to revise the data-collection processes to allow for the capture of information on the aforementioned themes. With regard to data collection on the topic by the Immigration Department, the following gaps and limitations were identified:

i. The Passengers Declaration Under Section 9(1)(A) – Embarkation/Disembarkation Card (ED Card), which was the main instrument that every person used to fill out at the port of entry before the COVID-19 pandemic, does not include climate change impacts and disaster as part of the options provided for the purpose of the visit. Furthermore, the Travel Registration Form does not probe the reasons for seeking entry into the country. As a result, none of the forms are able to capture population movements associated with environmental factors.

ii. The Department does not also have any established database or repository for immigration and emigration. The information hosted in the BMS is limited to an inventory of the number of people entering or leaving the country.

iii. The Department does not have established protocols or procedures related to the management and sharing of collected data. Although the data collected is periodically shared with the CSO, it is not clear how far data is managed and shared with other relevant national agencies.

3.4.2. Identified gaps in relation to the Central Statistical Office

Considering that the CSO generates statistics and indicators on key national parameters relating to the economy, society, and other critical sectors to inform national development planning and policy, there is also the need for comprehensive data on climate- and disaster-related human mobility. Despite having correlated the climate and environmental change, disaster, and human mobility nexus in the 2016 SLC-HBS, there are still gaps and constraints in terms of how the CSO collects, manages and disseminates data on the topic. These include the following:

i. Despite developing statistics on environment, with data on GHG emissions, the Office does not present any indicators on climate change and disasters and related migration.

ii. The 2010 Census Person/Household Questionnaire presents questions related to migration. However, it does not probe the reasons for moving. As a result, the census questionnaire does not make provision to allow for the capture of environmental factors as reasons for migration. The analysis of the census questionnaire indicates that the collection of data on migration is often done in a generic way, with the primary focus on international migration and people living abroad.

iii. The National Labour Force Survey also collected data related to migration. However, the questions often presented do not probe the underlying reasons informing the decision to move or migrate. Furthermore, the survey does not consider the role of environmental factors in the decision to stop and/or quit an employment.

iv. Despite including queries on disaster shocks and coping with job losses, health, as well as possibilities of migration, the SLC-HBS questionnaire does not make provision to allow for the comprehensive capture of "forced migration" due to the impact of disaster or shock.

3.4.3. Identified gaps in relation to the National Emergency Management Organisation

NEMO being the main agency that deals with disaster management, impact assessment and response, the development of data on the human mobility dimensions of disaster is vital to ensuring a comprehensive approach to disaster response in Saint Lucia. In view of this, there is the need to examine the state of disaster data collection and ways to promote the availability, quality and accessibility of information on disaster-induced displacement in the context of NEMO. In terms of data collection, management, and dissemination on the topic of disaster and impact on human mobility, the host of gaps and limitations that have come to light include the following:

i. The LSR-I Form (used for Stage 2 of the DANA Continuum) is designed for the collection of qualitative information on the extent of impact and damage during and in the aftermath of a disaster or related emergency. However, a gap is that the LSR-I does not collect data directly linked to the human mobility dimension other than the number of evacuated people or temporary shelters provided.

ii. The LSR-CA that is deployed to collect quantitative data as part of Stage 3 (IDHNA) of the DANA Continuum does not also account for the human mobility dimension. Hence, the possibility to directly capture data on persons who may have been displaced, evacuated or forced to relocate is missing.

iii. Another limitation or gap is that NEMO does not have any identifiable or established official database or repository for disaster data, which could serve as a reference or portal that could be readily accessed by any interested party. The catalogue of disaster events that is published online is just a report or inventory of disaster events or PowerPoint slides on different years.

4. GUIDELINES FOR IMPROVED AND STANDARDIZED DATA ON THE CLIMATE AND ENVIRONMENTAL CHANGE, DISASTER, AND HUMAN MOBILITY NEXUS IN SAINT LUCIA

The need for enhanced data collection and the establishment of reliable databases have widely been acknowledged as critical to evidence-based policies, development planning, climate adaptation, and effective disaster preparedness and response. Given the lack of clear definitions and parameters surrounding the climate and environmental change, disaster, and human mobility nexus, generation of data and evidence on the topic calls for proactive actions. In addition to the establishment of harmonized databases, the recommendation is also for the distinct national agencies to consider developing common methodologies and protocols to enable harmonized data collection, management and dissemination.

The following activities or guidelines are proposed to enhance the collection and availability of data on human mobility in the context of climate, disaster and other environmental changes in Saint Lucia. They include the necessary first steps and effective ways to identify and develop the baseline for data availability, quality and accessibility at the national level. This would allow for collaboration and a system to support the generation of comparable data, analyses and reports for policy. These guidelines and opportunities are further elaborated in the Regional Report.

Step 1: *Coordinate and exchange information for improved decision-making.*

Objective: *Contribute to an evidence-based decision-making process through the development of a technical working group (TWG) to promote regular information exchange and strengthened coordination of migration, environment, disaster and climate change data at the national level.*

Developing a common set of protocols and methodologies for data collection using similar indicators requires effective coordination and cooperation among national agencies. As a first step, therefore, the three main national agencies (Immigration Department, CSO and NEMO) could consider establishing a TWG. The TWG could also be envisioned in the form of an inter-agency working group. This proposed working group could be tasked with coordinating or having oversight over data collection in relation to questions on human mobility in the context of climate and environmental change and disasters in Saint Lucia. A national TWG of this kind could contribute to maintaining focus on addressing climate and disaster impact on human mobility. Second, its activities could allow for transparency across the participating agencies as basis for building and sharing reliable data for informed policy and decision-making. This could be done in collaboration or with the support of international and regional organizations (e.g. IOM and its GMDAC) to help establish the structures and build capacity.

To facilitate its work, the TWG could be a network of national migration, environment, disaster and climate change data focal points. This could include officers from the Immigration Department, the CSO and NEMO, as well as representatives from all national agencies dealing with data collection, management and dissemination. The TWG could designate an official with expertise in data management as a liaison between national authorities and the TWG. Alternatively, a regular task force could foster cooperation and promote effective liaison between the TWG and other national agencies producing data.[8]

[8] See Chapter 6 of the Regional Report for an elaboration on this activity.

Step 2: *Adopt new practices and common protocols that harmonize with regional and international standards.*

Objective: *Assist in establishing new practices and developing common methodologies and protocols that harmonize with regional and international standards on migration, environment, disaster and climate change data.*

Efforts could be geared at ensuring the standardization of procedures that guide the collection, management and dissemination of data on the topic of climate- and disaster-related mobility at the national level. As such, the focus could be on the development of protocols with harmonized methodologies to be employed by the national agencies. Drafting of the common protocols and methodologies could be guided or aligned with international standards; glossaries with standardized indicators, categories and concepts for data collection (see Section 6 of the Regional Report for further details as outlined by the United Nations Statistical Commission's Decisions on International Migration Statistics (UNSC, 2021:19)); as well as the International Labour Organization's guidelines concerning statistics of international labour migration (ILO, 2018). As an example, the data indicators highlighted in Text box 2 of the Regional Report could also serve as pointers or reference for the collection of data on climate and environmental change and disaster-related mobility at the national level.

Step 3: *Establish thematic data collection and management processes.*

Objective: *Foster the availability and quality of a migration, environment, disaster and climate change data management process.*

In regard to aspects of data collection and compilation at the national level, the Immigration Department could take up responsibility as the lead agency for coordinating the collection of data on cross-border movements associated with climate and other environmental changes, including disaster at the regional scale. By revising its Travel Registration Form, the Department could ensure the incorporation of distinct environmental factors among the options for purpose of visit or stay – that is, state explicitly not only disaster-related impact, but also other environmental changes (e.g. weather conditions, food scarcity, soil erosion/infertility and deterioration of livelihoods) as reasons for seeking entry, along with a focus on post-disaster displacement and emigration.

