

Examining the Psychosocial Issues that Impact Female-Headed Households Post-Hurricane Maria in Dominica

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Abstract: Hurricane Maria made landfall on the southwest coast of Dominica on the 18th September 2017 as a category 5 hurricane with up to 160 mph wind speed. This left 31 people dead and 37 missing. Around 65,000, or approximately 80% of the population, were directly affected and more than 90% of roofs were damaged or destroyed. Power and water supplies were disrupted and entire crops destroyed. With an estimate of USD 930.9 million damages, most were sustained in the housing sector (38%), followed by transport (20%) and education (8%). Four months after the hurricane, Dominica was severely affected. Around 450 people resided in collective shelters. Over 80% of houses still had inadequate roofing. This research examined the psychosocial issues that faced the Dominican population of female-headed households after Hurricane Maria. It also examined the current physical state of homes of these women as they struggled to find some form of normalcy in living. Its focus will support community resilience, one of the four priority areas of the Regional Comprehensive Disaster Management Strategy. The results can hopefully motivate people and/or organisations to become more involved in comprehensive disaster management and have long term changes which can have positive national, regional and international implications for strengthening disaster resilience. Pre-existing, structural gender inequalities mean that disasters affect women and girls in different ways than they affect boys and men. The vulnerability of females increases when they are in a lower socioeconomic group, particularly in the Global South. This vulnerability impacts preparedness, evacuation, response, number of deaths and recovery. The reasons for this vulnerability can often be traced to the roles females hold in society and existing gender and cultural norms where they live. Research in this area can help the understanding of women and how they cope in such disasters. The aims were: to examine the living conditions of persons immediately after Hurricane Maria and four years later; to find out what issues are impacting their quality of life; and to expose the gaps in their current needs. The chapter examines the issues faced by female-headed households, with respect to the aims, methodology, methods, major findings and implications. Major findings showed that not much changed post-Hurricane Maria and four years later. The COVID-19 pandemic created more challenges and hampered infrastructure and other progress due to the Hurricane.

1. Introduction

McKinnon and Alston (2016) posit that social workers now view the physical environment as a means by which social inequalities present in an environmental crisis. There has been an increase and re-evaluation of the physical environment by social workers over the past decade. This provides the basis for intense scrutiny of environmental policies, social inequalities and economic frameworks that form the source for engagement with the Earth and its inhabitants. In general, social work practice takes part in the micro, mezzo and macro spheres. In the micro sphere, social work works with individuals via case management and examines the issues that may impact on that person with respect to environmental policies, social inequalities and economic challenges. In the mezzo sphere, social work addresses challenges in said area with families and groups, and in the macro sphere social work looks at these areas mentioned in relation to communities and society. The practice of social work is all-encompassing through all three spheres put together.

The environment is relevant in all three categories and embraces casework with case management (micro sphere), group work and work with the family (mezzo sphere) and community work (macro sphere). Social policy is critical with respect to environmental concerns, as it leads to relevant programmes and practices in all three spheres. Social work education is the main thread that connects all three spheres as based on evidence-based practice and theories, both support interventions in all three spheres. In all these categories, it behoves social work to recognize relevant environmental issues and to advocate for environmental awareness and improvements. The importance of social justice emerges. The aspects of human rights, child's rights and recognition of the United Nations Sustainable Developmental Goals (SDGs) form part of the tapestry for intervention at the three levels of social work practice concerning the environment. Any pedagogical approach in the eco-social work paradigm must promote the eco-social lens and critically examine the anthropocentric lens (Rinkel and Mataira 2018).

Tropical cyclones frequent the Caribbean during the months of June to November. All records show that changes in tropical cyclone frequency and magnitude due to climate change have significant implications on the vulnerabilities of Caribbean populations. According to the UNDRR (2023), for the past ten years, disasters have caused a heavy toll on communities and the well-being and safety of countless individuals, with current focus on islands in the Caribbean. According to the Intergovernmental Panel on Climate Change (IPCC 2021), Tropical Cyclone intensification rates on a global scale have increased in the past 40 years. These intense hurricanes include categories 4 and 5, which have destroyed buildings and infrastructure and threatened human lives in the Caribbean.

According to Dulal et al. (2009), climate change is a social equity issue because the poor and disadvantaged are the persons vulnerable to most of the impacts. They add that climate change may impact socio-economic systems, but not all communities will be affected in the same way or degree. Policies must promote fairness, justice

and equity with respect to social policies. All societal groups must benefit from climate adaptation policies and equity must account for the main overlapping and vulnerable groups, such as the poor, the indigenous, women and children.

In this research, women, particularly female-headed households, were the main individuals used because of their vulnerability in climate change crises. Dulal et al. state that from a psychosocial point of view, climate change can exacerbate social disruption and undermine social sustainability for different groups in differing ways.

Dominica is the most northerly island of the Windward Islands. The country is located at 15° 25' North latitude by 61° 21' West longitude, north of Martinique with an approximate population of 77,629 (est. 2022) (CIA 2022). It is a mountainous volcanic island with steep terrain. Most of Dominica's centre is dominated by steeply dissected terrain. Consequently, much of the population, 90%, is in settlements along the coastal areas of the island (The World Bank 2012a). This island experiences some of the highest annual rainfall amounts in the region. In August 2015, Dominica experienced severe damage due to Tropical Storm Erika. High winds and heavy rains caused flooding and landslides, destroying buildings and killing more than two dozen people. Several communities were devastated (Encyclopaedia Britannica 2015; Rock et al. 2018). Since 1950, this island has been exposed to thirteen named tropical storm systems passing within 40 km of the island, and since 1979, the island inhabitants have been impacted by fifteen tropical systems, including eleven hurricanes (The World Bank 2012a). The latest was Hurricane Maria, a category five hurricane, in September 2017.

