

## THE MUNICIPAL COUNCIL OF BEAU BASSIN - ROSE HILL

# LOCAL DISASTER RISK REDUCTION & MANAGEMENT STRATEGY & ACTION PLAN



Making Cities Resilient





Note

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- The Ministry of Local Government and Disaster Risk Management
- The National Disaster Risk Reduction and Management Centre
- Mr D. Bablee, Local Disaster Management Coordinator of the Municipal Council of Beau Bassin Rose Hill (MCBBRH)
- Mrs I. Njihia, Associate Programme Management Officer of the United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Africa.
- All Municipal Councillors of the MCBBRH
- Dr Sheilendra Peerthum, Chief Executive, MCBBRH
- Mr Marveen Ramasamy, Deputy Chief Executive, MCBBRH
- All Heads of Departments and designated officers of the MCBBRH
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- All representatives of line ministries, authorities, institutions, organizations, NGOs, academia, societies and individuals involved at both Inception and Validation Workshops and multilateral working group sessions organised for the development of this document.

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#### Foreword

#### The Vice-Prime Minister, Minister of Local Government and Disaster Risk Management Republic of Mauritius

The government of the Republic of Mauritius achieved a key milestone during the year 2021 with the publication of its National Disaster Risk Reduction and Management Policy, Strategic Framework and Action Plan 2020 – 2030. Those policy documents have been established under the mandates of the National Disaster Risk Reduction and Management Act 2016 and aim to guide both public and private entities in implementing effective multi-hazards disaster risk management initiatives at all levels of society up to the pivotal year 2030.



In pursuance of those efforts, it is undeniable that local authorities, civil society and community representatives are key players in this quest

towards disaster resilience and sustainable development. Mauritius as a Small Island Developing State is organised into twelve local authorities with the status of district, municipal city, and municipal town councils with varying specificities.

However, since the past decades, an increase in the exposure and vulnerability of these urban and rural areas to natural and anthropogenic hazards has been observed mainly as a consequence of development challenges and the adverse effects of climate change. Accordingly, to create resilience across sectors and address the climate emergency, it is essential for local authorities to develop comprehensive local disaster risk reduction strategies and action plans adapted to the specificities of their jurisdiction areas, while aligning with national DRRM priorities.

In this context, the Municipal Council of Beau Bassin Rose Hill paved the way towards local disaster resilience with its engagement in the United Nations global campaign Making Cities Resilient 2030 (MCR 2030) and the subsequent development of its Local Disaster Risk Reduction and Management Strategy and Action Plan 2023-2030. This document has been aligned with national policy documents formulated under the aegis of the National Disaster Risk Reduction and Management Council and aims amongst others to address in a multi-agency approach, the various economic, institutional, social, and environmental disaster risk management challenges faced by the township of Beau Bassin Rose Hill through dedicated objectives and actions up to the year 2030.

In light of the above, I wish to congratulate the Municipal Council of Beau Bassin Rose Hill for its commendable efforts in leading and coordinating the successful development of this strategy document. Additionally, my special thanks and gratitude are addressed to the United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Africa, and the MCR 2030 Africa Regional Secretariat for the expertise and unconditional technical support provided to the Municipal Council throughout the developmental process of this strategy document.

Lastly, as the lead agency in the coordination and implementation of effective disaster risk reduction measures in the Republic of Mauritius, I congratulate the National Disaster Risk Reduction and Management Centre for the unwavering support and assistance provided to the Municipal Council and seize this opportunity to thank all line ministries, authorities, academia, NGOs, community representatives, and others individuals who have been involved in the successful development of this document.

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Dr the Hon Mohammad Anwar Husnoo, MBChB, DCh, MRCP Vice-Prime Minister, Minister of Local Government and Disaster Risk Management



#### Foreword

#### The Mayor, Municipal Council of Beau Bassin Rose Hill

In the 1970s, the Government of Mauritius revised its economic development strategy by shifting from an agrarian to an industrialized society as a key long-term strategy. During that era, the township of Beau Bassin Rose Hill saw the emergence of several socio-economic activities which subsequently influenced the demand for settlement across the township. Therefore, several lands previously under sugarcane cultivation were converted for both residential and business activities. Beau Bassin Rose Hill is nowadays fueled by a plethora of socio-economic activities which creates employment, generate revenues while supplying the daily demands of its local citizens.



However, as a consequence of rapid urbanization coupled with the

adverse effects of climate change, several suburban areas of the town are nowadays exposed and vulnerable to the risks of hydro-meteorological and geological hazards in the form of flash floods, tropical cyclones, slope failures and rockfalls. Additionally, underlying disaster risk drivers such as poverty, informal settlers, and the exclusion of foreign migrant workers are among some of the social vulnerabilities faced by the town.

The Municipal Council operates at grassroot level where the challenges of Disaster Risk Management (DRM) are directly monitored and tackled. As a consequence, DRM has become an essential element to be addressed to ensure the security and the well-being of our citizens. However, it should be pointed out that effective DRM need to be based on a comprehensive understanding of disaster risks in all its dimensions of hazard, vulnerability, exposure and capacity. Therefore, assessing and analyzing those components are critical to ensure proper decision making, prioritizing projects and planning for DRM measures in the form of prevention, mitigation, preparedness, response and recovery.

To that effect, since July 2022 the Municipal Council of Beau Bassin Rose Hill as the first local authority in the Republic of Mauritius engaged itself in the Making Cities Resilient 2030 campaign as a **Stage B City** and has now moved on to a **Stage C City** with the adoption and publication of its Local Disaster Risk Reduction and Management Strategy and Action Plan 2023-2030.

The engagement of the town in the MCR 2030 campaign has enabled the Municipal Council to successfully develop a disaster risk reduction and management strategy which is supported by a dedicated action plan adapted to the unique context of the township of Beau Bassin Rose Hill. This strategy document has been aligned with key disaster risk reduction policy frameworks formulated under the functions of the National Disaster Risk Reduction and Management Council and aims amongst others to address in a multi-agency context, the various economic, institutional, social, and environmental disaster risk management challenges faced by the township of Beau Bassin Rose Hill through dedicated objectives, working areas and actions up to the year 2030.

I therefore seize this opportunity to address my gratitude and special thanks to the Ministry of Finance, Economic Planning and Development, the Ministry of Local Government and Disaster Risk Management and the National Disaster Risk Reduction and Management Centre for the financial assistance, expertise and unwavering support provided to the Municipal Council throughout the developmental process of this document.

