

## Chapter 11

# Gender and Environmental Governance for Disaster Risk Reduction in Jamaica

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### Abstract

In 2019, the mid-term evaluation was due for the Comprehensive Disaster Management (CDM) Strategy and Programming Framework 2014–2024 in the Caribbean. This environmental governance framework is an agreed consensus to achieve disaster risk reduction (DRR) in the Caribbean region and it aligns with Jamaica's Vision 2030 National Development Plan. The Office of Disaster Preparedness and Emergency Management (ODPEM) and the Disaster Risk Reduction Centre (DRRC) are two of the leading organisations in Jamaica implementing DRR projects at the national level within the CDM Framework. However, the gender components of the various projects are almost invisible, although the framework indicates gender mainstreaming is a priority. The framework recommends a gender analysis of all projects implemented as a strategy to disaster risk reduction. Based on this recommendation, gender analysis was conducted on available projects of the ODPEM and DRRC.

This chapter is guided by the gender equality principles of social justice, commitment, partnership and citizens' participation. Two methods of research were employed, namely, a desk review of the literature, government and organisations' official documents and interviews with DRR specialists. Qualitative data were collected and analysed using content analysis and pattern matching.

The findings include best practices for an inclusive disaster preparedness, response, recovery and mitigation based on gender considerations. Gender-specific gaps were identified between the framework and actual implementation. Recommendations were put forward for a more effective gender mainstreaming in the governance and implementation of DRR in Jamaica, which may also be applicable to other small island developing states (SIDS). These findings could contribute to the Monitoring and Evaluation Reporting Framework, which is an integral component of the CDM Strategy and Programming Framework 2014–2024.

### 11.1 Jamaica's vulnerability to disasters

Due to its geography and location, Jamaica is exposed to a wide variety of hydro-meteorological and geological hazards. Hurricanes, floods (riverine and coastal),

earthquakes, landslides and drought have exacted a heavy toll on physical infrastructure, economic sectors, the environment and livelihoods. Jamaica is the third most exposed country in the world to multiple hazards, with more than 96 per cent of the country's gross domestic product (GDP) and population at risk from two or more hazards annually (World Bank 2019). Between 1998 and 2018, nine (9) named tropical cyclones affected Jamaica, which caused significant financial and physical damage and losses. For this period, the economic cost of disasters related primarily to extreme weather events is estimated at 1.81 billion US dollars (127.3 billion Jamaican dollars [JMD]) (World Bank 2019; Planning Institute of Jamaica [PIOJ] 2012). The severe impact of disasters on the Jamaican economy is a debilitating trend that always results in critical revenue being diverted away from social and economic development to disaster recovery.

Loss of lives, relocation, dislocation and homelessness add to the traumatic experience that comes with disasters such as a hurricane. During the 1998–2018 period, more than two (2) million of the country's population were affected, including 60 casualties (*ibid*). Exposure to disaster is considered high, as approximately 70 per cent of Jamaica's population resides in coastal areas and over 50 per cent of economic assets – including airport and seaport facilities, tourism infrastructure and industrial activity – are concentrated in coastal zones (Statistical Institute of Jamaica [STATIN] 2017). The 2014 Inter-American Development Bank (IDB) Risk Profile for Jamaica calculated exposure of physical assets at approximately US\$19 billion (IDB 2015). This mostly accounts for transportation and communications infrastructure (such as bridges and road networks), public utilities, and residential and commercial buildings.

The most recent significant natural disaster losses are attributed to a trough-generated, excess rainfall event occurring over the period 14 to 18 May 2017. This event resulted in landslides and flooding across 11 of the 14 parishes, with more than 66 communities reporting inundation. Over a month's average rainfall was experienced at some locations during this five-day period. The total cost of loss and damage was reported at 31.5 million US dollars (JMD 4 billion) or 0.2 per cent of 2016 GDP (PIOJ 2017). The bulk of this loss was concentrated in the transport infrastructure sectors.

In 2005, Hurricanes Dennis and Emily disrupted the social and economic livelihoods of 331,590 women, men and their families (PIOJ 2005). Approximately 8,000 farm families and over 1,000 fisher folk from 11 parishes suffered major losses due to the direct impact of these disasters. Dislocation and relocation of families were some of the added social and psychological trauma experienced by affected residents. The worst affected areas were 'some 121 communities island-wide, many of which are located in St. Thomas, St. Catherine, Clarendon, Kingston and St. Andrew, [which] were affected by flooding and landslides due to Hurricane Dennis. Initial estimates indicated direct damage to dwellings and household effects amounting to approximately \$100.0 million in these areas. Approximately 6,000 households were reportedly in need of housing assistance' (*ibid*). These disasters also resulted in major infrastructural damages, as reported by PIOJ (2005):