2. Background Literature

Drolet et al. (2016) state that countries and communities that are unprepared for natural disasters and are unaware of the risks have reduced capacities and suffer the impact of disasters more severely (UNDP 2014). They add that social development forms the basis of the principles of social justice, respect and integrity of people and working for vulnerable populations, like the values of social work. What is needed is a more focused look at integrating environmental concerns with sustainable development from a social work perspective and the integration of the same in the curriculum for social work programmes. Rock et al. (2018) asserts that social workers in the Caribbean can incorporate Green Social Work (GSW) practices in their interventions to help people and communities function better in their living spaces pre- and post-disaster and plan accordingly. Dominelli (2012) agrees and further states that social workers should focus on the interplay between residents' lives and the natural environments.

Hurricane Maria impacted Dominica as an extremely strong hurricane with speeds of up to 155 mph (CEDEMA 2017). This hurricane resulted in intense storm surges, torrential downpours, raging rivers and extremely high winds that left a lot of devastation in its wake, with 90% of roofs being damaged or destroyed. There was about USD 930.9 million in damages, and most were sustained in the housing

sector. Overall damages and losses were estimated to be around USD 1.3 billion (Assessment Capacities Project (ACP 2018); PDNA 2017).

2.1. Female-Headed Households

According to the IPCC (2014), in considering climate change and its impacts, persons who are marginalised socially, economically, culturally, politically and institutionally are particularly vulnerable to these changes. Female-headed households can be considered one of the most vulnerable groups due to limited access to land, formal employment, credit and insurance resources (The World Bank 2012b). Rosenhouse (1989) examined household headship, stating that a decade of research on women and development shows that households headed by women are over-represented among the world's poor and have increased worldwide in the past two decades. Poverty is not restricted to this group, but the sheer numbers in this group deserve additional attention in social adjustment programmes. The World Bank (2012b) supports this view, as does the ILO (2018).

2.2. Gender Gaps in Social Protection—Disaster Impacts

The International Labour Organisation (ILO 2018) states that women have less access to social security during their working lives compared to men because of the gendered labour division in the world and, for the purposes of this study, particularly in the Caribbean. Women are less covered by pensions in Dominica and other Caribbean countries and tend to hold vulnerable employment. According to ECLAC et al. (2005), the gendered labour division and limited access to productive resources exacerbate disaster situations. They add that women's higher unemployment rates post-disaster can be linked to new economic opportunities that favour the historically male-dominated construction sector and infrastructure rebuilding. Furthermore, female-headed households tend to be more vulnerable to the impact of disasters as they tend to be poorer, especially in rural areas (ILO 2018). Poverty puts the female-headed households at a severe disadvantage as it reduces their capacity to decrease the shocks. Caribbean women have less access to land, productive resources and credit compared to men (CDB 2015).

3. Literature: Effects on Mental Health Post-Disaster and Women in Disasters

The following literature looks at the mental health effects immediately after a disaster and years later.

Roque (2022) examined the psychological effects on persons during and after the passing of Hurricane Maria in Puerto Rico. She reports that in terms of mental health, the greatest impact came months after the hurricane. There were feelings of despair at seeing nothing return to normal, for example, the availability of drinking water, electricity and food. Many had not recovered mentally or psychologically and needed psychological intervention. She adds that seeking such help is taboo. Maria led to persons being separated from their families and other support systems. There was an

increased number of calls to suicide hotlines as opposed to the year before in 2016, from 91,333 to 113,830. Some of the mental health problems included post-traumatic stress disorder (PTSD), loneliness, the sense of loss and isolation, to name a few. PTSD seems to be most common among Puerto Ricans since the hurricane. This may appear immediately, weeks or years after the event (Roque 2022).

According to Martin (2015), Hurricane Sandy affected millions in 2012. It was found that depression levels increased by 25% post-storm and doctor's visits also increased by a significant number. She adds that large-scale disasters have a great effect on the physical and emotional health of disaster survivors. Understanding of these mental issues can improve future disaster relief programs and policies. This can assist government and non-government organisations to assist communities in the aftermath of such disasters.

Ruggiero et al. (2012) add to the studies of the effects of hurricanes and found that after a storm, 15% of individuals reported anxiety and stress related to the storm. They suggest that issues emanating from the aftermath of a hurricane, such as lack of electricity, food, money and/or transportation significantly correlated with mental health problems.

In the aftermath of Hurricane Sandy, many experienced despair, hopelessness, anger and anxiety, and instead of acknowledging anxiety or depression, some complained of a headache, stomach ache or some other physical ailment (Graham 2012).

Unequal opportunities with respect to education and health care means that in times of disaster women are more vulnerable than men. The socio-economic status of women and gender-specific factors increase women's disaster vulnerabilities (Kashyap and Mahanta 2018). Armaş and Gavriş (2013) add that gender-based inequality can increase women's vulnerabilities in disasters. They argue that gender inequality has greatly contributed to the vulnerability of women to floods and other disasters. Gender exclusion is also reflected in all levels of the disaster process, for example, exposure to risk, preparedness, response, physical impact, psychological impact, recovery and reconstruction. Exclusion can contribute to the vulnerability of women during and after disasters (Armaş and Gavriş 2013). This was supported by Chanty and Samchan (2014), who state that women's vulnerability to disasters is rooted in their traditional gender roles, such as reproductive, productive and social, inclusive of childcare responsibilities.