Additionally, my special thanks and gratitude are addressed to the United Nations Office for Disaster Risk Reduction, Regional Office for Africa for the technical assistance and unconditional support provided to the Municipal Council for the successful development of this document.

Last but not least, my heartfelt thanks are as well addressed to all municipal councillors, municipal officers, line ministries, authorities, academia, NGOs and community representatives who contributed in the successful development of this Local Disaster Risk Reduction and Management Strategy and Action Plan 2023-2030 and drive the Township of Beau Bassin Rose Hill towards disaster resilience for the upcoming years. Accordingly, the publication of this strategy document embarked the Municipal Council on a noble and challenging journey that will optimistically encourage the application of similar local disaster risk reduction and management initiatives across the Republic of Mauritius.

Rajeneedavee Mootoo Caroopen Mayor Municipal Council of Beau Bassin Rose Hill



#### Foreword

#### The Chief Executive, Municipal Council of Beau Bassin Rose Hill

As at December 2022, the township of Beau Bassin Rose Hill had a population of approximately 103,900 inhabitants for a total surface area of 20 km<sup>2</sup>. Since post-independence era, as a result of industrialization, the town has evolved from a predominantly monocrop sugarcane cultivation region to one of the most built-up areas of Mauritius with a proliferation of socio-economic and industrial activities across its different localities. The rapid urbanization of the town over the past decades coupled with changes in climate patterns have significantly increased the exposure and vulnerability of the town to the impact from natural and technological hazards. Additionally, some social vulnerabilities in the form of extreme poverty, single female headed households, informal settlers and the exclusion of persons with disabilities and foreign migrant workers have also been underlying drivers of disaster risks.



Through the decentralized approach to disaster risk governance advocated

in the National Disaster Risk Reduction and Management Policy 2020-2030 for the Republic of Mauritius, the Municipal Council has been called upon to act as a lead agency in the development and implementation of disaster risk reduction (DRR), preparedness, response and recovery measures within the boundaries of its jurisdiction area. To that effect, considering that DRR is everyone's concern, it was necessary for the Municipal Council to holistically integrate all key actors under an umbrella document in the form of a Local Disaster Risk Reduction and Management Strategy supported by a dedicated Action Plan to address the disaster risks faced by the town and to pursue a resilient and sustainable pathway.

It is with this concern in mind that the township of Beau Bassin Rose Hill engaged itself in the United Nations global campaign known as Making Cities Resilient 2030 (MCR 2030). This engagement enabled the Municipal Council to be technically assisted by experts from the United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Africa in the

development of its Local Disaster Risk Reduction and Management Strategy and Action Plan 2023-2030. The Disaster Resilience Scorecard for Cities was used as an assessment tool to assist the Municipal Council and members of its Local Disaster Risk Reduction and Management Committee in the monitoring and reviewing of the progress made and challenges faced in the implementation of the Sendai Framework at local level. To that effect, the assessment as well as the development of the strategy document have been structured around the 10 Essentials for Making Cities Resilient which are considered as the foundation for DRR and the development of local disaster resilience.

In this context, I am pleased to present this Local Disaster Risk Reduction and Management Strategy and Action Plan 2023-2030 for the Township of Beau Bassin Rose Hill as the pioneer in the Republic of Mauritius. The publication of this strategic plan aims to set a clear way forward for the Municipal Council in reducing local disaster risks, protecting lives, livelihoods, and assets while strengthening resilience through coordinated efforts and the collective commitment of all stakeholders.

I therefore seize this opportunity to address my gratitude and special thanks to the Ministry of Finance, Economic Planning and Development, the Ministry of Local Government and Disaster Risk Management and the National Disaster Risk Reduction and Management Centre for the financial assistance, expertise and unwavering support provided to the Municipal Council throughout the developmental process of this document.

Additionally, my special thanks and gratitude are addressed to the United Nations Office for Disaster Risk Reduction, Regional Office for Africa for the technical assistance and unconditional support provided to the Municipal Council for the successful development of this document.

Last but not least, my heartfelt thanks go to all the municipal staff, line ministries, authorities, academia, NGOs and community representatives who contributed to the successful development of this Local Disaster Risk Reduction and Management Strategy and Action Plan 2023-2030. My special thanks are also addressed to the Local Disaster Management Coordinator, Mr D Bablee, for his sustained efforts and commitment in driving the development of this precious document.

I hope that the adoption and publication of this strategy document pioneered by the Municipal Council will positively drive the Township of Beau Bassin Rose Hill towards disaster resilience and encourage the application of similar DRR initiatives across the Republic of Mauritius.

Dr Sheilendra Peerthum Chief Executive Municipal Council of Beau Bassin Rose Hill

### List of Acronyms

BBRH:	Beau Bassin Rose Hill Township
CDRT:	Community Disaster Response Team
CFBT:	Community Fire Brigade Team
DRRM:	Disaster Risk Reduction and Management
LDRRMC:	Local Disaster Risk Reduction and Management Committee
LELT:	Local Emergency Lumberjack Team
LEOC:	Local Emergency Operations Command
MCBBRH:	Municipal Council of Beau Bassin Rose Hill
MRCS:	Mauritius Red Cross Society
Natech:	Natural & Technological Hazards
NDRRMC:	National Disaster Risk Reduction and Management Centre
NDS:	National Disaster Scheme 2015
NEOC:	National Emergency Operations Command
PwD:	Persons with Disabilities
SIMEX:	Simulation Exercise
SOPs:	Standard Operating Procedures
UNDRR:	United Nation Office for Disaster Risk Reduction

#### **Terminologies**

To promote a common understanding of the disaster risk reduction and management terminologies, the terms employed throughout this document have been derived from the *"Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction"* established by the United Nations General Assembly in its resolution 69/284 on 2<sup>nd</sup> February 2017<sup>1</sup> and are illustrated as follows:

- a) **Capacity:** The combination of all the strengths, attributes and resources available within an organization, community or society to manage and reduce disaster risks and strengthen resilience. **Annotation:** Capacity may include infrastructure, institutions, human knowledge and skills, and collective attributes such as social relationships, leadership and management.
- b) **Contingency planning:** A management process that analyses disaster risks and establishes arrangements in advance to enable timely, effective and appropriate responses.
- c) Critical infrastructure: The physical structures, facilities, networks and other assets which provide services that are essential to the social and economic functioning of a community or society
- d) **Disaster:** A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts. **Annotations:** The effect of the disaster can be immediate and localized, but is often widespread and could last for a long period of time. The effect may test or exceed the capacity of a community or society to cope using its own resources, and therefore may require assistance from external sources, which could include neighbouring jurisdictions, or those at the national or international levels.
- e) **Emergency:** is sometimes used interchangeably with the term disaster, as, for example, in the context of biological and technological hazards or health emergencies, which, however, can also relate to hazardous events that do not result in the serious disruption of the functioning of a community or society.