*Total damage was estimated at \$5,976.91 million or US\$96.87 million. This is equivalent to 1.2 per cent of the previous year's GDP. Infrastructure was the most affected area with damage and losses of \$4,826.05 million, followed by the Productive sectors (\$796.25 million); and the Social sectors (\$260.14 million). Transport/Roads and Bridges was the most affected sub-sector with total damage and losses of \$4,271.89 million, or 71.5 per cent of the total impact. This was followed by Water Supply and Sanitation, \$400.00 million, and Agriculture and Livestock, \$379.90 million. Considering indirect losses only, Transport/Roads and Bridges was the most affected sub-sector (\$514.00 million), followed by Waste Management (\$55.40 million), Electricity (\$50.00 million) and Manufacturing (\$30.4 million).*

The vulnerabilities of the country are further underscored by the fact that approximately 20 per cent of its total population live in informal settlements (ibid) and the prevalence of poverty is estimated to be 19.9 per cent (Government of Jamaica 2016). Poverty and inequalities exacerbate the impact of disasters on the rural population (STATIN 2017). However, the consensus in the disaster risk management field is that mounting economic costs and humanitarian losses from disasters can be curtailed given the numerous policies and programmes for risk reduction, and especially because all those losses diminish development opportunities for the current and future generations (Food and Agriculture Organization of the United Nations [FAO] 2017).

Jamaica is also vulnerable to the adverse impacts of climate change. Jamaica's observed changing climate is evidenced by long-term trends and variations on timescales ranging from seasonal through decadal and even longer (Climate Studies Group, Mona 2017). Future climate for Jamaica is forecasted to be characterised by increasing temperatures and declining annual average levels of precipitation (Government of Jamaica 2011), combined with an increase in the number of days with heavy rains and sea-level rise (SLR). Climate modelling by the Climate Studies Group, Mona, projects mean annual temperatures to increase by 1.3°C by the 2020s and 1.6°C by the 2030s, with a pronounced drying (mean annual rainfall decrease) trend to occur by the latter half of the 2030s (Climate Studies Group, Mona 2014). Environmental governance becomes an imperative in a context such as Jamaica, where there is high debt, a long trend of disasters, limited revenue, where approximately 2 per cent of that revenue is diverted to disaster recovery, and heavy reliance on external support for social programmes and disaster risk reduction.

## 11.2 Enabling policy framework: International, regional & national

International, regional and national plans and agreements have contributed to an enabling platform for environmental governance for the implementation of initiatives to reduce risks associated with disasters and climate hazards. At the international level, the Sendai Framework for Disaster Risk Reduction 2015–2030, Hyogo Framework for Action, Rio+20, United Nations Framework Convention on Climate Change (UNFCCC) and its gender action plan, along with the Sustainable

Development Goals (SDGs) for 2030 (UN 2019) aim to fast-track programmes of action for disaster risk reduction (DRR) and gender vulnerability. The SDGs with direct influence on these two development priorities are:

- Goal 5: Gender Equality
- Goal 6: Clean Water and Sanitation
- Goal 10: Reduced Inequality
- Goal 11: Sustainable Cities and Communities
- Goal 13: Climate Action
- Goal 14: Life Below Water
- Goal 15: Life on Land

### 11.3 Regional Comprehensive Disaster Management (CDM) Strategy and Programming Framework 2014–2024

The Regional Comprehensive Disaster Management (CDM) Strategy and Programming Framework 2014–2024 provides a platform to implement and monitor DRR at the regional level. The Caribbean Disaster Emergency Management Agency (CDEMA) has oversight for the CDM Framework, which seeks to harmonise resources and measure actions aimed at reducing risks related to disasters at the community and sectoral levels in the Caribbean. Agriculture, tourism, health, civil society, education, finance/economic development, and physical and environmental planning are the priority sectors of the CDM. It focuses on integrating disaster risk reduction and climate change considerations and their impact on vulnerable groups, because such an approach validates the principle of inclusivity that underlines this regional framework. Implementation of the CDM Strategy going forward will see the maintenance of cross-cutting themes, namely, gender, climate change, information and communications technology, and environmental sustainability. The goal is to realise ‘safer, more resilient and sustainable CDEMA Participating States through Comprehensive Disaster Management’. The realisation of this goal depends on seven pillars:

1. National, regional and sectoral institutions with adequate/minimum standards of capacity to deliver the CDM programme
2. Knowledge management which is applied for fact-based decision-making
3. Disaster resilience which is enhanced within key sectors of the economy
4. Operational readiness at the regional, national, sectoral and local levels
5. A clearly established and understood nexus between climate change adaptation (CCA) and DRR, with programming and governance harmonised
6. Community resilience which has been enhanced for the most vulnerable, with gender concerns addressed at all stages and levels
7. Resource allocation which underpins the ability to deliver the strategy

The framework is strongly centred on actions that enhance public–private partnerships and which must be treated within all the sector groupings. Climate change initiatives are strategically aligned as vehicles for the implementation of DRR priorities. This regional plan seeks to harmonise resources that will help to save lives, livelihoods and properties from the ravages of disasters and hazardous events, which impact the Caribbean almost annually and do not discriminate in their effects whether by gender, political affiliation, socioeconomic status or age.