The theoretical framework utilised concepts from social support theory. According to Leahy-Warren (2014), social support is seen as a middle-range theory that focuses on relationships and the interactions within those relationships. Drageset (2021) asserts that social support has proven to have a significant impact on psychological distress, quality of life, loneliness, burden of care, anxiety and depression. As a result, this research sought to examine the psychosocial issues that impacted the women, what support they received, how they perceived that support and what needs they deemed unmet.

The objectives of the study were:

1. To examine the living conditions of persons after Hurricane Maria, immediately and four years afterwards.
2. To find out what issues and challenges were impacting their quality of life.
3. To find and expose the gaps in their current needs.

There is distress from a mental health perspective immediately after a hurricane or natural disaster. Manifestations may include anxiety, depression and PTSD. This study fits into the existing studies and contributes to existing knowledge by providing direct feedback on the psychosocial issues that impacted a purposive sample of female-headed households post-disaster in a Caribbean country, namely, Dominica. Presently, there is a dearth of research that examines female-headed households in the Caribbean post-disaster.

4. Methodology

An exploratory qualitative methodology was used. Methods included a semi-structured interview protocol used to solicit feedback from participants and Photovoice. The research was carried out in four (4) phases between 2020 and 2021:

Phase 1: An audio taped interview lasting approximately one and a half hours if permitted.

Phase 2. Provision of three representations of the subject's life presently in pictures which they deemed very important in their livelihood for the newsletter. This was to facilitate the Photovoice aspect of the research.

Phase 3: Head picture portraits were taken for the newsletter, and three simple questions regarding the subject's current life and what they thought was needed were asked. This is to be highlighted in a glossy magazine as a research output.

Phase 4: Publication of newsletter.

All four (4) phases were completed.

Photovoice is a participatory method articulated by Wang and Burris (1997), in which the participants use cameras to capture visual representations of their everyday lives so that the researcher working with the individuals can gain insight into practices that may otherwise be only described in words. This additional method can help communities to better engage in critical dialogue around the problems and issues they face in the aftermath of a disaster. The participants were active researchers using cameras, which identified and captured important areas of their lives. These images were collated as part of the research to provide visual highlights of the feedback from the women. The pictures from each participant were collated and placed in a newsletter under the participants' responses to gaps in their needs. Five

of the seven women agreed to be highlighted in this newsletter. The newsletter was published for dissemination.

The interviews were carried out by two (2) social work students, who had graduated with their BSc. in Social Work from the University of the West Indies, Cave Hill, Barbados. Both students live and work in Dominica. Meetings and training were held via Zoom. Students were also given written instructions as to how to conduct the interviews. Each interview took approximately one hour and all were conducted in 2021–2022. The women were not compensated for the interviews; they volunteered to be part of the research and to share their experiences. An eighth participant was identified, but due to difficulties in meeting with the research assistant, she could not participate in the interview. The research was structured to interview at least ten (10) individuals; however, this research was carried out during the heights of the COVID-19 pandemic, and as such many challenges were encountered. This chapter highlighted the results of the semi-structured interviews with the seven (7) women. Interviews were audio-taped and transcribed verbatim for analysis.

4.1. Inclusion Criteria

Participants were chosen based on the inclusion criteria: women who were single and in charge of their households at the time of Hurricane Maria in 2017 and four (4) years later in 2021.

4.2. Method—Semi-Structured Interview Protocol

Participants were given an information sheet which described the research, a consent form to sign once they agreed to do the research and a demographic form was also completed for each. They were assured of confidentiality.

There were eleven (11) questions in total. A sample of questions asked is below:

1. What has changed for you in the following areas post Hurricane Maria in 2017 and four years later in 2021?
 - a. Physical
 - b. Social
 - c. Economical
 - d. Educational
 - e. Psychological
2. Were you employed pre-Maria? If yes, what was the nature of your employment.
 - a. Are you employed presently or any time after Maria? If so, what is the nature of your employment? Is the remuneration less? If so by how much? Is it more, If so by how much? Is it adequate for living? If not why, If yes, why?
3. Are you residing at the same location post-Maria?

If yes, give account of damages if any and cost of repairs if any.
If no, give account of what happened to your place of abode post-Maria.
Give area once lived and area now lived. How many miles away?

4. Did you move to different places to live post-Maria? If yes, how many and by whom.
5. What type of support did you receive post-Maria?
 - a. Informal Support from family and friends?
 - b. Formal support from Community, Government, NGOs and Civil Society?

4.3. Data Analysis

Data collected from audio taped interviews were transcribed verbatim and analysed by using Template Analysis. This involves the development of a coding template where themes are identified and summarised (University of Huddersfield 2023).

Hierarchical coding was emphasised, using broad themes such as responses to Hurricane Maria immediately after its passing in 2017 and four years later in 2021. Themes were narrowed and included social, spiritual, economical, psychological and educational experiences.

