Research Article

Are mental health dimensions included in disaster and climate change interventions in St. Lucia?

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Objective. To elucidate whether mental health dimensions have already been included in disaster and climate change interventions in St. Lucia, a Caribbean island that is highly vulnerable to climate change.

Methods. We identified documents for national policy and implementation to analyze (1) the relative importance of health in the documents and (2) the conceptualization of health. These document analyzes were complemented by semi-structured interviews and questionnaires to key stakeholders.

Results. In national policy, there were very few instances where mental health dimensions were addressed in climate change documents. In documents related to disasters, mental health dimensions were mentioned occasionally. Of 218 projects implemented, only three were related to health. Two of them were unrelated to mental health dimensions. The remaining one explicitly considered these dimensions, but this project did not appear to be implemented according to our supplementary interview.

Conclusion. This research revealed that mental health dimensions have yet to be included in disaster and climate change interventions in St. Lucia. To our best knowledge, this is the only study that addressed this point by analyzing key policy documents.

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Introduction

Developing disaster resilience is currently one major issue particularly due to accelerating climate change. To build resilience, many disaster-prevention and recovery projects traditionally focused on physical dimensions such as infrastructure, agriculture, energy, and ecosystems. For instance, as late as 2021, mental health was never a subject of discussion at the Conference of Parties (COP) of the United Nations Framework on Climate change (UNFCCC)[1].

However, researchers and practitioners now recognize the importance of considering mental health for developing resilience[2][3][4][5][6][7][8]. Although previous Intergovernmental Panel on Climate change (IPCC's) reports (e.g., Fourth and Fifth Assessment Reports)[7] paid limited attention to mental health. In 2022, the latest report (Sixth Assessment Report)[9] thoroughly assessed the impacts of climate change and weather extremes on mental health. The report emphasizes that climate change has been considerably affecting the mental health of people (e.g., post-traumatic stress disorders, depression, and anxiety)[9].

Likewise, many countries have begun to emphasize mental health after major disasters including the 2004 Indian Ocean Tsunami[10] , 2019 Typhoon Morakot in Taiwan[11], 2019 Hurricane Dorian in the Bahamas[12], and the Southern Alberta floods in 2013[11]. For example, 6 months after the 2004 Indian Ocean tsunami, the Happy/Sad letter box (HSLB) project was implemented in 68 Sri Lankan schools, to help students express, process and cope with the psychological impacts resulting from the tsunami[10]. In the immediate aftermath of Hurricane Dorian (the strongest in the Bahamas), over 3000 children and 3000 adults accessed mental health and psychosocial services both in person and online[12]. Though these initiatives are indicative of improvements, they are reactive rather than proactive. For this reason, many practitioners and researchers are urging policymakers to integrate mental health into disaster and climate change intervention policies[2][3][4][5][6][7][8][9].

Despite the recognition of the importance of mental health for achieving resilience, very few studies have examined whether mental health is considered in interventions for alleviating the impacts of climate change and consequent disasters in Caribbean islands. St. Lucia, our target country in this study, is not an exception. Other than a very brief report published by WHO[13] , there have been no extensive studies examining whether mental health is considered in interventions for alleviating the impacts of climate

change and consequent disasters in St. Lucia. To fill this research gap, our study examines this point through the review of all major policy documents.

Material & Methods

For one country to include mental health in interventions for alleviating the impacts of climate change and consequent disasters, the country would first need to recognize the importance of mental health at a policy level, and then translate the policy into actions to achieve the goals. Our analysis thus examined, primarily based on document analysis, whether or not mental health was considered at a policy level and then at an implementation level.

Policy

Through web searches for major policies related to climate change and disasters, we identified 4 climate change and 2 disaster documents (Table 1). All of these documents described policies at a national level. Our analysis lacked documents at a sectoral level (i.e., documents created by the health sector).

Although St. Lucia's National Adaptation Plan (NAP)[14] stated that each key climate change sector was required to develop sectoral plans, our supplementary interview with government officers confirmed that the health sector had not developed its sectoral plan yet.