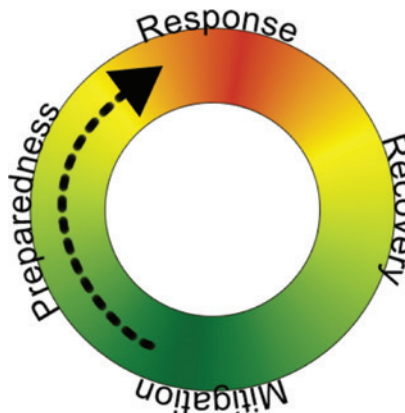
At the national level, the Disaster Risk Management Act and Vision 2030 Jamaica National Development Plan affirm the government’s commitment to protect lives and properties before, during and after a disaster. Vision 2030 Goal 4 (Jamaica has a healthy natural environment) recognises that healthy, productive and protective environments, social systems and economies are fundamental to Jamaica becoming the place of choice to live, work, raise families and do business.

A disaster is any event, natural or human-caused, which creates an intense negative impact on people, goods and services, and/or the environment, and exceeds the affected community’s internal capability to respond, prompting the need to seek outside assistance (UN 2009). One such example is Hurricane Gilbert, which affected Jamaica on 12 September 1988.

### The comprehensive disaster management (CDM) cycle

Jamaica, through the Office of Disaster Preparedness and Emergency Management (ODPEM), has embarked on a comprehensive disaster management (CDM) programme that illustrates the cyclic process by which we plan for and reduce the impact of disasters, and take steps to recover after a disaster has occurred. Appropriate actions at all points in the CDM cycle will lead to greater preparedness, better warnings, and reduced vulnerability or the prevention of disasters during the next repetition of the cycle. Figure 11.1 illustrates the four phases of the CDM cycle: mitigation, preparedness, response and recovery.

**Figure 11.1 Comprehensive disaster management (CDM) cycle**



**Source:** Government of Jamaica 2008.

## Phases of the CDM cycle

There are four phases in the CDM cycle:

### 1. Mitigation

During the mitigation phase, structural and non-structural measures are undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards. According to the United Nations International Strategy for Disaster Reduction (UNISDR), the adverse impacts of hazards often cannot be prevented fully, but their scale or severity can be substantially lessened by various strategies and actions. Management activities in the mitigation phase encompass engineering techniques and hazard-resistant construction, as well as improved environmental policies and public awareness, along with hazard vulnerability and risk assessment. Measures taken during the mitigation phase also address preventing natural or human-caused events from giving rise to disasters or any emergency situations, e.g. not allowing your child to have access to matches, gasoline or kerosene oil.

### 2. Preparedness

During the preparedness phase of the CDM cycle, measures are taken to reduce to the minimum level possible loss in human life and other damage, through the organisation of prompt and efficient actions of response and rehabilitation, such as practising earthquake and fire drills. Preparedness activities are geared towards minimising disaster damage, enhancing disaster response operations, and preparing organisations and individuals to respond. They also involve planning, organising, training, interaction with other organisations and related agencies, resource inventory, allocation and placement, and plan testing.

### 3. Response

The response phase involves actions carried out in a disaster situation with the objective to save life, alleviate suffering and reduce economic losses. The main tool in response is the implementation of plans which were prepared prior to the event. Response activities are post activities geared towards:

- providing emergency assistance;
- reducing probability of additional injuries or damage;
- speeding recovery operations; and
- returning systems to normal level.

### 4. Recovery

In the recovery phase, also referred to as the recovery and rehabilitation phase, activities are geared towards the restoration of basic services and the beginning of the repair of physical, social and economic damage, e.g. lifelines, health and communication facilities, as well as utility systems. The recovery phase also includes efforts to reduce disaster risk factors.

## 11.4 Gender mainstreaming in disaster risk reduction

Gender mainstreaming is one approach to strengthening the governance of public services and development initiatives. Gender mainstreaming in CDM encompasses the identification of differences in vulnerabilities between women, men, boys and girls and then addressing those vulnerabilities in the formulation, implementation and evaluation of policies, programmes and projects (CDEMA 2014). Vulnerability implies that some people are less or more susceptible than others, at different times and places, to a specific hazard or range of hazards, and vulnerability exists at different scales (Crivello and Espinoza-Revollo 2018; Herslund et al. 2016). Vulnerabilities of women and men can be assessed based on four factors, namely, economic, social, physical and environmental (UN 2009), as well as during the phases of the CDM cycle (mitigation, preparedness, response and recovery). For the purposes of this chapter, the vulnerabilities will be reviewed within the CDM cycle. Ultimately, an improved and resilient quality of life for women, men and their families is the desired outcome of gender-responsive disaster risk reduction initiatives. The integration of gender considerations is therefore integral to the effective implementation of the CDM Framework in addressing the current and future needs of the Caribbean people.