5. Sample Description

Altogether, seven (7) females participated in this study, all of whom were single mothers. They ranged between the ages of 34–56 ($M = 41.6$), and resided in the parish of St. David, except for one, who lived in St. Andrews. Their professions ranged from teaching and agro-processing to farming and hairdressing.

All seven women reported participating in some form of training post-Hurricane Maria by the government. Some of the training undertaken included Return to Happiness, Hazard Vulnerability & Capacity Training, Ham Radio training, Cassava Field School Training, training from UNDP in strengthening the disaster management capacity of women, Child-Friendly Spaces, Counselling in Gender-based violence, Early Childhood Care and Development, Child Protection Services and Child Assault Prevention (CAP). Some of the skills possessed by the respondents included farming, agro-processing, hairdressing, leadership, CPR, cooking, Spanish and computer skills, and one individual indicated that she was Community Emergency Response Team (CERT)-certified.

In addition, six of the women were never married, with one being divorced. Three had tertiary education and two had secondary education. Five were employed, one self-employed and one unemployed. Each had lived in their parish for over thirty years. Six out of seven women were employed; the fact that all seven had training speaks to the tenacity and resilience of these women. The determination to retain employment in the aftermath of the hurricane and to avail themselves of available and necessary training despite the mounting challenges add to this resilience and determination and the quest for survival. The sample size was chosen with a cap of ten (10) persons because of the COVID-19 pandemic and the challenges this presented

in terms of access to participants, periodic lockdowns and other COVID-19 protocols. The research was time-specific based on guidelines given by the donor. Even though seven (7) women were interviewed, saturation of responses was seen from their feedback to the research questions asked.

6. Findings

6.1. Living Conditions of Dominicans

6.1.1. Immediate Living Conditions

As a result of Hurricane Maria, the participants reported experiencing a significant amount of loss and damage. Specifically, two individuals reported losing their homes as Maria demolished the entire structure, while the others provided an account of the considerable loss and damages they endured, inclusive of the complete loss of their roof which in turn led to water-damaged flooring, walls, doors, furniture, cupboards, appliances and electronics, as well as compromised electrical systems. Participants also reported losing windows and water tanks, and in the case of those who were self-employed, losing their source of income because Hurricane Maria destroyed their place of work.

As expected, these losses and damages disrupted the lives of the participants and in most cases caused significant displacement. In the days and weeks following Maria, most of the participants found themselves needing a place to stay and reported their struggles with finding one that was safe and secure. Consistent with their accounts, some found themselves having to move from place to place, either because of safety issues, family issues, lack of funds, lack of food for the children, over-crowdedness or simply to avoid having to deal with the wreckage caused to the home by the hurricane. Altogether, the women reported being forced to stay with family members or at a hurricane shelter, to live in their car or in a tent or to rent a room, with most of them reporting having moved as many as three to five times before they were able to settle.

6.1.2. Living Conditions Four Years Later

Despite it being four years since Hurricane Maria impacted Dominica, Dominicans were still struggling to recover from the damages and losses they endured in 2017. This was highlighted by two of the interviewees, who stated the following:

“... there are still people who live in shacks, on dirt floors with just barely any shelter. They have the galvanize but there are holes in there. And they have tarps over it.”—Female, 56, St. David, 3 children.

“... there are people who have it worse than me. Because there are people who still have tarpaulin over their homes, and they have nowhere else to go because they have no job so they can pay rent. Nobody to help them.”—Female, 38, St. David, 2 children.

Similarly, the interviewees highlighted their current struggles in recovering from Hurricane Maria, noting that they were either living in a home with cracks, water-damaged walls or partially restored roofs, or one which needed to be demolished. Additionally, some of the respondents were forced to relocate, with one respondent noting that she was currently renting and had just started the foundation for her new home, and another stating that she lived in a small structure built by her father and teenage son and was unsure as to when she will be able to return to her former home. According to most of the women, their inability to recover from the damages caused by Hurricane Maria was due to financial constraints and were currently being exacerbated by the COVID-19 pandemic and the increasingly excessive cost of living. Social workers can be available in communities to be the first point of call for intervention. Again, knowledge of systems that provide formal support is integral to helping the populace to better function post-disaster.

6.2. Issues and Challenges Impacting Dominicans' Quality of Life

6.2.1. Immediate Issues and Challenges

In their attempt to recover from the effects of Hurricane Maria, Dominicans encountered several challenges which in turn impacted and are still impacting their quality of life. The following section highlights these psychosocial challenges, inclusive of physical, social, educational, economic and psychological issues.

Psychological

Given the devastation left behind by Maria after its passing in 2017, it is no surprise that Dominicans were affected by it psychologically. In recounting their experience during and post-Hurricane Maria, many interviewees reported exhibiting signs of psychological trauma, inclusive of anxiety, and potentially Post-Traumatic Stress Disorder (PTSD) in accordance with the criteria in the DSM-IV (American Psychiatric Association 1994). One of the women noted that she had her first anxiety attack the night of Maria, causing her to feel vulnerable, which was a foreign feeling to her because she always felt she was “superwoman”. Another indicated that in trying to come to terms with all she needed to do to recover from the damages of the hurricane and simultaneously care for her family, she had a nervous breakdown, which caused her to be hospitalized for months.