<sup>&</sup>lt;sup>1</sup> UNDRR, "Report of the Open-Ended Intergovernmental Expert Working Group on Indicators and Terminology Relating to Disaster Risk Reduction." (PreventionWeb, United Nations Office for Disaster Risk Reduction, December 1, 2016), 11-24, <u>Report of the open-ended intergovernmental expert working group on indicators and</u> terminology relating to disaster risk reduction | UNDRR

- f) **Disaster impact:** is the total effect, including negative effects (e.g., economic losses) and positive effects (e.g., economic gains), of a hazardous event or a disaster. The term includes economic, human and environmental impacts, and may include death, injuries, disease and other negative effects on human physical, mental and social well-being.
- *g)* **Disaster management:** *The organization, planning and application of measures preparing for, responding to and recovering from disasters.*
- *h)* **Disaster risk**: The potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity.
- *i)* **Disaster risk assessment:** A qualitative or quantitative approach to determine the nature and extent of disaster risk by analysing potential hazards and evaluating existing conditions of exposure and vulnerability that together could harm people, property, services, livelihoods and the environment on which they depend.
- *j)* **Disaster risk governance:** The system of institutions, mechanisms, policy and legal frameworks and other arrangements to guide, coordinate and oversee disaster risk reduction and related areas of policy
- *k)* **Disaster risk information:** *Comprehensive information on all dimensions of disaster risk, including hazards, exposure, vulnerability and capacity, related to persons, communities, organizations and countries and their assets.*
- I) Disaster risk management: Disaster risk management is the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses.
- *m*) **Disaster risk reduction:** *Disaster risk reduction is aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development.*
- n) Disaster risk reduction strategies and policies: define goals and objectives across different timescales and with concrete targets, indicators and time frames. In line with the Sendai Framework for Disaster Risk Reduction 2015-2030, these should be aimed at preventing the creation of disaster risk, the reduction of existing risk and the strengthening of economic, social, health and environmental resilience.

- *o)* **Evacuation**: *Moving people and assets temporarily to safer places before, during or after the occurrence of a hazardous event in order to protect them.*
- *p)* **Exposure:** *The situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas.*
- q) **Hazard:** A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.
- *r)* **Hazardous event:** *The manifestation of a hazard in a particular place during a particular period of time.*
- s) Mitigation: The lessening or minimizing of the adverse impacts of a hazardous event.
- *t)* **Preparedness:** *The knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters.*
- *u)* **Recovery:** The restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster affected community or society, aligning with the principles of sustainable development and "build back better", to avoid or reduce future disaster risk.
- v) **Resilience:** The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.
- *w)* **Response:** Actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.
- x) Structural and non-structural measures: Structural measures are any physical construction to reduce or avoid possible impacts of hazards, or the application of engineering techniques or technology to achieve hazard resistance and resilience in structures or systems. Non-structural measures are measures not involving physical construction which use knowledge, practice or agreement to reduce disaster risks and impacts, in particular through policies and laws, public awareness raising, training and education.

- y) Underlying disaster risk drivers: Processes or conditions, often development-related, that influence the level of disaster risk by increasing levels of exposure and vulnerability or reducing capacity.
- *z)* **Vulnerability:** *The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.*

#### **Executive Summary**

Beau Bassin Rose Hill (BBRH) are twin towns in one located in the district of Plaines Wilhems in the Republic of Mauritius. Since post-independence, several residential and commercial developments across the town have erected on lands exposed to hydro-meteorological and geological hazards in the form of tropical cyclones, flooding, flash floods, slope failures and rock falls. To that effect, the rapid urbanization of the town coupled with the adverse effects of climate change have led to a significant exposure of its suburban communities, critical infrastructures and socio-economic activities to adverse impacts from natural hazards. Additionally, while being exposed to the risks of technological hazards in the form of fire outbreaks the town is also subject to some social vulnerabilities in the form of poverty, informal settlers and the exclusion of persons with disabilities and foreign migrant workers.

This Local Disaster Risk Reduction and Management (LDRRM) Strategy and Action Plan 2023-2030 was developed through an inclusive multi-stakeholder approach. It has been aligned with mandates of the National Disaster Risk Reduction and Management Act (2016), the National DRRM Policy Engagement 2020-2030, the Vision and Strategic Pillars set in the National DRRM Strategic Framework 2020-2030 for the Republic of Mauritius and ultimately with landmark United Nations international policies on disaster risk reduction such as the Sendai Framework for Disaster Risk Reduction 2015-2030 and the United Nations 2030 Agenda for Sustainable Development.

Accordingly, this LDRRM Strategy and Action Plan has been adapted to the unique context and disaster risk profile of BBRH township. The objectives and working areas addressed in the Local DRRM Action Plan aim to serve as a roadmap to the Municipal Council of BBRH and stakeholders of its Local Disaster Risk Reduction and Management Committee in their approach to implement effective and timely DRRM measures and actions across the town up to the year 2030.

#### The Sendai Framework for Disaster Risk Reduction 2015-2030

The Sendai Framework for Disaster Risk Reduction was endorsed by the UN General Assembly following the 2015 third UN World Conference on Disaster Risk Reduction held in the city of Sendai, Japan. It recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.

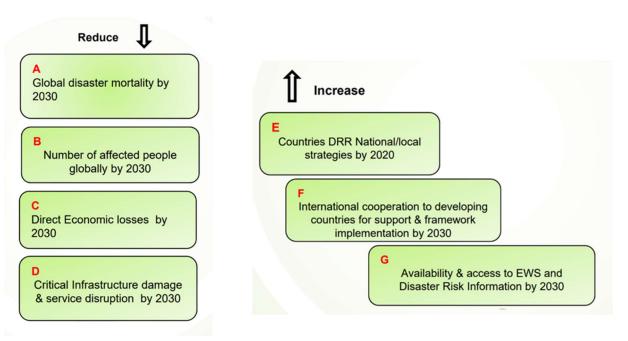
Since its inception the Sendai Framework aims to achieve the following **outcome** by the year 2030:

"The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries".