On the part of NEMO, the focus could be more on gathering data on (forced) internal population movements as a result of disasters and related emergencies. As earlier noted, the predetermined form that CDEMA provides for the development of IDHNA (Stage 3 of the DANA Continuum) presents a veritable opportunity in terms of quantifying disaster impact. As such, revising or adapting the current forms that are being used could facilitate the collection of disaggregated data (e.g. by age and sex), and information related to human casualties (e.g. deaths, injured and missing people) and houses damaged/destroyed. It could also enhance the effective accounting of the human mobility dimension (number of displaced, evacuated and relocated persons) at the national level.

Additionally, the collection of data related to human mobility in the context of slow-onset processes could be strengthened. This aspect has been proven to be more difficult to capture by national departments related to migration and disaster management. Available data is usually related to rapid-onset events and restricted to the emergency moment. The focus is mostly on evaluating, for instance, the number of evacuees and housing damages. Nevertheless, attention may also be shifted to promoting data collection and analysis on population movements that are more likely instigated by slow-onset events, such as droughts, which most often tend to affect more people on aggregate as compared to rapid-onset events. In view of the distinct nature of slow-onset events, information on these processes and related human mobility could be captured by the CSO through regular household and other demographic (population-based) surveys or environmental statistics compendiums. In this instance, the SLC-HBS which gathers data on "shocks and coping strategies" (see Text box 1) could serve as a viable means to expand on indicators and capture information on slow-onset events and their impacts on human mobility.

As revealed by the study, none of the three aforementioned national agencies has a specific repository for data. But with financial constraints often advanced as a challenge to enhanced data collection, management and dissemination, the data initially compiled by the Immigration Department and NEMO could be integrated and synchronized in a common database under the responsibility of the CSO. In this way, the CSO could be responsible for processing all the information provided, in a systematic way. This could enable the production of statistics and indicators on all the dimensions of human mobility in the context of climate change and other environmental impacts. For this reason, data collected should be easily convertible to statistics, in line with the recommendations advanced by the Expert Group on Refugee and Internally Displaced Persons Statistics (EGRIS) (European Union and the United Nations, 2018a), as well as the United Nations Statistical Commission's Decisions on International Migration Statistics (UNSC, 2021).

Step 4: *Arrange for the CSO to disseminate statistical outputs on human mobility in the context of climate change and other environmental impacts, and raise awareness.*

Objective: *To enhance knowledge on the linkages between migration, environment, disasters, and climate change and to make the statistics produced/generated by the CSO available and accessible for wider use.*

Once the data is duly managed/processed, the CSO could in its periodic reports dedicate specific sections to analysis and presentation of the situation regarding human mobility in the context of climate change and other environmental impacts in Saint Lucia. The analysis and generation of compendiums/reports could take place in close collaboration with other data providers like the Immigration Department and NEMO. In line with this, the establishment of a timetable, as well as the formulation of a uniform format/structure for the reports, would be desirable. This could facilitate the production of a national profile when it comes to data on the topic. The reports could be designed in a way that enables their (electronic) availability to the general public and other relevant stakeholders. In this vein, the development of (extra) internal reports could guarantee the confidentiality of possible sensitive information.

As a start, the CSO could already take advantage of existing data on the topic, mostly provided by international databases (see Annex I in the Regional Report), to create a national portal or platform. This could serve as a first step and basis to continuously refine and integrate critical aspects or themes of interest in building a robust and reliable thematic national database.

Step 5: *Develop comprehensive legal and policy frameworks at the national level for enhanced mobility governance.*

Objective: *To effectively manage human mobility in the context of climate change and other environmental impacts.*

The implementation of the aforementioned steps would enable the development of a country-specific profile on human mobility in the context of climate change and other environmental impacts in Saint Lucia. This could in turn foster evidence-based policy formulation that considers all relevant aspects related to human mobility. Hence, in addition to acknowledging the topic in national policy and legal frameworks, the robust and reliable set of data generated in the country could facilitate the establishment of effective measures and strategies through informed planning and decision-making. It is known, for instance, that disaster preparedness measures, as part of broader DRR strategies, can significantly increase resilience and reduce the need to move.

In relation to the foregoing, measures or strategies could also be instituted to enhance knowledge and data production through capacity-building, extensive scientific research, and data collection on the impacts of climate and other environmental changes in Saint Lucia. Besides establishing adequate funding mechanisms, the national Government could consider providing and applying state-of-the-art technology to support research, data collection, and data management as crucial elements to data

reliability and security. Regular, extensive research and use of different methodologies could facilitate better insights into the dynamics of human mobility in disaster or emergency situations, as well as a much more comprehensive capture of data on the topic. The use of improved technology to support data collection and management could be key to ensuring data security and reliability. The availability of credible and reliable data could contribute to disaster response, and planning and development of adaptation strategies at the national level.

5. CONCLUSION AND RECOMMENDATIONS

The report assessed Saint Lucia's national data systems in relation to migration, environment, climate change, and disasters in order to identify strengths, weaknesses, and opportunities to enhance the collection, management, and dissemination of data on human mobility in the context of climate and environmental change and disasters. While data on the topic is still limited at the national level, the development of country-specific, disaggregated, and comprehensive data on climate- and disaster-related human mobility in Saint Lucia calls for coordination, collaboration, and proactive actions among national agencies and departments (especially the Immigration Department, the CSO and NEMO).

The generation of information on climate change and disasters, as potential drivers that could aggravate existing mobility patterns or mass displacement, could be enabled by adjusting established forms and procedures at the existing ports of entry and departure in Saint Lucia. This could involve developing specific statistics and indicators on environment and human mobility, as well as considering the status of human displacement and other forms of human mobility (i.e. evacuation and relocation) in the collection of disaster data. The availability, quality and accessibility of data on the topic are key to help the national Government plan and develop evidence-based and holistic policies and strategies to effectively address the negative impacts of climate and other environmental changes, as well as to promote adequate disaster management at the national level. To promote and enhance the collection and availability of data on the climate and environmental change, disaster, and human mobility nexus in Saint Lucia, the following strategies and recommendations are further outlined for the three main sources or national agencies identified.

Strategies and recommendations for enhanced data collection, management and dissemination within the Immigration Department

In view of the observed limitations and gaps, the following actions or strategies are recommended for improved and standardized data-collection processes and data-sharing systems on human mobility in the context of climate and environmental change and disasters within the frame of the Immigration Department:

i. The Immigration Department could consider revising the current Travel Registration Form to include a specific field on "purpose of visit". This field could encompass environmental factors (e.g. weather conditions and disasters) as part of the options. Alternatively, a specific question explicitly stating climate and environmental change or disaster-related impacts as reasons for seeking entry could be added. In addition, adjustment could be made to allow for the collection of data on persons who may also be departing or emigrating (whether permanently or temporarily) because of environmental drivers or disaster displacement.

ii. The Travel Registration Form already collects administrative data on date and country of birth, nationality, and home address. This invariably enables the identification of CARICOM and OECS citizens. While this helps to distinguish citizens of member States, the Department could consider integrating a field to allow for the capture of information on the sex (gender) of persons arriving in or departing from the island. This could facilitate the collection of disaggregated data on the topic at the various ports of entry. It could help to plan, mobilize resources and initiate targeted response in the wake of a disaster. It could also help in, for example, ascertaining housing needs and in the spatial planning of settlements and shelters, as well as inform planning in terms of health-care delivery.