Similarly, another respondent acknowledged that she felt overwhelmed by the added responsibility of supporting her family, inclusive of two babies, an adult female cousin, a brother, a daughter and a mother during the aftermath of Maria, and in returning her household to normal and taking care of the damages caused by Maria. Additionally, one of the women reported experiencing PTSD-like behaviour, such as hyper-vigilance and difficulty falling or staying asleep according to the DSM-IV (American Psychiatric Association 1994), whenever it rained or was windy. She stated that after the passing of Hurricane Maria, regardless of how lightly or heavily the rain fell, it “bothered” her. Reporting on the impact of the hurricane on

their family members, one of the women voiced that she believes that her grandfather passed away months after the passing of Hurricane Maria because he was unable to cope with its repercussions.

Social

As is often the case after a hurricane has ravaged a country, Dominica experienced nationwide electricity and internet outages. Naturally, this situation made it difficult for Dominicans to stay connected with their friends and family members, especially those living overseas. Aside from the effects of these service outages, however, one respondent specifically noted that she avoided socializing to avoid discussions about her painful Hurricane Maria experience with others. Individuals were separated from their families both physically and socially because of damages to property. This situation created anxiety and worry as many did not know if their family members were safe or not.

Economic

After the passing of Hurricane Maria, many families in Dominica encountered economic challenges. As per the feedback provided by the interviewees, some of these challenges were a result of loss of, or a considerable decrease in, income; having to financially support other family members; and/or the exponential costs of addressing the damages caused by Hurricane Maria. Relative to their loss or reduction of income, two self-employed respondents noted that their place of work was destroyed by the hurricane which in turn impeded their ability to conduct their daily tasks, e.g., farming, agro-processing and hairdressing. Consequently, while one reported losing their entire income, another reported a reduction of approximately 60% in her income.

Furthermore, three (3) respondents indicated that their mothers lost their source of income, which in turn made them financially dependent on the family. In two of these cases, this resulted in the respondents becoming the sole provider for the household, both of which included two (2) others in addition to their mother. Although everyone reported experiencing significant loss and damages to their home, one respondent reported losing Eastern Caribbean Dollar (XCD) 100,000 in damages. As a result of these financial challenges, one respondent noted that they had to postpone the building of their new home, while another admitted to experiencing grave difficulty in sending her four (4) children back to school, so much so that she was forced to seek assistance outside of the family to do so.

Educational

In addition to the above issues, Dominicans also had to endure some educational challenges. Specifically, because of the damages caused by Hurricane Maria, one respondent noted that her daughter had to attend school on a shift basis while another reported that transportation became problematic, which forced her son to

leave home to reside with a family member to continue his college education. This situation was further exacerbated by their lack of access to the internet, which made it challenging for youngsters to complete their school assignments. Moreover, one of the women reported that after Hurricane Maria, her professional development was hindered due to a lack of funds on the part of the government and damages sustained by the building in which the training occurred.

Spiritual

Altogether, the respondents did not report experiencing many spiritual challenges after Hurricane Maria. While one interviewee indicated that her mother's ability to attend church was impeded, the other admitted that she withdrew from the church due to the lack of assistance offered to her in the aftermath of Hurricane Maria. She also experienced a decreased faith in God, given the negative impact which she thinks God allowed the hurricane to have on her life. However, her faith in God has since been restored.

Other challenges—Infrastructural Impacts and Immediate Aftermath

In addition to the above, the participants highlighted several other noteworthy challenges endured by Dominicans in the immediate aftermath of Hurricane Maria. These challenges emerged from their lack of access to electricity and the uneven distribution of disaster relief goods. According to two of the respondents, they had to remain without electricity for approximately eleven (11) months as they did not have the funds necessary to fix the compromised electrical system. Consequently, some of them relied on generators, which were quite costly to maintain and thereby caused even greater financial strain. The lack of electricity also caused food storage issues according to one respondent.

Concerning the distribution of disaster relief goods, some respondents reported that it was initially challenging to source food and tarpaulin, and then later to source financial support and building materials. They acknowledged that while the people of Dominica did indeed receive a lot of support either from the government or non-governmental organizations (NGOs), the distribution of these items was, to a considerable extent, inequitable and unfair. Speaking on this issue, the respondents stated that many persons did not get the help needed and that the distribution of help was not equitable. Sourcing supplies for babies and food for the elderly were also a challenge. According to one respondent who had two babies in the house, it was especially difficult to source Pampers and milk after Hurricane Maria. Similarly, sourcing food items for the elderly was difficult. Given that the elderly do not like eating the dry foods that are given in relief packages, other types of food had to be sourced. As such, one respondent noted that she had to find ways to source "hard food" (ground provisions) for her elderly stepfather, which was initially a challenge as the path to go to the gardens was destroyed by the hurricane.

6.2.2. Issues and Challenges Experienced Four Years Later

As of the year 2021, Dominicans are still experiencing remnants of psychological trauma. This was evident in the interviewees' account of how the rain, wind and news of impending weather systems were still affecting them to this day. According to some of the women, on days or nights when it is rainy or windy, they tended to experience feelings of anxiety. Another participant reported that whereas her mother has difficulty sleeping when it rained heavily at night, she herself cannot sleep when she is informed of impending weather systems. In addition to feeling anxious about the weather, one respondent acknowledged that she avoids hearing others' accounts of their experience with Hurricane Maria to avoid reliving her trauma. Moreover, in recounting how she felt recently when there was another hurricane scare, one of the interviewees indicated that she felt angry and expressed doubts about her future in Dominica.