Thus, to attain the above expected outcome, the following goal must be pursued:

"Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience".

To support the assessment of global progress in achieving the outcome and goal of the Framework, **Seven Global Targets** have been agreed and are illustrated as follows:



In pursuance of the expected outcome and goal, the Sendai Framework also states that there is a need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas:

**Priority 1:** Understanding disaster risk.

**Priority 2:** Strengthening disaster risk governance to manage disaster risk.

Priority 3: Investing in disaster risk reduction for resilience.

**Priority 4:** Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.

Accordingly, in their approach to disaster risk reduction, States, regional and international organizations and other relevant stakeholders should take into consideration the key activities listed under each of these four priorities and should implement them, as appropriate, taking into consideration respective capacities and capabilities, in line with national laws and regulations.

It is to be noted that the Sendai Framework also works hand in hand with the other landmark 2030 Agenda agreements such as the Paris Agreement on Climate Change, The Addis Ababa Action Agenda on Financing for Development, the New Urban Agenda, and ultimately the UN 2030 Agenda for Sustainable Development.<sup>2</sup>

<sup>&</sup>lt;sup>2</sup> UNDRR, "Sendai Framework for Disaster Risk Reduction 2015-2030." (United Nations Office for Disaster Risk Reduction, Third World Conference on Disaster Risk Reduction, March 18, 2015), Pg12-22, <u>Sendai Framework for Disaster Risk Reduction 2015-2030 | UNDRR</u>

#### The United Nations 2030 Agenda for Sustainable Development

The United Nations 2030 Agenda for Sustainable Development was adopted by the UN General Assembly in 2015<sup>3</sup>. The 2030 Agenda benefitted from the priceless lessons learned from the Millennium Development Goals (MDGs) and combines economic, social, and environmental goals into 17 Sustainable Development Goals (SDGs) and 169 targets as an "indivisible whole,". The Agenda offers a fresh perspective on how problems like poverty, education, and climate change relate to each other and also addressed the additional challenges of inclusiveness, equity, and urbanization<sup>4 5</sup>.

Considering the exposure of the town to Natech Hazards and its related social vulnerabilities, this Local DRRM Strategy and Action Plan intends to address and meet the following SDGs and targets by the year 2030 based on their coherence and interconnectedness with disaster risk reduction

Goal 1: End	<i>Target 1.5:</i> "Reduce the exposure and vulnerability of the poor and vulnerable communities
Poverty	to extreme weather events as well as to social, economic and environmental shocks or
	disasters"
	<i>Target 11.5:</i> "With a focus on protecting the marginalized and vulnerable to disasters, reduce
Goal 11:	the number of affected people and considerably aim to reduce direct economic losses from
Sustainable	disasters"
Cities &	<i>Target 11.b:</i> "Develop and implement comprehensive disaster risk management at local level
Communities	in accordance with the Sendai Framework by 2020, and significantly increase the adoption
Communities	and implementation of integrated policies and plans towards adaptation to climate change and
	resilience to disasters".
	<i>Target 13.1:</i> "Strengthen the local resilience and capacity to cope with disasters and climate
	related hazards"
Goal 13:	<i>Target 13.3:</i> "Raise local awareness and improve human and institutional capacity on impact
<b>Climate Action</b>	reduction, early warnings and Climate Change adaptation"
	Target 13.b: "Develop mechanisms to raise local capacity to efficiently conduct climate
	change related planning with a focus on marginalized communities, women and youth"
Goal 17:	Target 17.7: "Develop strong relationships with the private sector and civil society leveraging
Partnerships	on resource strategies and experience of partnerships"

<sup>&</sup>lt;sup>3</sup> UNDRR, "Transforming our world : the 2030 Agenda for Sustainable Development" (United Nations, General Assembly, September 25, 2015), <u>https://documents-dds-</u>ny.un.org/doc/UNDOC/GEN/N15/291/89/PDF/N1529189.pdf?OpenElement

<sup>&</sup>lt;sup>4</sup> Sanjiv Kumar, Neeta Kumar, Saxena Vivekadhish, "Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs): Addressing unfinished agenda and strengthening sustainable development and partnership", *Indian Journal of Community Medicine* Vol 41, No.1 (2016): Pg 1-4. <u>Millennium Development Goals</u> (MDGs) to Sustainable Development Goals (SDGs): Addressing Unfinished Agenda and Strengthening Sustainable Development and Partnership - PMC (nih.gov)

<sup>&</sup>lt;sup>5</sup> Måns Nilsson, Dave Griggs, Martin Visbeck, "Map the interactions between Sustainable Development Goals", *Nature* Vol 534, (2016): Pg 320-322. <u>Policy: Map the interactions between Sustainable Development Goals | Nature</u>

#### The National Disaster Risk Reduction and Management Act 2016

The overarching legal framework for Disaster Risk Reduction and Management (DRRM) for the Republic of Mauritius is the National Disaster Risk Reduction and Management Act (2016) hereinafter called the NDRRM Act.

Section 6 (a) of the NDRRM Act made provision for the establishment of a National Disaster Risk Reduction and Management Policy. Additionally, to implement the National Policy the NDRRM Act calls at Section 6 (b) for the development of a National DRRM Strategic Framework to be complemented by a National DRRM Action Plan.

Furthermore, as a decentralized approach to disaster risk governance, the NDRRM Act under Sections (19) and (20) legislates the functions of the Local Disaster Risk Reduction and Management Committee (LDRRMC) as a multi-agency committee chaired by the Mayor of the Municipal Council. The main function of the LDRRMC is to ensure the appropriate coordination, development and implementation of effective Disaster Risk Reduction and Management (DRRM) measures and initiatives within the jurisdiction area of the local authority concerned. In the same vein, under section (20) subsection (b), the NDRRM Act also made provision for the preparation and implementation of a Local DRRM plan in line with guidelines laid down by the National DRRM Council<sup>6</sup> which subsequently supported the development of this strategy document.

#### The National Disaster Risk Reduction and Management Policy 2020-2030

The National DRRM Policy hereinafter called the National Policy establishes the context for the vision, goals and objectives set out in the National DRRM Strategic Framework which is complemented by a National DRRM Action Plan 2020 - 2030 and outlines the mechanisms that will ensure its successful implementation. The National Policy states that:

## "Disaster impacts should be proactively reduced to the lowest levels possible with available local and external resources".