Document	Purpose
St. Lucia's National Climate Change Policy & Adaptation Plan (NCCPAP) 2002[15]	outlined major national strategies for addressing climate change
St. Lucia's Climate Change Adaptation Policy (CCAP) (2015)[16]	superseded the first one in 2011 and provided a framework for dealing with the impacts of climate change, in an integrated manner, across all key sectors in St. Lucia.
St. Lucia's National Adaptation Plan (NAP) 2018–2028[14]	defined the overarching goals of Saint Lucia's NAP
St. Lucia's Climate Change Research Policy 2020-2030[17]	enlightened researchers on the existing critical knowledge gaps that limit climate change-relevant policy and decision-making in St. Lucia
St. Lucia's Emergency Well-being support plan[18]	outlines the types of services that are provided to the general population during emergencies
St. Lucia's Stress Management response team plan[19]	focused on services available only to emergency response workers

Table 1. St. Lucia Climate change policies

Source: *prepared by authors based on analysis of the documents.*

Our analysis first investigated whether each document had an independent chapter on health. If the document had, we then investigated how many pages were allocated to health and how health was conceptualized. To identify critical information in other chapters, we employed a word search of key terms related to mental health, such as health, mental health, psychosocial, psychology, well-being, human health, behavioural health and stress. If the document did not have a chapter on health, we only conducted a word search and examined the context in which the terms were used.

Implementation

Our analysis at an implementation level focused on the number and nature of projects related to climate change in St. Lucia. Projects implemented before 2017 were listed in St. Lucia's First, Second and Third National Communication on Climate Change[20][21][22]. We classified the projects listed in these documents into nine sectors. Seven among the nine sectors were key climate change sectors referenced in the NAP[14], i.e., health, education, agriculture, water, fisheries, natural resource management, and infrastructure and tourism. We added the remaining two sectors, i.e., energy and crosscutting. Projects related to energy were grouped separately within the documents. Crosscutting highlighted climate-resilient projects that were multi-sectoral.

To obtain information about projects conducted after 2017, we conducted a survey in the form of an excel sheet. The form was sent via email to the Department of Sustainable Development and the Permanent secretaries to identify recent climate change projects. To supplement this survey, we also examined St. Lucia's First Biennial update report[23] and the Sectoral Adaptation Strategy and Action plans (SASAP)[24][25][26][27] for information about the projects implemented since 2017.

We knew that the documents listed only major projects implemented in Saint Lucia. To ensure that projects related to mental health were not overlooked, we conducted an interview with an official in the health sector.

Results

Policy

In St. Lucia's National Climate-change Policy and Adaptation plan (CCPAP)[15], we identified the chapter "Policy directives" which presented seven areas critical for the development of climate change policies in St. Lucia. Human health was one such area, as well as coastal and marine resources, terrestrial resources, terrestrial biodiversity and agriculture, human settlements, water resources, tourism, and the financial sector. Although each area was written separately, the chapter on health (1 page) was shorter than many other chapters (typically 2 pages). The chapter on health primarily focused on physical health rather than mental health (p. 16)[15]. The impacts of climate change on health mentioned in the chapter included "the increased incidence of mosquito and other vector-borne diseases (such as dengue fever)", "a higher occurrence of heat and stress-related illnesses and conditions," and "an increase in water-related

diseases, especially water-borne diseases" (p. 16)[15]. A "higher occurrence of heat and stress-related illnesses and conditions"[15] could potentially include psychological dimensions, but no further information was given in the chapter.

Saint Lucia's Climate-change Adaptation policy (CCAP)[16] had no designated chapters/sections for health. Within that 24-page document, there was the only instance where health was referenced as "protecting human health from climate change-related diseases" (p. 13)[16]. Health was again conceptualized as physical health, i.e., "climate change-related diseases."

In Saint Lucia's National Adaptation Plan (NAP)[14], health was included as one of the eight sectors (p. 39 and 41–42)[14]. However, health was not the primary focus of this document. More pages (typically more than 10 pages) were allocated to other sectors (e.g., water, agriculture, and fisheries), whereas only seven pages were allocated to health. Health was defined as mere physical health, e.g., "increased heat waves, floods, storms, fires and droughts could increase the incidence of injuries, vector, water and food-borne diseases, such as schistosomiasis and cholera, dengue, Leptospirosis and yellow fever" (p. 116)[14]. Mental health was not addressed in that report, although (NAP)[14] aimed to "improved public health under a changing climate" and "strengthened preparedness to climate variability and extremes" (p. 6)[14]. In another section (i.e., education) in the report, "health risks" were considered as one material to be included in "climate education materials." However, the health here was again defined as physical ones (i.e., "vector-borne disease, heat, injuries", p. 112)[14]. Our keyword search identified only one place where mental health was mentioned in the 206-page report. It was located in the very last section of infrastructure and spatial planning (p. 104)[14]. To improve the resilience of those living "within 10 km of the sea" (p. 98)[14] to climate change impacts, that section included 15 adaptation measures and the *last* one mentioned mental health. However, the report also stated that the measures described in the section were "indicative only" (p. 99)[14].