Social

Despite it being four years since Hurricane Maria compromised the country's phone, internet, and television services, persons residing in various communities across the nation were still encountering difficulties accessing these services. Accordingly, staying connected with friends and family members remains a challenge for some in Dominica. Consistent with one of the respondents, many of them now must rely on expensive and limited data plans to gain internet access, which thereby forces them to limit their social interactions due to a lack of funds. Additionally, she noted that, unlike pre-Hurricane Maria days, they are now unable to host social events, such as birthday parties and home barbecues, due to financial constraints imposed by Hurricane Maria, which are further compounded by the COVID-19 pandemic.

Economic

Economically, women are still experiencing a myriad of challenges ranging from the excessive cost of living and meeting basic daily expenses to addressing personal health challenges and supporting dependents such as children and sick, elderly parents. Speaking specifically on the issue of the cost of living, one respondent noted that the rate of inflation has decreased her purchasing power and is making it impossible to save and prepare for future disasters. Another respondent, whose home was demolished, explained that because of having to start over, that is, paying rent, purchasing clothing and food for herself and her children, she is so financially drained that despite experiencing a physical illness that commenced after Maria, she has thus far been unable to seek medical care for it.

Moreover, two of the respondents highlighted the struggles they undergo daily trying to survive on their reduced income. According to one respondent, she is living on 40% of the income she was generating pre-Hurricane Maria. As such, she is so financially strained that she has been unable to sustain her practice of depositing

money in her children's accounts for emergencies since Hurricane Maria and is often unable to meet her personal needs as she must prioritize the needs of her children. In addition, another respondent voiced her current struggles with meeting her daily expenses, noting that her recent transfer from a pensionable position to a non-pensionable position had made it difficult for her to support her son and his college education, pay off her loan, care for her elderly parents and pursue further professional development. Increased insurance premiums and the closure of international borders which restrict the exportation of products were also noted to be contributing to their current economic strain.

Women head 39% of households in Dominica. When Hurricane Maria hit, many women, especially the older heads of households, did not have home insurance as they were living in family homes built by their parents. These older heads of households shared that they were unable to move out of shelters because they had no access to housing materials. Their main concern was sourcing finances to rebuild (PDNA 2017).

Spiritual

While not many persons noted any spiritual challenges currently being experienced, one individual admitted that she had been drawn closer to God post-Hurricane Maria and thus ensures that she prays to Him for the protection of her home, children, and country whenever the hurricane season approaches.

Other Challenges

Aside from the above, discussions with the women revealed two other noteworthy challenges that they have recently encountered or are currently experiencing. Recounting her experience at the onset of the COVID-19 pandemic in Dominica, one respondent noted that she was forced to leave her children behind for two months to avoid losing her job. On the other hand, one respondent reported that there is a discrepancy between the type of training provided, and the job opportunities available, to women. Explaining the issue, she noted that despite taking advantage of the skills and training opportunities available to them, some women are unable to access certain opportunities simply because of their gender.

6.3. The Unmet Needs of Dominicans Post-Hurricane Maria

6.3.1. Immediate Unmet Needs

In dealing with the aftermath of Hurricane Maria, Dominicans needed a lot of support to recover from the destruction and trauma they endured, which they did receive. Nevertheless, there were several areas in which their needs were unmet. Based on the respondents' accounts of their experience, there appeared to have been a need for training, education and psychological support among Dominicans to help them cope more effectively with the ramifications of the hurricane. Psychological

support was needed to help the respondents deal with the anxiety, fear, anger, despair and other overwhelming emotions they felt after the passing of the hurricane. Education was needed by the public regarding their use of water and generators following a hurricane.

Additionally, training in the provision of psychosocial support following a disaster was needed by the Rovers Team, disaster relief volunteers, social workers and other helping professionals who were required to immediately return to their duties. Moreover, similar support services offered to the public were also needed by government workers and other relief personnel as they too were significantly impacted by the hurricane. According to the respondents, however, they were either deemed ineligible or overlooked for assistance because of their civil servant status.

6.3.2. Unmet Needs Four Years Later

Psychological

Some Dominicans remain in need of psychological and financial support to aid in their recovery from the loss and trauma they suffered in 2017. As highlighted, some Dominicans are still experiencing psychological distress initially caused by their Hurricane Maria experience. Whether it is simply a windy or rainy day, a mild weather system affecting the island, the onset of the hurricane season or discussions of people's experience with Hurricane Maria, the occurrence of these stressors is still causing anxiety, fear, anger and despair among some. Psychological interventions are thereby needed to help improve their mental health.

Financial

Despite their best efforts, some Dominicans are still struggling to rebuild their homes and places of work, support their children's education and daily needs, care for their elderly parents and improve their overall quality of life. As a result of their inadequate salary and the increasingly inflated cost of living which has been exacerbated by the COVID-19 pandemic, many of them still find themselves living in damaged homes, unable to meet their financial obligations.

Infrastructure

Affecting Dominicans' way of life, particularly their social, professional and academic life, is their lack of access to reliable phone and internet service. Four years since their telecommunication systems were compromised, the telecommunication companies in Dominica were yet to restore services in various communities across the island. According to the respondents, this situation is impeding their ability to stay in touch with their friends and family members; limiting their children's use of the internet to complete their school assignments; and putting a further strain on their already limited finances due to their reliance on data. One respondent

is thereby calling on the government of Dominica to put more pressure on the telecommunication companies to address the issue.