iii. The Department could consider developing a robust data system that allows for hosting data not only on passenger arrivals and departures, but also on immigration and emigration. With the BMS already hosting information on passenger arrivals and departures, the system could be upgraded or transformed into a comprehensive data system that accounts for immigration and emigration, as well as climate- and disaster-related mobility that may be detected at the ports. This could serve to be a one-stop national repository with data on mobility. In this case, other national agencies and the CSO could draw on this proposed repository to inform national development planning and policy processes

iv. The BMS could be harmonized with systems of other national agencies or Eastern Caribbean States that collect related data on mobility. Expanding and harmonizing the BMS with other national agencies could help to establish a common database that covers the different dimensions of mobility (i.e. climate and environmental change and disaster mobility). This common data system could help mitigate information duplication and hence lead to an improvement in the quality of the data being collected.

v. In support of improving and expanding the BMS, the Department could also consider prioritizing or enhancing the collection, analysis, reporting and sharing of environment-related migration data by designating an officer with responsibilities to monitor the process, as well as facilitating capacity-building. Complementary capacity-building for officials through periodic training, assessment of the data-collection process, and acquisition of technology and software tools could contribute to a comprehensive data collection and management system in Saint Lucia for development planning and disaster preparedness and response. This arrangement could contribute to a robust database and improved data quality, availability and dissemination. The prioritization could be complemented by way of developing methodologies and common protocols that clarify how data could be collected at the existing ports of entry, as well as how this information could subsequently be managed and disseminated.

Strategies and recommendations for enhanced data collection, management and dissemination within the Central Statistical Office

Based on the gaps and constraints in terms of data collection and availability, the following recommendations are proposed to strengthen statistical information on migration, environment, disasters and climate change in Saint Lucia:

i. Promote the inclusion of statistics and indicators on climate change and disasters in the cluster dealing with environment. The development of environmental statistics and subsequent publications (e.g. environmental compendiums) could specifically integrate or give consideration to indicators on disasters and climate-related issues with a priority to capture the human mobility dimension. Whereas indicators related to disasters could be detailed with disaggregated data (e.g. by age and sex) and defined categories (e.g. displaced, evacuated and relocated people, as well as those unable to move), those related to climate change could be holistic. That is, comprehensive data can be compiled by including critical aspects such as drivers, impacts, adaptation and mitigation, with a specific focus on communities most vulnerable to the effects of climate change (UNSC, 2018a).

ii. Another proposition is for the next census questionnaires to be designed (or revised) to allow for the visibility and capture of data on the human mobility categories, such as internal and cross-border migration, displacement, relocation, as well as other forms of movement. In this sense, specific questions related to the motivation that led to the movement could include environmental factors (e.g. weather conditions and disasters) in the response options. Examples could be drawn from the successful integration of these themes into the population censuses of Colombia and Ethiopia (2018), Djibouti (2005), as well as that of Somalia (2013/2014) (UNSC, 2020:51–54).

    With the questionnaire that was prepared for the Ethiopia population census, for example, there was a specific question on "reasons for migration". The options or responses presented included

the following: "search for job", "join family", "education", "marriage/divorce", "drought/environmental degradation", "dispute/conflict", "health" and "other". Similarly, the 2005 Djibouti population census asked about "years at place of residence", "last place of residence" and "reason for move". The options provided as responses included the following: "professional reasons (hiring, transfer, establishment of business)", "urgent reasons (drought, flooding, food shortages, war)", "personal reasons (family reunification, health reasons)", "school reasons" and "seeking amenities". These are national censuses that could provide good and practical references in formulating questionnaires of upcoming population censuses in Saint Lucia. This could help to capture data that also accounts for environmental factors as precursors for movement.

iii. For upcoming and subsequent national household surveys and other demographic (population-based) surveys, emphasis could be placed on not only the collection of data on the human mobility dimension, but also disaggregation of the data being collected (UNHCR, 2019). As already successfully piloted in Péten, Guatemala (Grandia et al., 2001; Laczko and Aghazarm, 2009), household demographic and welfare surveys could endeavour to incorporate queries about climate and environmental risks and migration into the respective questionnaires (UNSC, 2018b). In particular, the next Labour Force Survey could, for instance, consider integrating queries on the role of environmental factors in the decision to migrate, or possible reasons for quitting/changing jobs. This could enable the collection of data on people who became unemployed because of climate and other environmental changes.

   The 2016 SLC-HBS of Saint Lucia, for example, has a whole section on "shocks and coping strategies" related to the impacts of climate change and disasters on households. By probing with specific questions on the topic, the survey allowed for the collection of data on individuals' perception of environmental factors and disasters, as well as their impacts on livelihoods, the economic situation, and security and possible influence on the decision to move. As such, this survey can be considered an important step towards the recognition of climate- and disaster-related human mobility in Saint Lucia.

iv. To ensure that data collected is of good quality and reflects current developments, surveys on the population's living conditions could be conducted on a regular basis. Depending on the availability of resources, a design to conduct regular surveys could promote the development of a robust and reliable database to support informed decision-making and planning. As a strategy, the national Government and the CSO could consider (depending on availability of necessary resources) dedicating a section in specific surveys only for assessing human mobility patterns. This could enable the production of detailed information that could be associated with climate and other environmental changes (including disasters and slow-onset events). This could contribute greatly to decision-making and planning at the national level.

Strategies and recommendations for enhanced data collection, management and dissemination within NEMO

In reference to the data gaps and constraints identified in the context of NEMO, the following actions are recommended for collecting improved and standardized data on disaster displacement:

i. First, NEMO could consider adjusting its LSR-I Form according to the predetermined form from CDEMA for the development of the situation report (ISO Form) at the national level. The ISO Form has a specific field on "no. of people in shelters", "displaced populations" and "others".[9]

ii. Other than the information on houses damaged/destroyed, as well as on human casualties (e.g. deaths, injured and missing people), that the LSR-CA Form collects as part of the IDHNA (Stage 3 – DANA Continuum), the form could be revised to facilitate the effective accounting of the human mobility dimension (number of displaced, evacuated and relocated persons). This could

[9] See Annex III of the Regional Report.

be complemented by also developing proxies to determine displacement that may be instigated by disasters, particularly when it is not possible to directly capture data on persons who may have fled or been forced to move as a result of an emergency.

iii. There is the need for NEMO to develop a common national database for disaster data from which the information compiled and kept in the format of reports could be managed and disseminated. This proposed development of a common repository could make provision to allow for the validation of data collected and also present data on the human mobility dimensions of disaster in Saint Lucia.

iv. To ensure that the proposed national disaster database is robust and current, there should be established, validated, and harmonized methodologies and protocols on how to collect, manage and disseminate raw data on disaster at the national level. The endeavour could entail the development of standardized/common categories and definitions – that is, clearly highlight the criteria for categorizing human damage (ensuring, among others, the incorporation of a specific category on displacement) (European Union and the United Nations, 2018b). This could guide the activities of all the national actors often involved in the collection of disaster data, and also offer opportunities for data cleaning and quality.

v. With several actors often involved in collecting data during a disaster, NEMO could build capacity by way of regular training for the team(s) responsible for the DANA Continuum procedures, as well as orienting them on national plans and protocols. This could help build knowledge and awareness of the need to capture comprehensive data on all the human mobility dimensions of disaster for informed planning, management and response.