Saint Lucia's Climate-change Research strategy (CCRS)[17] included health as one of eight key climate change sectors. However, the health sector had only one page (p. 20)[17], whereas other sectors typically had two pages. In the part related to health, there was only one instance where mental health was mentioned. In this place, the document underlined the necessity of analyzing "the psychological impacts of climate change and extreme climate events" (p. 20)[17] However, the primary focus of this document was again physical health which was cited more frequently throughout the part related to health in the document. Indeed, the document emphasized more on the "improvement of health data collection and

processing protocols and systems, including the incorporation of vector-borne, water-borne, food-borne and other potential climate change-related diseases (allergies, respiratory disease, heat stroke, etc.)" (p. 20–21)[17] Overall, mental health dimensions were marginalized in climate change policies in St. Lucia.

Implementation

We identified 218 projects implemented since 2000. There was a continuous increase in the number of projects related to climate change from 2000 to 2017. The number of projects listed in the Initial National Communication on Climate Change[20] was only 13. But the number reached 93 in the Third National Communication on Climate Change[22].

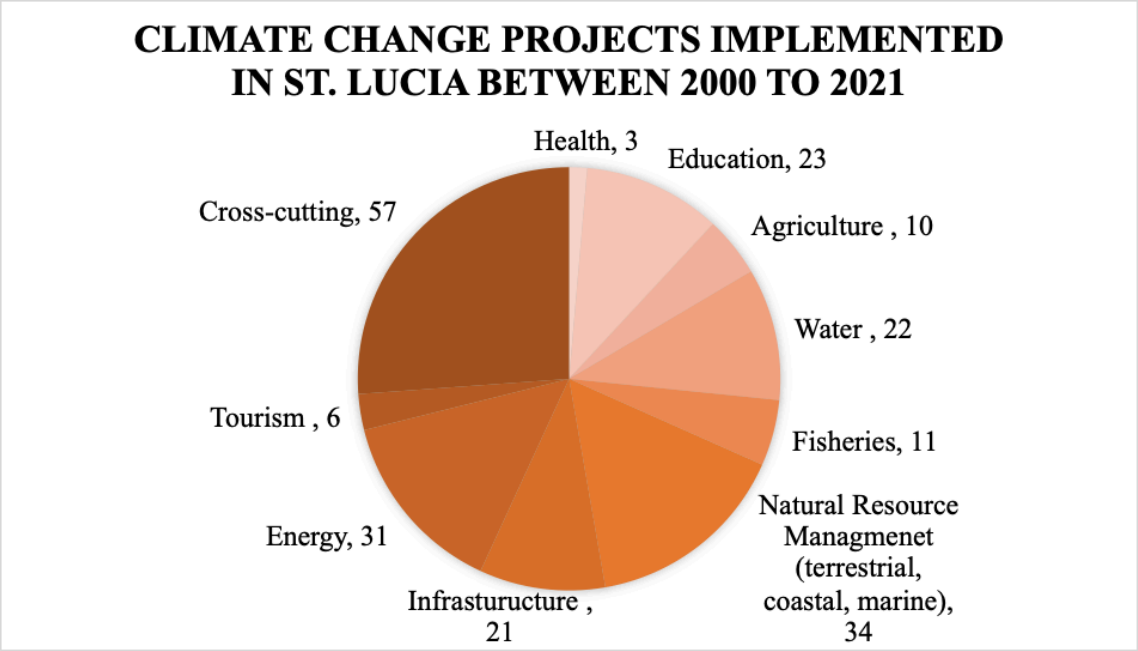

Figure 1. Comparison of climate change projects implemented by key sectors in St. Lucia from 2000 to 2021

Source: *prepared by authors with the results of the study.*

Of the 218 projects, only three were those in the health sector. The majority of these projects were concentrated on natural resource management, energy, education, water, and infrastructure (Figure 1). Among the three in the health sector (Table 2), none highlighted mental health. The Climate change and Health Seminar held in 2004 and the Environmental Health Surveillance System of 2016 were both

related to environmental diseases such as vector-borne, and foodborne diseases. PAHO's SMART Hospital Toolkit primarily focused on measuring the resiliency of health *facilities* to climate change, which was also confirmed by our supplementary interview with a health official.