The National Policy anticipates that the Government of the Republic of Mauritius will strengthen and expand support to individuals and families (noting the different impacts of disasters on men, women, boys, and girls as well as those experiencing disabilities), civil society and the private sector to reduce risk and provide necessary warning, alert, response and recovery assistance in the case of disasters.

<sup>&</sup>lt;sup>6</sup> National Disaster Risk Reduction and Management Act, 2016, Sections 6, 19 & 20, (Government of Mauritius). <u>https://ndrrmc.govmu.org/Documents/NDRRM%20Act%202016.pdf</u>.

In doing so, the National Policy Engagement<sup>7</sup> promotes the use of a decentralized disaster risk governance approach, where:

(1) "Individuals and families will take actions within their means to reduce disaster risk and avoid or minimise impacts when disaster threatens".

(2) "Through their normal activities, the private sector will seek to reduce the threats posed by hazards. Further, the private sector will support, within their means, disaster response and recovery".

(3) "Civil society, ranging from internationally recognised organisations to informal associations of common purpose, will engage in supporting individuals and families. Where appropriate, civil society will support the Government in disaster risk reduction and management within their means available".

(4) "Local government authorities will lead in risk reduction, preparedness, warning, response and recovery while the Central Government will enact laws, regulations, provide guidance as well as technical and material support to enable local authorities to fully engage in their DRRM responsibilities".

#### The National Disaster Risk Reduction and Management Strategic Framework 2020-2030

The National DRRM Strategic Framework hereinafter called the Strategic Framework provides a pathway to achieve internationally agreed priorities for action and targets for disaster risk reduction by 2030 in the Republic of Mauritius.

It is for use by all Ministries and Departments, at national and local levels, while also engaging communities, civil society, development partners, and the private sector in DRRM efforts<sup>8</sup>.

The Strategic Framework for the Republic of Mauritius sets out: -

- An overview of the hazards, vulnerabilities and risks faced by the Republic of Mauritius;
- A vision for disaster risk management for the Republic of Mauritius and;
- The strategy to attain this vision from 2020 to 2030.

<sup>&</sup>lt;sup>7</sup> NDRRMC, "National Disaster Risk Reduction and Management Policy 2020-2030", (National Disaster Risk Reduction and Management Centre, Republic of Mauritius, March 2, 2021), Pg 9-10, <u>https://ndrrmc.govmu.org/Pages/NDRRMPolicy.aspx</u>

<sup>&</sup>lt;sup>8</sup> NDRRMC, "National Disaster Risk Reduction and Management Strategic Framework 2020-2030", (National Disaster Risk Reduction and Management Centre, Republic of Mauritius, March 2, 2021), Pg 12-40, https://ndrrmc.govmu.org/Pages/NDRRMStrategicFramework.aspx.

## The National Disaster Risk Reduction and Management Action Plan 2020-2030

The National DRRM Action Plan hereinafter called the National Action Plan is based on the vision, core values, pillars and strategic goals set out in the National Strategic Framework. It identifies specific actions and related details to implement the National Policy and National Strategic Framework through 2030. The National Action Plan identifies a total of 189 actions to be taken by 2030 to reduce disaster risk in the Republic of Mauritius in line with the National Policy and National Strategic Framework <sup>9</sup>

The National DRRM Policy, Strategic Framework and Action Plan have been approved by the National Disaster Risk Reduction and Management Council and officially launched in March 2021 following several multi-agency consultations and thematic working sessions held at the National Disaster Risk Reduction and Management Centre (NDRRMC). The national policy, strategy and action plan have also been aligned with the four priorities for action of the Sendai Framework as well as other international agreements such as the Sustainable Development Goal and the Paris Agreement amongst others.

#### <u>Capacity Diagnosis of the Disaster Risk Management System for the</u> <u>Republic of Mauritius</u>

The CADRI Partnership is a global UN led partnership that works towards strengthening countries' capacities to pursue integrated and coherent solutions to reduce disaster and climate risks.

The CADRI Partnership was mobilized in response to a request submitted by the Ministry of Environment, Solid Waste Management and Climate Change, to the UN Resident Coordinator on 18<sup>th</sup> December 2018 for an identification of areas that would require a contextual analysis and realistic recommendations for capacity enhancement in DRRM for the Republic of Mauritius.

Accordingly, the report entitled "Disaster Risk Management: A capacity diagnosis for the Republic of Mauritius" was published in 2020 and presents the findings and recommendations of the diagnosis of national and local capacities to manage Disaster Risk in the Republic of Mauritius which have been aligned with the 4 priorities for action of the Sendai Framework<sup>10</sup> and informed the development of this Local DRRM Strategy and Action Plan.

<sup>&</sup>lt;sup>9</sup> NDRRMC, "National Disaster Risk Reduction and Management Action Plan 2020-2030", (National Disaster Risk Reduction and Management Centre, Republic of Mauritius, March 2, 2021), https://ndrrmc.govmu.org/Pages/NDRRMActionPlan.aspx.

<sup>&</sup>lt;sup>10</sup> Government of the Republic of Mauritius, Office of the United Nations Resident Coordinator for Mauritius, Capacity for Disaster Reduction Initiative (CaDRi) Partnership, "Diagnosis of National and Local Capacities to manage Disaster Risk in the Republic of Mauritius", (National Disaster Risk Reduction and Management Centre, Mauritius, 2020), <u>https://mauritius.un.org/en/113529-capacity-disaster-reduction-initiative-cadri</u>.

#### Introduction

The township of Beau Bassin Rose Hill (BBRH) is located in the district of Plaines Wilhems and covers a total surface area of 20 km<sup>2</sup> for 103,900 inhabitants<sup>11</sup> <sup>12</sup>. The climate of the town is mild tropical with two seasons, namely a warm summer from November to April also considered as the cyclonic and rainy season and a dryer and cooler winter from May to October.<sup>13</sup> Since post-independence, the town has evolved from a sugarcane cultivation region to a highly built-up area.<sup>14</sup> However, over the past decades several residential and commercial developments have erected on lands exposed to hydro-meteorological and geological hazards in the form of tropical cyclones, flooding, flash floods, slope failures and rock falls. To that effect, the rapid urbanization of the town coupled with constant changes in climate patterns have significantly increased the exposure and vulnerability of its suburban communities, critical infrastructures and socio-economic activities to adverse impacts of natural hazards.