GLOSSARY

Arrival/departure card: "A card filled out for customs, and immigration and emigration procedures by an individual prior to or upon arrival in or departure from the country of destination and presented (along with identity documents and, if requested, a visa) to officials at the border crossing point." (IOM, 2019:11)

Climate migration: "The movement of a person or groups of persons who, predominantly for reasons of sudden or progressive change in the environment due to climate change, are forced to leave their habitual place of residence, or choose to do so, either temporarily or permanently, within a State or across an international border." (IOM, 2019:31; see also IOM, 2016:5)

Country of usual residence: "The country in which a person has his or her usual or habitual residence." (IOM, 2019:40)

Disaster: "A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts." (IOM, 2019:50)

Disaster displacement: "The movement of persons who have been forced or obliged to leave their homes or places of habitual residence as a result of a disaster or in order to avoid the impact of an immediate and foreseeable natural hazard." (IOM, 2019:51)

Displacement: "The movement of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters." (IOM, 2019:55)

Emigration: "From the perspective of the country of departure, the act of moving from one's country of nationality or usual residence to another country, so that the country of destination effectively becomes his or her new country of usual residence." (IOM, 2019:64)

Entry: "In the migration context, any crossing of an international border by a non-national to enter into a country, whether such a crossing is voluntary or involuntary, authorized or unauthorized." (IOM, 2019:64)

Environmental migration: "The movement of persons or groups of persons who, predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are forced to leave their places of habitual residence, or choose to do so, either temporarily

or permanently, and who move within or outside their country of origin or habitual residence." (IOM, 2019:65; see also IOM, 2011:33)

Evacuation: "Facilitation or organization of transfer of individuals or groups from one area/locality to another in order to ensure their security, safety and well-being." (IOM, 2019:65)

Forced displacement: "In a more general sense, forced displacement – or displacement – is the involuntary movement, individually or collectively, of persons from their country or community, notably for reasons of armed conflict, civil unrest, or natural or man-made catastrophes." (IOM, 2011:39; see also IOM, 2014a:12)

Forced migration: "A migratory movement which, although the drivers can be diverse, involves force, compulsion, or coercion." (IOM, 2019:77)

Hazard: "A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation." (UNGA, 2016:18; see also IOM, 2019:89)

Human mobility: "A generic term covering all the different forms of movements of persons." (IOM, 2019:93)

Immigration: "From the perspective of the country of arrival, the act of moving into a country other than one's country of nationality or usual residence, so that the country of destination effectively becomes his or her new country of usual residence." (IOM, 2019:103)

Migration: "The movement of persons away from their place of usual residence, either across an international border or within a State." (IOM, 2019:137)

Migration management: "The management and implementation of the whole set of activities primarily by States within national systems or through bilateral and multilateral cooperation, concerning all aspects of migration and the mainstreaming of migration considerations into public policies. The term refers to planned approaches to the implementation and operationalization of policy, legislative and administrative frameworks, developed by the institutions in charge of migration." (IOM, 2019:139)

Planned relocation: "In the context of disasters or environmental degradation, including when due to the effects of climate change, a planned process in which persons or groups of persons move or are assisted to move away from their homes or place of temporary residence, are settled in a new location, and provided with the conditions for rebuilding their lives." (IOM, 2019:157)

Visitor: "In the migration context, the term is used in some national legislation to designate a non-national authorized to stay temporarily on the territory of a State without participating in a professional activity." (IOM, 2019:228)

Vulnerable group: "Depending on the context, any group or sector of society (such as children, the elderly, persons with disabilities, ethnic or religious minorities, migrants, particularly those who are in an irregular situation, or persons of diverse sex, sexual orientation and gender identity (SSOGI)) that is at higher risk of being subjected to discriminatory practices, violence, social disadvantage, or economic hardship than other groups within the State. These groups are also at higher risk in periods of conflict, crisis or disasters." (IOM, 2019:230)

ANNEXES

ANNEX I. LIST OF REGIONAL STAKEHOLDERS AND NATIONAL DEPARTMENTS INVOLVED IN THE QUESTIONNAIRE ACTIVITY

REGIONAL	
Stakeholder	Department
Organisation of Eastern Caribbean States (OECS)	Climate Change and Disaster Resilience Unit (CCDRU)
Caribbean Community (CARICOM)	Secretariat
Africa Caribbean Pacific (ACP) Group of States	Special Committee on Disaster Risk Reduction
Global Climate Change Alliance (GCCA)	Caribbean Planning for Adaptation to Climate Change Project (CPACC)
Caribbean Portal for Migration Governance (CPMG)	Secretariat
Caribbean Disaster Emergency Management Agency (CDEMA)	Secretariat
Caribbean Natural Resources Institute (CANARI)	Secretariat
University of the West Indies (UWI)	The Disaster Risk Reduction Centre (DRRC) – Institute for Sustainable Development
Caribbean Policy Development Centre (CPDC)	Secretariat
United Nations Office for Disaster Risk Reduction (UNDRR)	Regional Office for the Americas and the Caribbean

NATIONAL	
Country	Department
Saint Lucia	Immigration Department
	Central Statistical Office (CSO)
	National Emergency Management Organisation (NEMO)

ANNEX II. LOCAL SITUATION REPORT (LSR-I)

DAMAGE ASSESSMENT AND NEEDS ANALYSIS
LOCAL SITUATION REPORT – Initial

DETAILS

DATE: YEAR _____ MONTH _____ DAY _____ TIME _____ : _____
PRESENTED BY (Name/Institution) _____

GEOGRAPHIC LOCATION

REGION (PROVINCE) _____
PARISH: _____
AREA/ZONE: _____

ACCESS

TYPES OF ROUTES

	CONDITION			
	UNAFFECTED	AFFECTED	DESTROYED	COMMENTS
AIR				
GROUND				
RIVER				
MARINE				
OTHER				

LOCATION: ***(using point of reference...)***

DISTANCE _____ FROM _____ TO _____
TIME _____ FROM _____ TO _____

CLIMATIC CONDITIONS:

CLEAR ☐ CLOUDY ☐ TEMPERAT. ☐
RAINY ☐ TORRENTIAL RAIN ☐ WINDS ☐
OTHER: _____

CHARACTERISTICS OF THE EVENT:

TIME: ***(Date)***

YEAR _____ MONTH _____ DAY _____ PROBABLE STARTING TIME ____ : ____

TYPE OF GENERATING EVENT:

EARTHQUAKE ☐ STORMS / HURRICANES ☐
TSUNAMI ☐ FLOODS ☐
VOLCANIC ERUPTIONS ☐ DROUGHTS ☐
LANDSLIDES ☐ OTHER: _____ ☐

DESCRIPTION OF THE EVENT:

_____
_____
_____
_____
_____

SECONDARY EFFECTS: ***(Landslides from rains, fires after an earthquake...etc.)***

_____
_____
_____

IMPACT OF THE EVENT: **Level I** | **Level II** | **Level III** | **Level IV**

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LOCAL SITUATION REPORT – Initial

ADVERSE EFFECTS

HEALTH

INJURED
IN HOSPITALS _____
ON FOOT _____

DEAD
MORGUE _____
OTHER PLACES _____

HOSPITALS / HEALTH CENTRES

FUNCTIONAL CONDITION_____
PHYSICAL CONDITION_____
_____

AFFECTED HEALTH AND EMERGENCY RESOURCES

	DOCTORS	NURSES	POLICE	FIREMEN	OTHERS
INJURED					
DEAD					

SHELTERS

OPENED _____ CAPACITY _____
STATUS _____
PEOPLE EVACUATED _____
_____

LIFE LINES

	UNAFFECTED	AFFECTED	DESTROYED	FUNCTIONING	NOT FUNCTIONING	DEFFICIENT	LOCAL SOLUTION	OUTSIDE HELP	OBSERVATIONS
DRINKING WATER									
SEWERS									
ENERGY									
TELECOMMUNICATIONS									
TRANSPORTATION									