Several studies identify the differences between women and men at various phases in the CDM cycle. Senior and Dunn (2008) provide a list of differential gender needs during three hurricanes in Jamaica, revealing that during the recovery phase, physical and mental health challenges were more pronounced for males, while females encountered more threats of gender-based violence and inadequate sanitary facilities – as highlighted in Table 11.1.

**Table 11.1 Differential gender needs during three hurricanes in Jamaica**

Hurricane	Male	Female
<b>Gilbert (1988)</b>	Managing prostate cancer in a shelter	<ul style="list-style-type: none"> <li>• Lack of water and other basic needs</li> <li>• Poor facilities to accommodate pregnant women</li> <li>• Lack of private areas for mothers in shelters to breastfeed their babies</li> <li>• Lack of facilities to cater to the basic needs of women with breast and cervical cancers</li> <li>• Threat of sexual harassment of females by males in shelters</li> </ul>
<b>Ivan (2004)</b>	Poor sanitary facilities in shelters	<ul style="list-style-type: none"> <li>• Poor/inadequate sanitation facilities to meet the needs of menstruating women, resulting in females disposing of their used sanitary pads publicly</li> </ul>
<b>Dean (2007)</b>	<ul style="list-style-type: none"> <li>• Psychological scars</li> <li>• Lack of coping skills</li> <li>• Not easy to adjust to the centre or after the disaster</li> </ul>	<ul style="list-style-type: none"> <li>• Increased risk of rape and incest</li> <li>• Lack of condoms in shelters to reduce the risk of unplanned/ unwanted pregnancies and sexually transmitted infections, including HIV</li> </ul>



Dunn (2018) further argues that Jamaican women and men with pre-existing vulnerabilities such as poverty, unemployment and disabilities, rural residents and especially homosexual men are exposed to greater risks, mainly during the response and recovery phases of disasters (Dunn 2018). An earlier study by Jonkman and Kelman (2005) on 13 flood cases in Europe and the United States, which resulted in 247 flood disaster fatalities, revealed that 'males are highly vulnerable to dying in floods and unnecessary risk-taking behaviour contributes significantly to flood disaster deaths'. Evidence in the Caribbean indicates that women are often at a disadvantage during a disaster, mainly because of their triple roles as caregiver, breadwinner and community leader (Senior and Dunn 2008). During the preparedness phase, some women are often absent from the decision-making process and often times receive warning information late or it is not adequately disseminated to them (UN 2009). However, Begum (1993) found that during the 1991 cyclone in Bangladesh, even though women received the early warning, many did not relocate to safety, mainly because of their obligation to fulfil their gender roles and responsibilities to care for their children and property. Their non-compliance to the early warning was influenced by their gendered reality and resulted in mass casualties, where approximately 100,000 persons died, the majority being women (Begum 1993).

Additionally, it was noted that elderly men are more vulnerable to homelessness after a disaster, while men in general are more exposed to danger during the disaster due to gendered expectations of their being protectors (*ibid*). Both women and men have unique vulnerabilities that must be taken into consideration before, during and after the passage of a disaster (Garcia-Ortega et al. 2012). In 2010, Tropical Storm Nicole claimed the lives of 16 persons (2 females and 14 males) and injured another 42 persons (11 females and 31 males) in Jamaica (University of the West Indies 2018). Therefore, Nicole had a greater impact on males – 75 per cent mortality and 74 per cent injuries – than females. Drowning, crush injury, vehicle accidents, trauma and lack of medical treatment accounted for most of the casualties. Furthermore, the economic devastation was estimated to be greater for males, with the majority of the approximately 17,000 domestic crop farmers and 1,700 livestock farmers whose property, crops and livestock were damaged (*ibid*).

These data indicate the gender dynamics of disasters and the strong influence that gender roles, responsibilities and identity can have in exacerbating disaster risks. However, more targeted interventions during the preparedness and response phases might contribute to a reduction in the gender-related risky behaviour of women and men. Effective adaptation and mitigation efforts require sector-specific plans with sex-disaggregated data and nuanced evidence from impact assessment (CDEMA 2014).

## 11.5 Methodology, limitations and areas for future research

The methodology used for this research included a desk review of available project reports and key events held on gender and disaster issues since 2014; and interviews with specialists active in disaster risk reduction, climate change and environmental



governance in Jamaica and at CDEMA. Purposive sampling was used to select the participants. A total of four (4) specialists and four (4) DRR initiatives contributed to this study. The chapter also benefited from discussions with specialists at an international conference on disaster risk reduction held in London on 25–26 February 2019.<sup>1</sup>

In conducting this research, several important areas for further research were identified, which are not only suggested by the findings but also address two limitations inherent in the study. The first significant limitation was the limited sample size of DRR initiatives and specialists due to lack of access to requested data and low response to survey. This resulted in selection bias. Therefore, the findings and conclusions do not reflect the perspective of the general population of DRR specialists nor the general outcomes of DRR initiatives in Jamaica since 2014. Secondly, lack of consultation with female and male beneficiaries of DRR initiatives has limited the ability of the researcher to conduct a thorough gender analysis of the differences in vulnerabilities during the various phases of the CDM cycle. Future research could benefit from access to a larger sample of DRR projects and specialists that incorporate the views of beneficiaries of DRR initiatives; and thereby produce findings that are more representative of the population and applicable to other SIDS.