Likewise, the township is also exposed to the risks of technological hazards in the form of fire outbreaks while being also susceptible to some social vulnerabilities in the form of pockets of poverty, informal settlers and the exclusion of persons with disabilities and foreign migrant workers.

This Local DRRM Strategy and Action Plan was developed by employing an inclusive multistakeholder approach through means of workshops and multilateral thematic working sessions. The strategy document has been aligned with mandates of the National Disaster Risk Reduction and Management Act (2016) and other DRRM related legislations, the National DRRM Policy Engagement 2020-2030, the Vision and Strategic Pillars set in the National DRRM Strategic Framework 2020-2030 for the Republic of Mauritius and ultimately with landmark United Nations international policies on disaster risk reduction such as the Sendai Framework for Disaster Risk Reduction 2015-2030 and the United Nations 2030 Agenda for Sustainable Development.

The Local DRRM Strategy is structured around nine sections that will guide the Municipal Council of BBRH and stakeholders of its Local Disaster Risk Reduction and Management Committee in their approach to implement effective disaster risk reduction and management measures, actions and initiatives across the town up to the year 2030. These are illustrated as follows:

<sup>&</sup>lt;sup>11</sup> UN HABITAT, "Mauritius : Beau Bassin – Rose Hill Urban Profile", (UN Habitat, 2012), <u>Mauritius : Beau</u> <u>Bassin-Rose Hill Urban Profile | UN-Habitat (unhabitat.org)</u>

<sup>&</sup>lt;sup>12</sup> Statistics Mauritius, "Digest of Demographic Statistics", (Statistics Mauritius, 2018), <u>Digest\_Demo\_Yr18.pdf</u> (govmu.org)

<sup>&</sup>lt;sup>13</sup> MMS, "Climate of Mauritius", Mauritius Meteorological Services, Accessed on 15 September 2023, <u>metservice.intnet.mu/climate-services/climate-of-mauritius.php</u>

<sup>&</sup>lt;sup>14</sup> Lilian Berthelot, Rose – Hill, La Ville qui se souvient (Port Louis : Diocèse de Port Louis, 1990), Pg 6-8.

- 1. The history of the development and administration of the township of Beau Bassin Rose Hill and the disasters faced by the town since the French colonial era;
- 2. A description of the Municipal institutional arrangements;
- 3. An assessment of the natural and technological hazards to which the town of Beau Bassin Rose Hill is the most exposed;
- 4. A situational analysis (abridged version) of the challenges related to the Local DRRM institutional arrangements, disaster risk governance, financing and the preparedness, response and recovery initiatives;
- 5. The methodology used for the development of the Local DRRM Strategy and Action Plan;
- 6. The Strategic Priorities that will direct efforts towards building resilience, reducing risks, and enhancing the overall disaster preparedness, response and recovery capabilities of the township;
- 7. The Monitoring and Evaluation approach to systematically track the performance of the DRRM activities, measure their results, and determine their effectiveness;
- 8. The identification of adequate and sustainable funding sources to implement the Local DRRM Strategy and Action Plan 2023-2030 for the Township of Beau Bassin Rose Hill;
- The Local DRRM Action Plan (abridged version) which provides a series of objectives, actions, indicators, timeframe of DRRM measures to be applied by the Municipal Council of BBRH and stakeholders of its Local Disaster Risk Reduction and Management Committee up to the year 2030.

#### History & Geography of Beau Bassin Rose Hill Township

Beau Bassin Rose Hill (BBRH) is a combination of French and English words. It depicts Mauritius' successive colonization by the French from 1715<sup>15</sup> to 1810 and the British from 1810 until its independence in 1968. Eight sugar estates came together to form the town of BBRH during the French colonial era of the 18<sup>th</sup> century<sup>16</sup> <sup>17</sup>. On 14<sup>th</sup> April 1868, under suggestions of the General Board of Health, the region of Rose Hill was elevated to the status of village<sup>18</sup> followed by Beau Bassin in 1877 through a governmental decision.<sup>19</sup> Lately, under provisions of Ordinance 31 of 1895, the villages of Rose Hill and Beau Bassin merged to form the township of Beau Bassin Rose Hill which at this point in time was managed by an administrative commission of eight members<sup>20</sup>.

From 1896 to 1950, the town of BBRH was governed by a Board of Commissioners and was then successively administered by an Urban Council, Municipal Council, or Administrative Commission between 1951 and 1982. On 12<sup>th</sup> March 1968, the Town Council was upgraded to the position of Municipal Council and constituted of twenty-four elected members representing nowadays four members in six electoral wards, with a mayor serving as Chairman of the Council. However, it was in 1983 that the title of Municipal Council was permanently re-established for the administration of the town.

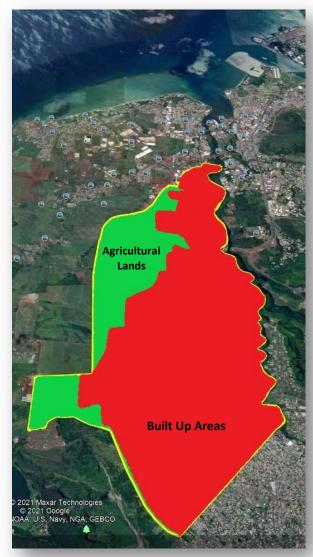


Illustration of BBRH Township with agricultural lands and built-up areas

These modifications took place due to the changes in leadership and teams in power<sup>21</sup><sup>22</sup>.

<sup>&</sup>lt;sup>15</sup> Emmanuel Garnier, Jérémy Desarthe, "Cyclones and Societies in the Mascarene Islands 17th-20th Centuries", *American Journal of Climate Change*, Vol 2, No.1. (2013): Pg 1-13.

<sup>&</sup>lt;sup>16</sup> Lilian Berthelot, Beau Bassin - Pan d'Histoire (Vacoas : Edition Le Printemps, 1997), Pg 43.

<sup>&</sup>lt;sup>17</sup> Lilian Berthelot, *Rose – Hill, La Ville qui se souvient* (Port Louis : Diocèse de Port Louis, 1990), Pg 6.
<sup>18</sup> Ibid., Pg 7.

<sup>&</sup>lt;sup>19</sup> Lilian Berthelot, *Beau Bassin – Pan d'Histoire* (Vacoas : Edition Le Printemps, 1997), Pg 32

<sup>&</sup>lt;sup>20</sup> Lilian Berthelot, *Rose – Hill, La Ville qui se souvient* (Port Louis : Diocèse de Port Louis, 1990) Pg 6.