HOUSING AND PUBLIC BUILDINGS

	UNAFFECTED	AFFECTED	DESTROYED	FUNCTIONING	NOT FUNCTIONING	DEFFICIENT	LOCAL SOLUTION	OUTSIDE HELP	OBSERVATIONS
COMMUNITY CENTRES									
GOVERNMENT OFFICES									
TEACHING CENTRES									
CHURCHES									
HISTORICAL SITES									

	Minor Damage	Major Damage	Destroyed
HOUSING			

PRODUCTIVE INFRASTRUCTURE

PRIMARY SECTOR	UNAFFECTED	AFFECTED	DESTROYED
FORESTRY			
AGRICULTURE			
LIVESTOCK & POULTRY			
FISHERY & AQUACULTURE			
SECONDARY SECTOR			
FACTORIES			
INDUSTRIES			
TERTIARY SECTOR			
TRADE			
BANKS			
HOTELS			

COMMENTS:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

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LOCAL SITUATION REPORT – Initial		
AVAILABLE RESOURCES		
	TYPE	QUANTITY
HUMAN		
MATERIAL		
ECONOMIC		

NEEDS ANALYSIS			
	TYPE	QUANTITY	PRIORITY
HUMAN			
MATERIAL			
ECONOMIC			

COMMENTS:

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ANNEX III. DAMAGE ASSESSMENT AND NEEDS ANALYSIS, LOCAL SITUATION REPORT – COMPLEMENTARY ASSESSMENT (LSR-CA)

DAMAGE ASSESSMENT AND NEEDS ANALYSIS
LOCAL SITUATION REPORT – Complementary Assessment

DETAILS

DATE: YEAR _____ MONTH _____ DAY _____ TIME _____ : _____
PRESENTED BY (Name/Institution): _____

GEOGRAPHIC LOCATION

REGION (PROVINCE): _____
PARISH: _____
AREA/ZONE: _____

ACCESS

TYPES OF ROUTES

	CONDITION			
	UNAFFECTED	AFFECTED	DESTROYED	COMMENTS
AIR				
GROUND				
RIVER				
MARINE				
OTHER				

_____
_____

LOCATION: ***(using point of reference...)***

DISTANCE _____ FROM _____ TO _____
TIME _____ FROM _____ TO _____

CLIMATIC CONDITIONS:

CLEAR ☐ CLOUDY ☐ TEMPERAT. ☐
RAINY ☐ TORRENTIAL RAIN ☐ WINDS ☐
OTHER: _____

CHARACTERISTICS OF THE EVENT:

TIME: ***(Date)***

YEAR _____ MONTH _____ DAY _____ PROBABLE STARTING TIME ____ : ____

TYPE OF GENERATING EVENT:

EARTHQUAKE ☐ STORMS / HURRICANES ☐
TSUNAMI ☐ FLOODS ☐
VOLCANIC ERUPTIONS ☐ DROUGHTS ☐
LANDSLIDES ☐ OTHER: _____ ☐

DESCRIPTION OF THE EVENT:

_____
_____

For earthquakes, indicate magnitude:

Magnitude: ☐ Epicentre: _____
Distance from epicentre to Zone being assessed: _____

SECONDARY EFFECTS: ***(Landslides from rains, fires after an earthquake)***

_____
_____
_____

IMPACT OF THE EVENT: **Level I** | **Level II** | **Level III** | **Level IV**

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ADVERSE EFFECTS

HEALTH

INJURED

Initial Medical Attention Outside Hospital

Patients referred to hospitals/health centres

AGE	Under 1	1-4	5-14	15-44	45-65	More than 65	Total
Male							
Female							
SubTotal							

Patients on foot (ambulatory)

AGE	Under 1	1-4	5-14	15-44	45-65	More than 65	Total
Male							
Female							
SubTotal							

Patients who received initial medical attention outside hospital

AGE	Under 1	1-4	5-14	15-44	45-65	More than 65	Total
Male							
Female							
SubTotal							

Patients Attended to at Hospitals/Health Centres

Ambulatory Patients

AGE	Under 1	1-4	5-14	15-44	45-65	More than 65	Total
Male							
Female							
SubTotal							

Hospitalized

AGE	Under 1	1-4	5-14	15-44	45-65	More than 65	Total
Male							
Female							
SubTotal							

Referred

AGE	Under 1	1-4	5-14	15-44	45-65	More than 65	Total
Male							
Female							
SubTotal							

Total patients Attended to at Hospitals/Health Centres

AGE	Under 1	1-4	5-14	15-44	45-65	More than 65	Total
Male							
Female							
SubTotal							

DEATHS

OFFICIAL	MALE	FEM.	Total
Adults			
Children			
Total			

NON OFFICIAL	MALE	FEM.	Total
Adults			
Children			
Total			

MISSING

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LIFE LINES

Drinking water

	UNAFFECTED	AFFECTED	DESTROYED	FUNCTIONING	NOT FUNCTIONING	DEFICIENT	LOCAL SOLUTIONS	OUT. HELP	OBSERVATIONS
Dam or well									
Intake									
Pipes leading to treatment or storage tanks									
Storage									
Silt traps									
Tanks									
Chlorinators									
Water mains									
Distribution network									

WATER QUALITY AT:	
Intake	
Outlet from aqueduct	
Distribution network	
Final consumers	

Sewers

	UNAFFECTED	AFFECTED	DESTROYED	FUNCTIONING	NOT FUNCTIONING	DEFICIENT	LOCAL SOLUTIONS	OUT. HELP	OBSERVATIONS
Sewerage system									
Rain water system									
Final discharge									
Presence of chemical substances									

Energy

	UNAFFECTED	AFFECTED	DESTROYED	FUNCTIONING	NOT FUNCTIONING	DEFICIENT	LOCAL SOLUTIONS	OUT. HELP	OBSERVATIONS
Power generating stations									
Interconnection networks									
Transformer stations									
Distribution networks									
Household installations									

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Telecommunications

	UNAFFECTED	AFFECTED	DESTROYED	FUNCTIONING	NOT FUNCTIONING	DEFFICIENT	LOCAL SOLUTIONS	OUT. HELP	OBSERVATIONS
Repeater stations									
Telephone networks									
Radio communications									
Telegraph									
Telex									
Lighthouses									
Radio aids									
Private radio communications									
Television									

Transportation

	UNAFFECTED	AFFECTED	DESTROYED	FUNCTIONING	NOT FUNCTIONING	DEFICIENT	LOCAL SOLUTIONS	OUT. HELP	OBSERVATIONS
Primary ground routes									
Secondary ground routes									
Bridges									
Railway lines									
Ports / Harbours									
Airports / Airfields									
Public transp. services									
Heavy machinery									
Other air									
Other ground									
Other marine									

Others (Specify) _____

HOUSING AND PUBLIC BUILDINGS

	UNAFFECTED	AFFECTED	DESTROYED	FUNCTIONING	NOT FUNCTIONING	DEFICIENT	LOCAL SOLUTIONS	OUT. HELP	OBSERVATIONS
Community centres									
Government offices									
Teaching centres in general									
Churches									
Historic sites									

Housing	Minor Damage	Major Damage	Destroyed
Urban			
Rural			
Total			

Observations: _____

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PRODUCTIVE INFRASTRUCTURE

Agriculture and Livestock Sector (Primary Sector)

	UNAFFECTED	AFFECTED	PERCENTAGE	DESTROYED
Forestry				
Agricultural production areas				
Livestock & poultry development areas				
Fishing & aquaculture development areas				
Means of transportation				
Sawmills, storage and preservation				
Distribution				