## **11.6 Key projects and initiatives implemented under CDM Framework 2014–2024 by the Office of Disaster Preparedness and Emergency Management (ODPEM) and the Disaster Risk Reduction Centre (DRRC)**

The projects and initiatives that were available for review by the Office of Disaster Preparedness and Emergency Management (ODPEM) were the following:

1. Disaster Risk Management Gender Symposium (2019)
2. The National Disaster Risk Management Volunteers Programme (2018)
3. Resettlement Action Plan for Harbour Heights, Kingston, Jamaica (2015)

The Disaster Risk Reduction Centre at the University of the West Indies (UWI-DRRC) made the following project available for review:

1. Enhancing Knowledge Application for Comprehensive Disaster Management (EKACDM) Project (2013–2019)

## **11.7 Discussion on gender and DRR projects of the ODPEM and DRRC**

The data outlined in Table 11.2 indicate that the first initiative disseminated pertinent information on gender and disaster to professional women and men. The effectiveness of this initiative could be enhanced through an evaluation of how the information provided was being translated into actions within the

**Table 11.2 ODPEM and DRRC DRR projects with gender considerations**

<b>Initiative</b>	<b>Beneficiaries</b>	<b>Main impact/outcome/output</b>
<b>Disaster Risk Management Gender Symposium Implementing agency: ODPEM, 2019</b>	<ul style="list-style-type: none"> <li>• Women</li> <li>• Men</li> </ul>	<p>Gender and development specialists disseminated data and information to academia and professionals in the public, private and civil society sectors and the general public via presentation and radio interviews on the role of gender in enhancing disaster management:</p> <ul style="list-style-type: none"> <li>• Pillars of Community Resilience in the Face of Disaster Risk Reduction (DRR) – (Delivered by the Bureau of Gender Affairs – BGA); and</li> <li>• Gender Vulnerability for Disaster Risk Reduction – delivered by the Institute for Gender and Development Studies (IGDS).</li> </ul>
<b>The National Disaster Risk Management Volunteers Programme – NDRMVP Implementing agency: ODPEM, 2017–2018</b>	<ul style="list-style-type: none"> <li>• Women</li> <li>• Men</li> </ul>	<ul style="list-style-type: none"> <li>• Trained a total of 117 volunteers (72:28 female to male ratio) at a seven-day residential camp. The training included: <ul style="list-style-type: none"> <li>- basic disaster management;</li> <li>- basic radio telecommunication;</li> <li>- basic light search and rescue;</li> <li>- basic fire safety and prevention;</li> <li>- basic community hazard mapping;</li> <li>- basic initial damage assessment;</li> <li>- basic shelters and shelter management;</li> <li>- basic emergency operation centre; and</li> <li>- basic first aid.</li> </ul> </li> <li>• Developed knowledge products, including brochures and flyers.</li> <li>• Developed media disaster risk reduction programmes and campaign.</li> <li>• Hosted two (2) information fairs and participated in various events to disseminate materials and increase public awareness on DRR at the community, parish and national levels.</li> <li>• Designed a volunteer management database system that allows for the online registration and monitoring of applicants and the collection of sex disaggregated data.</li> </ul>
<b>Resettlement Action Plan for Harbour Heights, Kingston, Jamaica Implementing agency: ODPEM, 2015</b>	<ul style="list-style-type: none"> <li>• Women</li> <li>• Men</li> </ul>	<ul style="list-style-type: none"> <li>• Two female-headed households affected; living situation disrupted for one household who lost their house.</li> <li>• Three male-headed households affected; living situation for two households disrupted for those who lost their homes.</li> <li>• Income and livelihood were uninterrupted.</li> <li>• Monetary resettlement compensation was provided by the Government of Jamaica to all the heads of households.</li> </ul>

*(Continued)*

**Table 11.2 ODPEM and DRRC DRR projects with gender considerations (Continued)**

Initiative	Beneficiaries	Main impact/outcome/output
<b>Enhancing Knowledge Application for Comprehensive Disaster Management (EKACDM) Project</b> <b>Implementing agency: DRRC, 2013–2019</b>	<ul style="list-style-type: none"> <li>• Women</li> <li>• Men</li> <li>• Children</li> </ul>	Three key outcomes of the Initiative: <ol style="list-style-type: none"> <li>1. an enhanced regional network that generates, manages and shares knowledge on CDM and that includes gender issues;</li> <li>2. increased use of standardised gender-sensitive educational and training materials for CDM by professionals and students in the Caribbean; and</li> <li>3. an enhanced mainstreaming of gender-sensitive decision-making for CDM in the public and private sectors, in particular for small and medium sized enterprises (SMEs).</li> </ol>

various participating organisations. Collection of the diverse gender needs and perspectives of the participating women and men was another important step in mainstreaming gender that was absent from this initiative. In the second initiative, sex-disaggregated and demographic data were collected, which provided adequate knowledge of the persons affected by the disaster. Although the women, men and their children were impacted psychosocially, they only received rebuilding and monetary compensation.