<sup>&</sup>lt;sup>21</sup> Ibid, Pg 15.

<sup>&</sup>lt;sup>22</sup> Lilian Berthelot, Beau Bassin - Pan d'Histoire (Vacoas : Edition Le Printemps, 1997), Pg 46.

The town has under its jurisdiction several land conversions made by the 'Compagnie des Indes' between 1715 and 1767. In 1963, the areas under the Village Councils of Trèfles, Stanley, Mont Roches and Plaisance were added to the Town and in 1964 some 440 acres, from Chebel Branch Road to the Old Railway Track known as Coromandel, were transferred under the jurisdiction of the town<sup>23</sup>.

Chapman Hill in the north-west, the Grand Malabar Mountain in the West and Corps de Garde Mountain in the South West are the designated mountain reserves of the town<sup>24</sup>. Over the past decades it has been observed, especially during rainy seasons, that the surrounding areas of Corps de Garde Mountain stores high volumes of groundwater with the presence of aquifers at certain locations which serves as sources of water supply to the industrial zone of Coromandel and other surrounding regions<sup>25</sup>.

On the eastern side of the town are the escarpments of the Plaines Wilhems River and the Grand River North West which demarcates the town from the jurisdiction areas of Port Louis City Council, Moka District Council and Quatre Bornes Municipal Council. At the north-western periphery of the town is also located the Gros Cailloux cave in the sugarcane fields of Chebel which geological aspects as well as fauna and flora are as at date still unexplored.

#### **Construction of the Plaines Wilhems Canal and Terre Rouge Canal**

As the tributaries of the Grand River North West, to the exception of the Plaines Wilhems River, were located to the east of the main watercourse, it was necessary for the French settlers to construct canals in order to irrigate their sugarcane crops and satisfy the demands of newly built homes by using river water as a main source of supply. To that effect, several French colonists came to an agreement in 1762 for the construction of the Plaines Wilhems Canal which started from the Beau Séjour dyke in Belle Rose and ended at Pointe aux Sables. Lately, the Terre Rouge Canal was constructed in 1772 for the same purpose as the Plaines Wilhems Canal. The canal began from the Terre Rouge River at Trianon and served along its path the regions of Ebene, Beau Sejour, Stanley, Plaisance, Roches Brunes, Mont Roches, Beau Bassin, and Chebel<sup>26 27</sup>.

During the French colonization, strict regulations were established for protecting those canals against pollution and it was also prohibited to construct buildings less than thirty meters from the

 <sup>24</sup> MCBBRH, "Outline Planning Scheme", (Municipal Council of Beau Bassin Rose Hill, May 2015).
 <sup>25</sup> WMA, "Montagne Jacquot Environmental Sewerage and Sanitation Project : Environmental Impact Assessment Report", (Ministry of Public Infrastructure, Waste Water Management Authority, BLACK & VEATCH INTERNATIONAL ENVIRONMENTAL CONSULTANCY UNIT, August, 1997), Pg 225, https://documents1.worldbank.org/curated/zh/419901468774576592/pdf/multi-page.pdf.

<sup>26</sup> Lilian Berthelot, Rose – Hill, La Ville qui se souvient (Port Louis : Diocèse de Port Louis, 1990) Pg 5.

<sup>&</sup>lt;sup>23</sup> MCBBRH, "Annual Report 2020 – 2021", (Municipal Council of Beau Bassin Rose Hill, 2021), Pg 4, <u>Annual-Report-MBBRH-2021.pdf.</u>

<sup>&</sup>lt;sup>27</sup> Lilian Berthelot, Beau Bassin - Pan d'Histoire (Vacoas : Edition Le Printemps, 1997), Pg 6-7-11.

banks of a canal or a watercourse<sup>28</sup><sup>29</sup>. It is to be noted that both canals of Plaines Wilhems and Terre Rouge are still in use nowadays and serve as feeder canals to several irrigation basins located across the township. Both canals are managed by a syndic comprised of public and private sector organizations which meet at regular intervals to ensure appropriate coordination and maintenance of works and measures related to the said irrigation canals.

#### **Disaster History of Beau Bassin Rose Hill**

The literature on historical disasters in Mauritius and their effects on its localities is relatively limited and scattered. However, historical disaster observations as described in the literature revealed that during the previous three centuries, epidemic outbreaks, cyclones, and floods have predominantly impacted the township of BBRH. It has been alleged that ships carrying diseased foreign migrant workers from were the primary carriers of epidemic outbreaks like cholera and small pox in Mauritius. For instance, in 1854, 7650 people died on the island as a result of a cholera epidemic.<sup>30</sup>.

Malaria was another important epidemic that has been pointed out in the literature. Between 1866 and 1867, a malaria outbreak claimed 32,000 lives nationwide while also having a significant impact on the colony of BBRH. As informed citizens tend to flee the capital city of Port Louis to seek refuge in the towns of Plaines Wilhems, the outbreak of malaria also played a deciding role in populations and community migrations<sup>31</sup>. Smallpox, was another epidemic discovered in Mauritius in 1891 which claimed the lives of 655 people in the colony of BBRH. Another smallpox outbreak was lately noted in 1913, when 196 fatalities and 1914 cases of infections were recorded throughout the island. It is to be noted that it was only at this point in time that the outbreak was then formally classified as a disease<sup>32</sup>.

In 1918, five years after the outbreak of smallpox, the township of BBRH had to respond to increasing cases of Spanish influenza infections. In doing so, under a decision of the Board of Administrators, government schools were converted to temporary hospitals and equipped with electric bulbs, telephones and a medical staff to assist the infected residents. Additionally, two cinema halls of Rose Hill and Beau Bassin namely (Cinema Hall and Eden) served as distribution hubs to the poorest, where daily supplies of food and medications were given to an average of 225 people<sup>33</sup>.

Furthermore, during the years 1939-1945, Mauritius faced the indirect impacts of World War II and one of the worst consequences was the rationing of food, which in the same vein impacted the

<sup>&</sup>lt;sup>28</sup> Lilian Berthelot, Rose – Hill, La Ville qui se souvient (Port Louis : Diocèse de Port Louis, 1990) Pg 5.

<sup>&</sup>lt;sup>29</sup> Lilian Berthelot, *Beau Bassin – Pan d'Histoire* (Vacoas : Edition Le Printemps, 1997), Pg 7.