Type and quantity of what has been affected:

Economic estimate of losses:

Industrial and Manufacturing Sector (Secondary Sector)

	UNAFFECTED	AFFECTED	PERCENTAGE	DESTROYED
Raw materials production				
Processing and production areas				
Means of transportation				
Storage				
Distribution				

Type and quantity of affected products:

Economic estimate of losses:

Banking, Tourist and Trade Sectors (Tertiary Sector)

Banks and Financial Institutions	UNAFFECTED	AFFECTED	PERCENTAGE	DESTROYED
Physical infrastructure (buildings, offices)				
Customer service				
Means of transportation				
Storage and preservation				
Distribution				

Type and quantity of customers affected:

Economic estimate of losses:

Hotels and Tourist Centres	UNAFFECTED	AFFECTED	PERCENTAGE	DESTROYED
Physical infrastructure (buildings, offices)				
Customer service				
Means of transportation				
Storage and preservation				
Distribution				

Type and quantity of customers affected:

Economic estimate of losses:

Commerce/Trade	UNAFFECTED	AFFECTED	PERCENTAGE	DESTROYED
Physical infrastructure (buildings, offices)				
Customer service				
Means of transportation				
Storage and preservation				
Distribution				

Type and quantity of customers affected :

Economic estimate of losses:

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ACTIONS PERFORMED UP TO NOW:

Date	Time	

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NEEDS ANALYSIS

Medication

	TYPE	QUANTITY	LOCAL SOLUTIONS	OUTSIDE HELP	PRIORITY
Analgesics					
Anesthetics					
Antibiotics					
Cardiovasculars					
Steroids					
Vaccines					
Others					

Health Supplies/Equipment

Human resources					
Medicine/Dentistry					
Surgery					
Blood bank/X rays					
Patient transportation					
Others					

Water and Environmental Sanitation

Human resources					
Water treatment					
Water distribution					
Vector control					
Garbage and excrement handling					
Others					

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NEEDS ANALYSIS

	TYPE	QUANTITY	LOCAL SOLUTIONS	OUTSIDE HELP	PRIORITY
Food					
Human resources					
Cereals/legumes/grains					
Oils/fats					
Dairy products/Meats					
Water/Other beverages					
Others					
Shelter/Housing/Electricity/Construction					
Human resources					
Shelter/Housing					
Electricity					
Construction					
Others					
Logistics/Administration					
Human resources					
Logistics/Administration					
Transportation					
Radio communications					
Others					
Personal Needs					
Human resources					
Clothing					
Bed linen/blankets					
Personal hygiene					
Kitchen utensils					
Others					

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NEEDS ANALYSIS

Search, rescue, fire-fighting and special operations needs (Local Solution)

Human resources: Equipment:

Urban search and rescue ☐
Open area search and rescue ☐
Operations with chemical products ☐
Others _____ ☐

Search, rescue, fire-fighting and special operations needs (Outside Help)

Human resources: Equipment:

Urban search and rescue ☐
Open area search and rescue ☐
Operations with chemical products ☐
Others _____ ☐

Economic resources needs

Item	Local Contrib.	Outside Contrib.	Sub-total

PRIORITIES

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FAMILY INFORMATION FORM

DETAILS

DATE YEAR ____ MONTH ____ DAY ____ TIME ____

PRESENTED BY: (Name)

EVENT

GEOGRAPHIC LOCATION

REGION (PROVINCE):

PARISH:

AREA/ZONE:

INDIVIDUAL INFORMATION

SPECIFIC AREA OF CENSUS:

SECTOR

FAMILY #	NAME OF PERSON RESPONSIBLE FOR FAMILY	LOCATION IN THE AREA (EX. HOUSE NO. 12)	FAMILY MEMBERS				HEALTH CONDITION		HOUSING					NEEDS		
			ADULTS		CHILDREN						CONDITION					
			M	F	M	F	RA	DNRA	RURAL	URBAN	INHABITABLE	UNINHABITABLE	DESTROYED	FOOD	CLOTHING	OTHERS SPECIFY
TOTAL																

CHILDREN = UNDER 15 YEARS
ADULTS = 15 YEARS OR MORE

M = MALE
F = FEMALE

RA = REQUIRES ATTENTION
DNRA = DOES NOT REQUIRE ATTENTION

ANNEX IV. COLLECTION OF DATA BY OTHER NATIONAL AGENCIES IN SAINT LUCIA

Department	Data on the climate and environmental change, disaster, and human mobility nexus	Data collected associated with the human mobility dimension	Data storage (database)	Limitations to enhanced data collection, management and dissemination	Recommendations for enhanced data collection, management and dissemination
Ministry of Equity, Social Justice, Empowerment, Youth Development, Sports and Local Government	No	Data collected relates mainly to nationals' personal information (e.g. name, age, sex, marital status, family structure and home address), as well as their specific needs (e.g. clothing, education, employment, food, medical and shelter conditions).	No	Lack of human, financial and technological capacities.	By extending its mandate, the Ministry could also commit to analysing and reporting on the implications of the climate and environmental change, disaster, and human mobility nexus on nationals' specific needs. Moreover, collaboration with established agencies like the Immigration Department and NEMO could enable the collection of data on climate- and disaster-related mobility with special attention to individuals' needs.
Ministry of External Affairs, International Trade and Civil Aviation	No	Data related to the human mobility dimension included the following: (a) deportations, extraditions and repatriations (the latter also in times of disasters); (b) movement of persons during medical emergencies; (c) number of national diplomatic and technical staff in overseas missions; and (d) number of foreign diplomatic and technical staff in the island nation.	No	Lack of human, financial and technological capacities.	Data on climate- or disaster-induced mobility could be captured by probing with questions on the reasons/purposes for living abroad or returning to Saint Lucia. These questions could include environmental factors, such as weather conditions and disasters, as possible response options.

Department	Data on the climate and environmental change, disaster, and human mobility nexus	Data collected associated with the human mobility dimension	Data storage (database)	Limitations to enhanced data collection, management and dissemination	Recommendations for enhanced data collection, management and dissemination
Ministry of Infrastructure, Ports, Energy and Labour	No	Data on the human mobility dimension is limited to the number of working permits granted, which is disaggregated by age, sex, nationality and occupation.	No	Lack of human, financial and technological capacities.	The Ministry could focus on gathering information on the number of foreign workers coming to the country to assist in response and recovery during or in the aftermath of a disaster, as well as the number of nationals leaving Saint Lucia in the direction of other Eastern Caribbean States for the same purpose, or entirely relocating abroad. Still, the Ministry could also strive to include indicators/variables in the data-collection processes on the movement of workers into and out of the country. This could enable the identification and effective accounting of environmental factors as triggers to the movement of workers within the CARICOM and OECS member States.
Ministry of Health and Wellness	No	The Ministry does not present any information that could be linked to the human mobility perspective.	Saint Lucia Health Information System (SLUHIS)	Lack of human, financial and technological capacities.	The Ministry could consider extending its mandate to enable the collection of data on the number of people in need of health assistance in the wake of a disaster (i.e. the number of injured and dead people as a result of an emergency). This could be done in collaboration with established agencies, like NEMO, which already compiles data on the number of injured and dead people during and in the aftermath of disasters.