Educational

The respondents highlighted the need for training and education for single, unemployed women. Consistent with their feedback, some of the areas (e.g., mechanics, tiling) in which the women are currently being trained are not beneficial to them, as employers are reluctant to hire them due to their gender. As such, there is a need for training in areas that afford women more job opportunities. Of particular interest to two of the respondents was training in nursing and hairdressing. The women also expressed interest in finding opportunities to secure additional streams of income.

See Table 1 below for a comparison of findings immediately after Hurricane Maria and four years later which provides inferences to the main themes of the findings with respect to psychological distress and unmet needs.

Table 1. Comparison between psychosocial responses immediately after Hurricane Maria and four years later.

Psychosocial Experiences	Immediate Responses After Hurricane Maria	Responses Four Years Later
Psychological	Signs of psychological trauma, inclusive anxiety, and Post-Traumatic Stress Disorder (PTSD).	<ul style="list-style-type: none"> - Still experiencing remnants of psychological trauma. - Feeling anxious about the weather. - Felt angry and expressed doubts about her future in Dominica. - Cannot sleep when informed of impending weather systems.
Social	Nationwide electricity and internet outages.	<ul style="list-style-type: none"> - Persons residing in various communities across the nation are still encountering difficulties accessing the country's phone, internet and television services. - Rely on expensive and limited data plans to gain internet access, which thereby forces them to limit their social interactions due to a lack of funds. - Unable to host social events, such as birthday parties and home barbecues, due to financial constraints imposed by Hurricane Maria, which are further compounded by the COVID-19 pandemic.

Table 1. *Cont.*

Psychosocial Experiences	Immediate Responses After Hurricane Maria	Responses Four Years Later
Economic	<ul style="list-style-type: none"> - Loss of, or a considerable decrease in, income. - Having to financially support other family members. - The exponential costs of addressing the damages caused by Hurricane Maria. 	<ul style="list-style-type: none"> - Excessive cost of living and meeting basic daily expenses to addressing personal health challenges and supporting dependents such as children and sick, elderly parents. - Having to start over, i.e., paying rent, purchasing clothing and food for herself and her children—she is financially drained trying to survive on their reduced income. - According to one respondent, she is living on 40% of the income she was generating pre-Hurricane Maria.
Educational	<ul style="list-style-type: none"> - Children attended school on a shift basis. - Transportation became problematic. - Professional development was hindered due to a lack of funds on the part of the government and damage sustained by the building in which the training occurred. 	<ul style="list-style-type: none"> - Discrepancy between the type of training provided, and the job opportunities available, to women. - Despite taking advantage of the skills training opportunities available to them, some women are unable to access certain opportunities simply because of their gender. - Consistent with their feedback, some of the areas (e.g., mechanics, tiling) in which the women are currently being trained are not beneficial to them, as employers are reluctant to hire them due to their gender. As such, there is a need for training in areas that affords women more job opportunities.
Spiritual	<ul style="list-style-type: none"> - Did not report experiencing many spiritual challenges. - Pulled away from the church due to the lack of assistance offered to her in the aftermath of Hurricane Maria. 	<ul style="list-style-type: none"> - Drawn closer to God post-Hurricane Maria.

Table 1. *Cont.*

Psychosocial Experiences	Immediate Responses After Hurricane Maria	Responses Four Years Later
Infrastructure	<ul style="list-style-type: none"> - Did not have the funds necessary to fix the compromised electrical system. - The lack of electricity also caused food storage issues and it was initially challenging to source food and tarpaulin, and then later to source financial support and building materials. - The distribution of these items was, to a considerable extent, inequitable and unfair. - Difficult to source Pampers and milk after Hurricane Maria. Similarly, sourcing food items for the elderly was difficult. 	<ul style="list-style-type: none"> - As a result of their inadequate salary and the increasingly inflated cost of living which has been exacerbated by the COVID-19 pandemic, many of them still find themselves living in damaged homes, unable to meet their financial obligations. - Lack of access to reliable phone and internet service. Although it has been four years since their telecommunication systems have been compromised, the telecommunication companies in Dominica are yet to restore services in various communities across the island.
Unmet Needs	<ul style="list-style-type: none"> - Need for training, education and psychological support among Dominicans to help them cope more effectively with the ramifications of the hurricane. - Psychological support was needed to help the respondents deal with the anxiety, fear, anger, despair and other overwhelming emotions they felt after the passing of the hurricane. - Education was needed by the public regarding their use of water and generators following a hurricane. 	<ul style="list-style-type: none"> - Remain in need of psychological and financial support to aid in their recovery from the loss and trauma they suffered in 2017. - Some Dominicans are still experiencing psychological distress initially caused by their Hurricane Maria experience. Whether it is simply a windy or rainy day, a mild weather system affecting the island, the onset of the hurricane season or discussions of people's experience with Hurricane Maria, the occurrence of these stressors is still causing anxiety, fear, anger and despair among some. - Psychological interventions are thereby needed to help improve their mental health.

Source: Table by author.

The findings show that there were not many differences immediately after the passing of Hurricane Maria and four years later. Table 1 shows that the women were able to speak more about their situation four years later as opposed to immediately after the hurricane. It seems as if they had the time, despite their challenges, to process and assess their current situation more effectively and articulate their needs. The findings also showed the impact of the COVID-19 pandemic with respect to the setbacks in the social, economic and infrastructural spheres. One of the main themes

was unmet needs. Training is available, but not in the area for the most wanted skills. Another theme is the impact of the COVID-19 pandemic, which created challenges and setbacks for recovery, both psychologically, socially, economically and educationally. Persons had to be isolated in their homes because of COVID lockdowns and protocols and were unable to socialise or see their loved ones. This seems to have negatively contributed to the categories mentioned.