Project	Date	Agency	Purpose	Source
Climate Change and Health Seminar	2004	SDED/CEHI Sustainable Development & Environment Division Caribbean Environmental Health Institute	increasing the level of awareness, especially of health practitioners on the relationship between climate change and climate-related diseases	SNC, 2011. page 177
Environmental Health Surveillance System	2016	Pilot Programme for Climate Resilience (PPCR)	focus on Climate Change (US$125,000)	TNC, 2017. page 67
PAHO's SMART Hospitals Toolkit	Ongoing	PAHO	assessing health facilities to determine their resilience to climate change	TNC, 2017 page 77

Table 2. Description of climate change projects that were associated with the health sector.

Source: *prepared by authors with the results of the study.*

Besides the three projects, we identified one three-year project (i.e., Mitigating the Mental Health Impacts of Climate Change and Climate Variability in Saint Lucia) that explicitly considered mental health (p. 20) [21]. This project was supposed to be led by the Ministry of Health and the Ministry of Social Transformation in collaboration with the National Emergency Management Organization (NEMO). However, it was unclear whether this project was implemented. Despite our supplementary inquiries

about the project to the implementing agencies, we identified no one who was aware of the project's existence. Overall, since 2000, there has been no implementation of climate change projects related to mental health in St. Lucia.

Discussion

This research has revealed that while health was included as one of the key areas in climate action, mental health has yet to be integrated into climate change policies and projects in St. Lucia. They all focused greatly on physical health (e.g., vector-borne disease). These findings suggest that although policymakers in St. Lucia are aware that there is "no health without mental health"[28], there still exist a disconnect between theory and practice (i.e. knowing and doing). We know that there were a few policies that included mental health, such as St. Lucia's Emergency Well-Being Support Plan[18] and St. Lucia's Stress Management Response Team Plan[19]. However, there have been no major projects that highlight mental health.

Our study is the first in St. Lucia that conducted a thorough document analysis to examine whether mental health was included in policies and interventions. It is true that WHO's[13] casual observations also suggested that mental health was not sufficiently considered in St. Lucia's policies and interventions. Our findings are not thus surprising. Still, it is important that we reached the same conclusions through the comprehensive analysis of key documents and supplementary interviews.

One potential next step is to examine why mental health has been marginalized in climate change and disaster policies and interventions in St. Lucia. Although this issue is beyond the scope of this study, we propose one preliminary hypothesis. We hypothesize that a lack of human resources has prevented St. Lucia to include mental health in policies and interventions. The National Mental Wellness Centre, the most important center related to mental health in St. Lucia, has only a limited number of mental health professionals (e.g., 3 psychiatrists and 1 psychiatric social worker)[29]. Our supplementary survey using the Scimago database also identified very few academic papers in the field of psychology published during 1996–2020 in St. Lucia[30]. If the lack of human resources was the primary reason for the marginalization of mental health, inviting mental health experts from surrounding regions would be one potential way to mainstream mental health in St. Lucia.

One way to examine this hypothesis is to conduct a comparative study that examines policies and interventions among different Caribbean countries. Our supplementary survey using the Scimago

database suggests that several Caribbean countries (e.g., Jamaica and Bahamas)[31][32] have published more academic papers in the field of psychology, suggesting that these countries have greater human resources. Have these countries been successful in including mental health in their policies and interventions? This point has not been sufficiently examined by previous studies except the casual observations by WHO[13][31]. We thus recommend conducting studies that examine whether mental health has been considered in these countries. This study will be one important reference for such studies.

Conclusion

Although St. Lucia has made strides in other areas of disaster prevention and recovery, it has overlooked the integration of mental health dimensions into its climate change and disaster interventions. This research also discussed why mental health had been marginalized and mapped out what should be elucidated in future studies to mainstream mental health dimensions in climate change and disaster interventions in St. Lucia.

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