Department	Data on the climate and environmental change, disaster, and human mobility nexus	Data collected associated with the human mobility dimension	Data storage (database)	Limitations to enhanced data collection, management and dissemination	Recommendations for enhanced data collection, management and dissemination
Ministry of Tourism, Information and Broadcasting – Saint Lucia Tourism Authority	No	Data collected comprises the number of arrivals by air and sea (per day, month and year), stay-over arrivals (per day, month and year), accommodation occupancy, visitor expenditures and perception. Through the ED Card used by the Immigration Department, the Ministry also holds the following information of all individuals arriving in and departing from the island nation: country and date of birth, home address, marital status, sex, length of stay and purpose of the visit (the latter does not include environmental factors).	No	Lack of human, financial and technological capacities.	In collaboration with the Immigration Department, the national Tourism Authority could consider revising the Travel Registration Form. The revision could incorporate environmental factors (e.g. weather conditions and disasters) among the purposes of the visit. Furthermore, the mandate of the national Tourism Authority in primarily focusing on tourism development could be revised or extended to include the collection of data on the human mobility dimensions of disasters and related emergencies.

ANNEX V. STUDY QUESTIONNAIRE (NATIONAL)

INTERNATIONAL ORGANIZATION FOR MIGRATION (IOM)

Regional Dialogue to Address Human Mobility and Climate Change Adaptation in the Eastern Caribbean

Migration, Environment and Climate Change Data

Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines

Diogo Andreola Serraglio

Stephen Adaawen

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September 2020

Project
Regional Dialogue to Address Human Mobility and Climate Change Adaptation in the Eastern Caribbean – Migration, environment and climate change data.

Duration
From September 2020 to April 2021.

Organizational context and scope
Established in 1951, IOM is the leading United Nations agency in the field of migration and works closely with governmental, intergovernmental and non-governmental partners. IOM is dedicated to promoting humane and orderly migration for the benefit of all. It does so by providing services and advice to governments and migrants.

The "Regional Dialogue to Address Human Mobility and Climate Change Adaptation in the Eastern Caribbean" project aims to build a regional dialogue series in Eastern Caribbean States that will enhance governments' capacities to collect, analyse, and utilize data on human mobility and vulnerability derived from environmental change. The project is implemented by IOM in six independent member States of the Organisation of Eastern Caribbean States (OECS) – namely, Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines.

Objective
Assessment of national and regional data systems of the six countries in relation to migration, environment, and climate change to identify strengths, weaknesses and opportunities to enhance availability and evidence on environmental migration.

Methodology
Conduct six migration, environment, and climate change data assessments through a questionnaire for expert interviews and desk review of existing sources of information and data-sharing mechanisms on environmental migration for the six countries: Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines.

Expected results
Development of technical guidelines on migration, environment and climate change data, as well as a data workshop for each of the six countries.

QUESTIONNAIRE

National Level

This questionnaire aims to investigate existing sources of information and data sharing mechanisms on migration, environment and climate change in the Eastern Caribbean States, with special attention to six selected countries – Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines – providing an overview of how data related to human mobility in the context of climate and other environmental changes has been collected, managed and disseminated.

IOM Glossary

Key definitions on migration, environment and climate change[1]

Climate migration: "The movement of a person or groups of persons who, predominantly for reasons of sudden or progressive change in the environment due to climate change, are forced to leave their habitual place of residence, or choose to do so, either temporarily or permanently, within a State or across an international border. *Note*: This is a working definition of the International Organization for Migration with an analytic and advocacy purpose which does not have any specific legal value. Climate migration is a subcategory of environmental migration; it defines a singular type of environmental migration, where the change in the environment is due to climate change. Migration in this context can be associated with greater vulnerability of affected people, particularly if it is forced. Yet, migration can also be a form of adaptation to environmental stressors, helping to build resilience of affected individuals and communities."

Disaster Displacement: "The movement of persons who have been forced or obliged to leave their homes or places of habitual residence as a result of a disaster or in order to avoid the impact of an immediate and foreseeable natural hazard. *Note*: Such displacement results from the fact that affected persons are (i) exposed to (ii) a natural hazard in a situation where (iii) they are too vulnerable and lack the resilience to withstand the impacts of that hazard. It is the effects of natural hazards, including the adverse impacts of climate change, that may overwhelm the resilience or adaptive capacity of an affected community or society, thus leading to a disaster that potentially results in displacement. Disaster displacement may take the form of spontaneous fight, an evacuation ordered or enforced by authorities or an involuntary planned relocation process. Such displacement can occur within a country (internal displacement), or across international borders (cross-border disaster displacement)."

Disaster: "A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts. *Note*: The International Law Commission adopted the following alternative definition of disaster, which includes an express reference to mass displacement: 'disaster' means a calamitous event or series of events resulting in widespread loss of life, great human suffering and distress, mass displacement, or large-scale material or environmental damage, thereby seriously disrupting the functioning of society."

Environmental migration: "The movement of persons or groups of persons who, predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are forced to leave their places of habitual residence, or choose to do so, either temporarily or permanently, and who move within or outside their country of origin or habitual residence. *Note*: There is no international agreement on a term to be used to describe persons or groups of persons that move for environment related reasons. This definition of environmental migrant is not meant to create any new legal categories. It is a working definition aimed at describing all the various situations in which people move in the context of environmental factors."

[1] See: IOM, 2019.

Hazard: "A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation. *Note*: Each year millions of people are displaced by the adverse effects of natural hazards, such as floods, tropical storms, earthquakes, landslides, droughts, saltwater intrusion, glacial melting, glacial lake outburst floods, and melting permafrost. Of these, the great majority is displaced by weather- and climate- related hazards. The largest increases in displacement resulting from the effects of natural hazards are related to sudden-onset weather and climate-related hazards, and floods in particular. In addition, people are increasingly forced to move because of the slow-onset effects of sea level rise, desertification or environmental degradation. Climate change, combined with people's increasing exposure and vulnerability, is expected to magnify these trends, as extreme weather events become more frequent and intense in the coming decades."

Human mobility: "A generic term covering all the different forms of movements of persons. *Note*: The term human mobility reflects a wider range of movements of persons than the term 'migration'. The term is usually understood as encompassing also tourists that are generally considered as not engaging in migration. As an example of the emergence of this term, the international organization members of the Advisory Group on Climate Change and Human Mobility created in the context of the Conferences of the Parties of the UN Framework Convention on Climate Change have started to use the term human mobility to cover all the broad range of types of movements that can take place in the context of climate change."

Planned relocation: "In the context of disasters or environmental degradation, including when due to the effects of climate change, a planned process in which persons or groups of persons move or are assisted to move away from their homes or place of temporary residence, are settled in a new location, and provided with the conditions for rebuilding their lives. *Note*: The term is generally used to identify relocations that are carried out within national borders under the authority of the State and denotes a long process that lasts until 'relocated persons are incorporated into all aspects of life in the new setting and no longer have needs or vulnerabilities stemming from the Planned Relocation'."

Vulnerable group: "Depending on the context, any group or sector of society (such as children, the elderly, persons with disabilities, ethnic or religious minorities, migrants, particularly those who are in an irregular situation, or persons of diverse sex, sexual orientation and gender identity (SSOGI)) that is at higher risk of being subjected to discriminatory practices, violence, social disadvantage, or economic hardship than other groups within the State. These groups are also at higher risk in periods of conflict, crisis or disasters."

Trapped populations: "Populations who do not migrate, yet are situated in areas under threat, [...] at risk of becoming 'trapped' or having to stay behind, where they will be more vulnerable to environmental shocks and impoverishment. *Note*: The notion of trapped populations applies in particular to poorer households who may not have the resources to move and whose livelihoods are affected."