Finally, the EKACDM Project, which is a repository for CDM information, tools and strategies, had a strong emphasis on integrating gender at the national and regional levels. The repository hosts valuable data on the gendered dynamics of disasters for 17 countries in the Caribbean, including Jamaica. The text format of the information might exclude access for some women and men, especially those with low literacy and limited technology, and women and men living in remote and rural communities. The use of local language and audio-visual formats provides effective communication tools for the dissemination of new information and public education initiatives.

## 11.8 Best practices in DRR project implementation that contributed to gender mainstreaming

Some of the project activities for DRR in Jamaica included the dissemination of data and information, resettlement, monetary compensation, establishment of regional networks, and development of standardised educational and training tools. In the implementation of these activities, deliberate efforts were made in integrating the needs of women and men; differential vulnerabilities of women and men in disasters were recorded and gender was considered in the decision-making processes, as well as during information collection and dissemination. Table 11.3 outlines the strategies employed by the two organisations at different phases in the disaster risk management cycle in making DRR initiatives gender-responsive.

**Table 11.3 Jamaica's best practices in gender and disaster risk management**

Preparedness & response	Recovery & mitigation
<ul style="list-style-type: none"> <li>• <b>Dissemination of pertinent information on gender and disaster to women and men working in key areas and the general public</b></li> <li>• <b>Collection of sex-disaggregated and demographic data</b></li> <li>• <b>Integration of gendered needs and priorities within CDM information, tools and strategies at the national and regional levels</b></li> <li>• <b>Having a central location to host data on the gendered dynamics of disasters</b></li> <li>• <b>Received gender technical expertise through partnership with international development partners (IDPs), consultancies and technical working group</b></li> <li>• <b>Development of knowledge products to prepare women and men to respond in the event of a disaster</b></li> </ul>	<ul style="list-style-type: none"> <li>• Dissemination of pertinent information on gender and disaster to women and men working in relevant areas and the general public</li> <li>• Collection of sex-disaggregated and demographic data</li> <li>• Infrastructure rebuilding and road repairs</li> <li>• Monetary compensation for female-headed and male-headed households</li> <li>• Damage assessment and needs assessment tools integrated gender considerations</li> <li>• Development of knowledge products to support women and men to better recover and mitigate disaster challenges</li> </ul>

## 11.9 Gaps in gender mainstreaming in DRR in Jamaica

The ODPEM and DRRC have taken important steps to reduce the risks and vulnerabilities of women, men and their families during the various phases of the DRM cycle. It is anticipated that those strategies have enhanced the governance and the impact of the various initiatives on the lives of the beneficiaries. However, to better demonstrate the organisations' commitment to gender mainstreaming, inclusive, and comprehensive disaster risk reduction and reducing social and economic losses from hazard impacts, the following gaps should be addressed in future initiatives:

- absence of psychosocial interventions that address the needs of the affected population (women, men and children), especially during the recovery phase of the DRM cycle;
- lack of internal gender specialists both at national and regional CDM organisations, which contributed to gender mainstreaming being a 'piecemeal' effort that is unsystematic, unsustainable and lack accountability;
- limited ability of DRM specialists to grasp gender considerations of policies, projects, programmes and related international commitments, such as the gender targets of the Sustainable Development Goals (SDGs);
- skewed perception of gender being related only to women's issues; and
- although evidence is noted of men's vulnerabilities, there is limited acceptance and not enough deliberate efforts to address their gendered challenges during and after a disaster.

## 11.10 Conclusions, recommendations and policy implications

At the national level, Jamaica has made significant strides in integrating gender into disaster risk reduction and the comprehensive disaster management cycle. Several initiatives of the ODPEM and DRRC have contributed to the implementation of the Caribbean's Comprehensive Disaster Management Strategy (CDMS) and Programming Framework 2014–2024.