The psychological stress issue remained immediately and four years later, in line with Martin (2015), Graham (2012) and Goodman (2012) in the literature. They posit that psychological distress affects persons immediately after a disaster and a long time after in many ways.

Our findings are in keeping with the following authors. Roque (2022) posits that most aid provided post-Hurricane Maria in Puerto Rico was mostly as a response to physical and material damage. She believes that efforts to support the mental health of persons after a natural disaster should be comparable. She continues that it should be seen as just as important as the direct response to physical damage. Psychological issues should be given priority and addressed. As such, awareness of mental health issues should be given the necessary attention by government. Awareness campaigns on the maintenance of mental health and its contribution to well-being and health should be provided by the media. The creation of support groups in communities can greatly improve mental health challenges in all locations on the island.

Graham (2012) states that many medical offices remained closed for weeks after the passing of Hurricane Sandy, leaving persons without access to prescription medications. The power outage left many feeling frightened and emotions experienced were that of despair, hopelessness and anxiety. Goodman (2012) adds that a lot of medical problems left many persons in poor health.

Female-headed households are viewed as a vulnerable population according to Kashyap and Mahanta (2018), Armaş and Gavriş (2013) and Chanty and Samchan (2014) as mentioned in the literature, and our findings support their work. They all report that women are vulnerable because of present gender inequalities, low socio-economic status and the gender norms that pervade societies.

7. Discussion and Recommendations

The Role of Social Work Practitioners

Social work practice has always had a relationship with the environment at the micro, mezzo and macro levels of work. It is concerned with the social, economic, political and spiritual aspects of individuals. Social workers, with their skills and experience, are positioned for disaster work in terms of pre-disaster preparation, initial response, post-recovery and follow-up, which encompass crisis intervention. Human rights and the welfare of vulnerable populations are values that guide practice. Being part of an interdisciplinary team forms part of the work of social workers, as their input can help with assessments and intervention in disasters.

Social workers' knowledge of resources concerning temporary housing will assist in helping displaced individuals locate shelter as soon as possible.

Social workers, especially community social workers, can meet with members of the community to assess the unmet needs of individuals. Needs assessments are encouraged along with the building of relationships with communities. Social workers intervene at the micro, mezzo and macro levels. This puts workers in good stead to intervene at the community level. The worker possesses a wealth of knowledge concerning available services and resources for assisting persons with unmet needs. The presence of social workers is critical for effective interventions in communities. Most of the time they are untapped resources. More recognition of their roles in society should be encouraged. Continuous training in disaster preparedness and post-disaster intervention is important for social workers. One must remember that social workers can be affected by disasters and may not be able to function to the best of their abilities in the aftermath of such events. Hence, the Association of Caribbean Social Work Educators (ACSWE) can play an integral part. They can assist with the coordination of efforts throughout the region when a disaster event occurs. Relationships can be built with entities that are responsible for interventions after such an event as part of social support. Social workers can also sign up to be part of intervention services in their countries.

As such, they will be part of the pool of human resources considered to assist any Caribbean country, when necessary, be it 24 hours post-disaster, 1-week post-disaster and so on. Training in crisis intervention can assist social workers in sharpening their skills to immediately intervene in the lives of others after disasters. People need to know that help is available, and this can alleviate their anxieties and fears and present some comfort. Efforts must be coordinated with the necessary authorities so that resources are not duplicated but are provided seamlessly for all affected.

The results have implications for the provision of psychological services for those affected, immediately after and continuing. These issues must be given priority as psychological trauma and distress can impact negatively on the lives of women and reduce their quality of life. It can hinder effective work and parenting and permeate other areas of their lives.

8. Limitations

Sourcing of participants was a challenge as the COVID-19 pandemic led to many lockdowns and protocols for living on the island. It prevented access to participants for intermittent periods. As such, it delayed the interviews with participants for lengths of time. Some participants made appointments but due to the precarious COVID-19 conditions could not keep the appointments. Ten participants were to be interviewed; however, only seven were able to take part in the research. At one time, one research assistant contracted COVID and her interviews had to be delayed by two to three weeks because of existing protocols.

The research assistants used were culturally aligned to the participants as both are citizens of the country, presently reside there and are aware of the distances and where the participants lived. The researcher was also aware of the terrain and the people as she was part of the psychosocial team that travelled to the country after the devastation caused by Tropical Storm Erika in 2015.

9. Conclusions

Hurricane Maria left a lot of damage in its wake. Female-headed households were impacted from psychological, social, educational and spiritual points of view. This study aimed to find out what happened immediately after the passing of the hurricane and four years later. There were improvements; however, COVID-19 impacted the trajectory of improvements in a negative manner. Female-headed households are still grappling with the after-effects in those four spheres and require the intervention of the government at the macro level. Unmet needs and psychological distress were main themes that emerged from the findings. Interventions entail ensuring that households are more resilient to disasters, an expanded safety net to help households move above the poverty line, higher income earning capacity, focus on climate resilience livelihoods, improved telecommunication systems and education and training for single and unemployed women. Emphasis on psychosocial support to assist with anxiety, fear and other distressing emotions linked to Hurricane Maria is needed today.

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