Personal and contact information

1. Respondent information

   1.1. Name of respondent: _____

   1.2. Gender of respondent: _____

   1.3. Job title of respondent: _____

   1.4. National department/agency of respondent: _____

   1.5. Country: _____

General overview on the impacts of climate change at the national level

2. How would you assess the severity of the impact of climate change in the country?

No/hardly any impact	Little impact	Medium impact	Severe/significant impact	Very severe/devastating impact
1	2	3	4	5

Comments:

_____

_____

3. What are the current/recurring impacts of climate change – disasters – in the country? Please tick as appropriate.

Climate-related "disaster"/"hazard" in the region	Frequency in the past two decades (2000–2020)		
	Does not/hardly occurs[2]	Occurs occasionally[3]	Occurs frequently[4]
Hurricane			
Drought			
Heat wave			
Coastal inundation (sea level rise)			
Flash flood			
Landslide			
Fires			
Others:[5] _____			

4. Are you aware of any scientific projections on the nature and impacts of climate change in the country? (a) Yes _____ (b) No _____

   4.1. If yes, please describe, and please share relevant documents.

   _____

   _____

[2] "Does not/hardly occurs" – not occurring at a regular interval, not often, seldom, rarely.
[3] "Occasionally" – occurring from time to time, now and then, once in a while, irregularly at infrequent intervals.
[4] "Occurs frequently" – frequent intervals.
[5] Others may include geophysical activities (earthquakes, volcanic activity), disease or civil strife.

5. What are the main sources of information about the impacts of climate change and other climate-related risks in the country? (If possible, please list some of the relevant documents.)

_____

_____

5.1. Do you know if these sources capture or account for human mobility in the context of climate and other environmental changes? If yes, how?

_____

_____

6. Do these sources account and/or capture "human mobility" related to climate and other environmental changes? (a) Yes _____ (b) No _____

6.1. If yes, how is the impact of climate and other environmental changes on mobility captured (e.g. by event, type or nature of mobility)? Please explain.

_____

_____

6.2. If no, why not? Please explain.

_____

_____

7. At the national level, are there certain groups of people/communities that are most vulnerable to climate and other environmental changes? If yes, which groups of people/communities, and why?

_____

_____

National disaster risk reduction (DRR) policy framework

8. Does the country have specific policy and legal frameworks dealing with DRR?

(a) Yes _____ (b) No _____

8.1. If yes, please name and list them.

_____

_____

9. Do these national legal frameworks recognize and address "human mobility" in the context of climate and other environmental changes (rapid- and/or slow-onset events/processes)?

(a) Yes _____ (b) No _____

9.1. If yes, in what context and how?

_____

_____

10. Which State actor is responsible for reporting the implementation of the United Nations Office for Disaster Risk Reduction (UNDRR) at the national level?

_____

_____

National migration policy framework

11. Does the country have specific policy and legal frameworks dealing with migration and related issues? (a) Yes _____ (b) No _____

    11.1. If yes, please name and list them.

    _____

    _____

12. Do these national legal frameworks recognize and address "human mobility" in the context of climate and other environmental changes (rapid- and/or slow-onset events/processes)?

    (a) Yes _____ (b) No _____

    12.1. If yes, in what context and how?

    _____

    _____

13. Which State actor is responsible for reporting the implementation of the Global Compact for Safe, Orderly and Regular Migration at the national level?

_____

_____

14. In the case of cross-border movements, who is responsible for data collection?

_____

_____

Official sources of information and data-sharing mechanisms at the national level

15. Do national legal frameworks on DRR and migration – listed above – establish or make provisions for **data-sharing mechanisms** on migration, environment and climate change?

    (a) Yes _____ (b) No _____

    15.1. If yes, please indicate.

    _____

    _____

16. Which are the main agencies or actors on DRR and migration responsible for collecting, managing and disseminating data on migration, environment and climate change at the national level?

_____

_____

16.1. Which are – please name – the main actors in the field of:

(a) Migration, population statistics and related issues: Do they collect data related to "human mobility" in the context of climate and other environmental changes?

_____

_____

(b) Climate and other environmental changes (e.g. climate/environment agencies/departments): Do they collect data related to "human mobility" in the context of climate and other environmental changes?

_____

_____

(c) How do the existing actors at the national level cooperate and/or exchange information about data and data collection?

_____

_____

17. To the best of your knowledge, what are the methodologies and means by which data and information on environment- and climate-related migration are collected, analysed, shared and disseminated? (e.g. Format: anonymized, report, raw data; collection: paper and/or electronic record.)

_____

_____

18. Are there any specific forms or templates to collect the data? (a) Yes _____ (b) No _____

* If yes, please attach a sample to the (submitted) questionnaire.

19. How do the national legal frameworks on DRR and migration (if at all) define or conceptualize "human mobility" related to climate and other environmental changes?

19.1. Migration:

_____

_____

19.2. Displacement:

_____

_____

19.3. Planned relocation:

_____

_____

20. In what way or to what extent do the legal framework on DRR and migration integrate data on climate- and environment-related "human mobility" (migration, displacement and planned relocation) into the existing date-sharing mechanism or related source of information?

_____

_____

21. Is the data on "human mobility" – if existing – disaggregated? (e.g. age, duration, location, nationality, sex.) (a) Yes _____ (b) No _____

21.1. Please outline disaggregation categories.

_____

_____

22. Is human mobility data monitored and updated, or is it limited to the emergency moment – post-disaster? If yes, how frequently is data revised and updated?

_____

_____

23. What are the main constraints or challenges to effective data collection, analysis and sharing on climate-related migration?

_____

_____

Secondary sources of information and data-sharing mechanism at the national level

24. Are you aware of any secondary – or unofficial – sources of information and data-sharing mechanisms for "human mobility" (migration, displacement and planned relocation) in the context of climate and other environmental changes at the national level? (a) Yes _____ (b) No _____

24.1. If yes, please list them:

Source	Responsible agency/actor for collecting data	Type/kind of data collected	Frequency of data collection	Disaggregated? (Yes/no)	Climate/environment-related data? (Yes/no)

25. Do you or your agency make use of these data sources? (a) Yes _____ (b) No _____

25.1. If yes, how or for what purposes?

_____

_____

Overview of information and data-sharing mechanisms at the national level

26. Looking at the available sources of information and data-sharing mechanisms on "human mobility" (migration, displacement and planned relocation) in the context of climate and other environmental changes at the national level:

    26.1. What synergies do you see?

    _____

    _____

    26.2. What are the gaps and inconsistencies?

    _____

    _____

27. How do you see or rate the status of data on "human mobility" in the context of climate and other environmental changes at the national level? Please insert a check mark in the appropriate box:

1. Insufficient	2. Bit better	3. Adequate	4. Sufficient	5. Very sufficient

Comments:

_____

_____

Options at enhancing effective data collection and sharing

28. What options, strategies or measures could be considered in improving data collection and sharing on "human mobility" in the context of climate and other environmental changes at the regional level and regionally?

_____

_____

29. In what way could the strategies listed be deployed to adequately capture climate- and environment-related migration for informed decision-making or policymaking?

_____

_____

30. Do you have any other suggestions, comments or opinions to add?

_____

_____

Case studies of human mobility in the context of climate and environmental changes involving sources of information and/or data-sharing mechanisms

31. List examples of cases of "human mobility" associated with climate and other environmental changes at the national level, with the following information:

    31.1. Location of the event: _____

    31.2. Type of event (rapid- or slow-onset process): _____

    31.3. Duration of the event: _____

    31.4. Source of information and/or data-sharing mechanism used to collect data on "human mobility" (migration, displacement and planned relocation) in the context of climate and other environmental changes at the national level?

    _____

    _____

    31.5. Number of displaced people: _____

    31.6. Measures taken by national authorities (if any):

    _____

    _____

    31.7. Current displacement situation (return, relocation, shelters, other):

    _____

    _____

* Add other relevant references and sources related to the case study.

Thank you!

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