However, based on assessment of several projects, the gender components are almost invisible and often reduced to the number of female and male beneficiaries, although the framework indicates gender mainstreaming is a priority. The framework recommends that the different vulnerabilities of women and men be taken into consideration in the various stages of the comprehensive disaster management cycle to contribute to more targeted response, greater reduction of risk and more innovative approaches to resilience building. When women and men are better aware of how their lives are impacted differently and similarly by disasters, the conscious and unconscious ways in which their gender roles and identity influence their decisions and actions before, during and after a disaster, generally, there is greater ownership in reducing risks and building resilience. How information is disseminated and collected from citizens, the resources made available to the responsible organisations, and their operations as well as their levels of engagement with the public have a direct impact on the risk reduction and resilience building of women, men, their families and communities. Governance of environmental resources that is gender-responsive is more effective in strengthening resilience and reducing disaster risks. As noted by the World Bank Institute (2009):

*Gender shapes the disaster experience and the ability to recover. It explains why certain groups of people are at greater risk or why some others recover at a slower pace. Since gender plays an important role in assigning roles and responsibilities within groups and in determining the access to and control of resources among groups, gender sensitivity and gender aspect become a valid and important policy domain during disasters and throughout the rehabilitation, recovery and reconstruction process (World Bank Institute 2009).*

Improvement in the quality of life of every Jamaican can be more targeted, measured and systematic, especially before, during and after a disaster. As the country continues to work towards the achievement of Vision 2030 and the fulfilment of its international commitments to disaster risk reduction and gender equality, application of the following strategies can contribute to more inclusive sustainable human development. These recommendations to improve environmental governance, enhance gender mainstreaming and strengthen resilience in DRR in Jamaica may also be relevant to other small island developing states (SIDS) because they encompass some of the priorities of the Sendai Framework for Disaster Risk Reduction 2015–2030 and were influenced by global cases in disaster risk reduction:

1. Monitor and evaluate how knowledge of gender needs is being translated into actions within key CDM organisations.
2. Collect gender needs and experiences from diverse groups of women and men, including those with differentiated abilities.

3. Include psychosocial interventions for women, men and children during the recovery and mitigation phases.
4. Use local language and audio-visual formats for information dissemination throughout all stages of CDM cycle to enhance communication of DRR to diverse populations.
5. Invest more in strengthening internal capacity of CDM organisations, especially the employment of full-time gender specialists, locally and regionally.
6. Review the CDM governance mechanism at the national level and ensure greater participation of national gender bureaus in the planning and implementation phases of related policies and programmes.
7. Synthesise key national and regional priorities on gender, climate change and CDM.
8. Develop relevant and clear gender-specific indicators for national and regional implementation plans and policies, such as the Caribbean's CDM Framework 2014–2024.
9. Co-ordinate gender mainstreaming recommendations and integrate them into national and regional work programmes and the implementation plan of the CDM Framework (2014–2024), along with required human and financial resources, and seek additional funding to support their full implementation.
10. Engage the active participation of the private sector and educational institutions to contribute to the collection and dissemination of data and information on gender, climate change and DRR.

## Acknowledgement

This study and participation in the 2019 Annual Research Conference on Small States entitled 'Strengthening Resilience Through Disaster Risk Reduction', hosted by The Commonwealth on 25–26 February 2019 at Marlborough House, London, was made possible through the kind support of:

- Government of Jamaica, through the Bureau of Gender Affairs in the Ministry of Culture, Gender, Entertainment and Sport
- The Commonwealth Secretariat
- Office of Disaster Preparedness & Emergency Management (ODPEM)
- Disaster Risk Reduction Centre (DRRC)
- Caribbean Disaster Emergency Management Agency (CDEMA)

## Note

- 1 The conference entitled 'Strengthening Resilience Through Disaster Risk Reduction' was the Annual Research Conference on Small States hosted by The Commonwealth on 25–26 February 2019 at Marlborough House, London. See: <http://thecommonwealth.org/media/news/commonwealth-pioneer-small-state-disaster-solutions>

## References

- Begum, R (1993), 'Women in environmental disasters: the 1991 cyclone in Bangladesh', *Gender & Development* Vol. 1 No. 1, 34–39, DOI: 10.1080/09682869308519953
- Caribbean Disaster Emergency Management Agency (CDEMA) (2014), *Regional Comprehensive Disaster Management: Strategy & Results Framework Summary 2014-2024*, available at: [www.cdema.org](http://www.cdema.org)
- Climate Studies Group (2014), *Near Term Climate Scenarios for Jamaica*, Climate Studies Group, Mona.
- Climate Studies Group (2017), *State of the Jamaican Climate, 2015*, Climate Studies Group, Mona.
- Crivello, G and P Espinoza-Revollo (2018), 'Care labour and temporal vulnerability in woman-child relations', in Rosen, R and K Twamley (eds.), *Feminism and the politics of childhood: Friends or foes*, UCL Publisher London, England, available at: Google Scholar.
- Dunn, L (2018), 'Earth Today: Men under threat in natural disasters', in Williams-Raynor, P (ed.), *Jamaica Gleaner*, Thursday, 24 May, available at: <http://jamaica-gleaner.com/article/news/20180524/earth-today-men-under-threat-natural-disasters> (accessed 30 April 2019).
- Food and Agriculture Organization of the United Nations (FAO) (2017), *Guidelines and recommendations for the implementation of the Sendai Framework for Disaster Risk Reduction in the Agriculture and Food Security and Nutrition Sector Latin America and the Caribbean*, available at: [https://www.unisdr.org/files/54350\\_54350guidelinessendaiframeworkagric.pdf](https://www.unisdr.org/files/54350_54350guidelinessendaiframeworkagric.pdf) (accessed 29 April 2019).
- Garcia-Ortega, I, S Kutcher, W Abel, S Alleyne, N Baboolal and S Chehil (2012), 'Support for vulnerable groups following a disaster', in Periago, MR (ed.), *Mental health and psychosocial support in disaster situations in the Caribbean: Core knowledge for emergency preparedness and response*, Washington, DC: World Health Organisation, 73–89, available at: <https://www.paho.org/>
- Government of Jamaica (2008), *ODPEM: The Disaster Management Process. The Comprehensive Disaster Management (CDM) Cycle*, available at: <http://www.odpem.org.jm/DisastersDoHappen/DisasterManagementinJamaica/TheDisasterManagementProcess/tabid/240/Default.aspx> (accessed 11 February 2019).
- Government of Jamaica (2011), *Second National Communications of Jamaica to United Nations Framework Convention on Climate Change*.
- Government of Jamaica (2016), 'National Policy on Poverty Reduction: National Poverty Reduction Programme', Green Paper.
- Herslund, LB, F Jalayer, N Jean-Baptiste, G Jorgensen, S Kabisch, W Kombe and A Printz (2016), 'A multi-dimensional assessment of urban vulnerability to climate change in sub-Saharan Africa', *Natural Hazards*, Vol. 82(2), p149–172, available at: Google Scholar
- Inter-American Development Bank (IDB) (2015), *Disaster Risk Profile for Jamaica*, available at: <https://publications.iadb.org/en/publication/12031/disaster-risk-profile-jamaica> (accessed 16 February 2019).



- Jonkman, S and Kelman (2005), 'An Analysis of the Causes and Circumstances of Flood Disaster Deaths', *Disasters*, Vol. 29, p75–97. doi:10.1111/j.0361-3666.2005.00275.x
- Planning Institute of Jamaica (PIOJ) (2005), *Assessment of the Socio-Economic and Environmental Impact of Hurricanes Dennis and Emily*, available at: [http://www.pioj.gov.jm/portals/0/sustainable\\_development/dennis%20emily%20report.pdf](http://www.pioj.gov.jm/portals/0/sustainable_development/dennis%20emily%20report.pdf) (accessed 29 April 2019).
- PIOJ (2012), *Socio-economic and Environmental Disaster Impact Assessment Handbook for Jamaica*, available at: [https://www.pioj.gov.jm/Portals/0/Sustainable\\_Development/Final%20DaLA%20Handbook\\_Jamaica\\_Feb11\\_2013.pdf](https://www.pioj.gov.jm/Portals/0/Sustainable_Development/Final%20DaLA%20Handbook_Jamaica_Feb11_2013.pdf) (accessed 10 February 2019).
- PIOJ (2017), *Macro Socio-economic and Environmental Impact Assessment of the Damage and Loss caused by the March to June 2017 Rains*.
- Senior, K and L Dunn (2008), *Enhancing Gender Visibility in Disaster Risk Management: Jamaica Country Assessment*, Institute for Gender and Development Studies, University of the West Indies, Mona, Kingston, Jamaica, available at: <https://sta.uwi.edu/conferences/09/salises/documents/K%20Senior.pdf> (accessed 11 March 2019).
- Statistical Institute of Jamaica (STATIN) (2017), *A Road map for SDG Implementation in Jamaica*, Government of Jamaica, available at: <http://statinja.gov.jm/pdf/JamaicaSDGRoadmap.pdf> (accessed 19 January 2019).
- United Nations (2009), *Making Disaster Risk Reduction Gender-Sensitive: Policy and Practical Guidelines*, UNISDR, UNDP and IUCN, Geneva, Switzerland, June, available at: [https://www.unisdr.org/files/9922\\_MakingDisasterRiskReductionGenderSe.pdf](https://www.unisdr.org/files/9922_MakingDisasterRiskReductionGenderSe.pdf) (accessed 24 February 2019).
- United Nations (2019), 'The Sustainable Development Goals: 17 Goals to Transform our World', available at: <https://www.un.org/sustainabledevelopment/>
- University of the West Indies (2018), *Enhancing Knowledge and Application of Comprehensive Disaster Management (EKACDM) Initiative, Historical Disasters, Jamaica*, available at: <http://www.uwi.edu/ekacdm> (accessed 11 February 2019).
- World Bank (2019), 'The Global Facility for Disaster Reduction and Recovery (GFDRR): Jamaica – GFDRR progress to-date', available at: <https://www.gfdr.org/en/jamaica> (accessed 6 February 2019).
- World Bank Institute (WBI) (2009), *Why Gender Issues in Recovery Are Important?*, available at: [https://www.recoveryplatform.org/assets/tools\\_guidelines/Why%20gender.pdf](https://www.recoveryplatform.org/assets/tools_guidelines/Why%20gender.pdf) (accessed 30 April 2019).