<sup>&</sup>lt;sup>30</sup> Ibid., Pg 32.

<sup>&</sup>lt;sup>31</sup> Ibid., Pg 86-87.

<sup>&</sup>lt;sup>32</sup> Ibid., Pg 80.

<sup>&</sup>lt;sup>33</sup> Ibid., Pg 87-88.

township of BBRH. For instance, in 1943, the Controller of Supplies instructed the presidents of the different Boards across the island to convert their Town Halls as distribution hubs for communities in need. Thus, more than 19,000 meals per day, largely made of corn, cassava, and potatoes, were provided to the communities of Stanley and Rose Hill regions which replaced the essential rice and flour whose stockpiles had run out<sup>34 35</sup>.

In 1945, as the war in Europe was coming to an end, Mauritius was hit by a tropical cyclone which left several people homeless across the town as a consequence of torrential rainfall and cyclonic gusts. More than Rs 17,000 was given by the Board from the relief funds to the areas of Stanley and Rose Hill which were significantly impacted by the cyclone. Additionally, the Board provided tents and awnings to the impacted citizens and declared its authority to requisition houses, where required, for sheltering homeless individuals. Moreover, a Relief Committee was established to assist victims and payments were granted for cases of exceptional urgency<sup>36</sup>.

In the early 1960s, Mauritius was impacted by two intense tropical cyclones in the name of Alix and Carol which caused substantial economic, human and material losses across the island. As reported in the literature, the region known as "Cité de Rosnay" in Beau Bassin was flooded while most of the existing drains across the town were largely inadequate to evacuate the high volumes of storm water runoffs. Additionally, all roads of the town were severely obstructed with post cyclonic debris, fallen trees and branches and assistance from private sector organizations had to be sought for the collection of post cyclonic waste<sup>37</sup>. Other historical cyclones, with a whole-of-a-country impact which subsequently caused severe socio-economic disruptions to the town are known as Jenny in 1962, Danielle in 1964, Gervaise in 1975, Claudette in 1979, Hollanda in 1994 and Dina in 2002<sup>38</sup>. However, data and documentation on those historical cyclones remain relatively scattered and limited in Mauritius.

<sup>&</sup>lt;sup>34</sup> Lilian Berthelot, *Beau Bassin – Pan d'Histoire* (Vacoas : Edition Le Printemps, 1997), Pg 102

<sup>&</sup>lt;sup>35</sup> Lilian Berthelot, Rose – Hill, La Ville qui se souvient (Port Louis : Diocèse de Port Louis, 1990) Pg 34.

<sup>&</sup>lt;sup>36</sup> Ibid., Pg 34.

<sup>&</sup>lt;sup>37</sup> Ibid., Pg 113.

<sup>&</sup>lt;sup>38</sup>MMS, "List of Historical Cyclones", Mauritius Meteorological Services, Accessed on 21 September 2023, metservice.intnet.mu/publications/list-of-historical-cyclones.php.

#### **Municipal Institutional Arrangements**

The Municipal Council of BBRH is a body corporate established under the Local Government Act (2011)<sup>39</sup>, as subsequently amended and is organised through:

- (i) A Council of 24 elected members and its committees making the policies and decisions;
- (ii) An executive arm headed by the Chief Executive assisted by the Deputy Chief Executive and two Assistant Chief Executives to implement them; and
- (iii) Heads of Departments for the day-to-day running of the affairs of the Municipal Council in line with its statutory duties as spelt out in the LGA 2011 and various other enactments.

#### **The Administration Department**

Headed by the Chief Executive and assisted by the Deputy Chief Executive and Assistant Chief Executives, the Administration Department <sup>40</sup> is responsible for the Management and Administration of the day-to-day affairs of the Council. The Department is responsible amongst others, for the implementation of Local Government legislations, policies, goals, objectives and other relevant legislations and implementing programmes aiming at enhancing the overall efficiency and effectiveness of the Council.

#### **The Finance Department**

The Finance Department<sup>41</sup> is responsible for the treasury management of the Council. The department is headed by the Financial Controller who advises on financial matters. He is responsible to see to it that proper systems of internal control and accounting are established in every department; that public revenue is collected promptly and properly accounted for and that expenditure and other disbursements are properly made under the correct votes and items of the estimates.

#### **The Public Infrastructure Department**

The Public Infrastructure Department<sup>42</sup> advises the Council on Engineering matters and the implementation and application of the relevant legislations including amongst others the Roads Act, The Building Control Act and the Local Government Act. The overall administration, management and discipline of employees of the department rests upon the Head of Public Infrastructure Department.

<sup>&</sup>lt;sup>39</sup> The Local Government Act, 2011, PART II SUB PART A Sections 3 and 5. (Government of the Republic of Mauritius, 2011). <u>Legislations\_Guidelines\_Schemes (govmu.org)</u>.

<sup>&</sup>lt;sup>40</sup> MCBBRH, "Annual Report 2021-2022", (The Municipal Council of Beau Bassin Rose Hill, 2022), Pg 13, <u>Annual-Report-MBBRH-21-22.pdf</u>.

<sup>&</sup>lt;sup>41</sup> Ibid, 39.

#### The Land Use and Planning Department

The Land Use & Planning Department is responsible for the promotion of a harmonious, orderly and sustainable development within the Council's area. One of the main duties of the department is the processing and issuance of Building and Land Use Permits (BLUP) and Outline Planning Permissions (OPP) as provided under Section 117 of the Local Government Act (2011). In addition, the department also complies with provisions of the Outline Planning Scheme, Planning Policy Guidance and guidelines/regulations applicable, the Building Control Act (2012), the Town and Country Planning Act (1954), the Planning & Development Act (2004) and the Environment Protection Act (2002)<sup>43</sup>

#### **The Public Health Department**

The Public Health Department <sup>44</sup> has the overall responsibility to maintain a salubrious environment within the township area through the provision of an efficient refuse collection, removal and disposal of household, industrial and commercial waste and the regular cleaning and maintenance of public places.

#### **The Welfare Department**

The Welfare Department stands as a showcase for the Council and is responsible for all matters pertaining to the organisation of welfare, social, recreational, educational, sports and cultural activities for the benefit of the inhabitants of the town. It also controls and manages all Municipal Kindergartens, Municipal Halls, Gymnasium, Sports Complexes, Football Grounds and other Sports Infrastructures falling under the jurisdiction area of the town<sup>45</sup>.

<sup>&</sup>lt;sup>43</sup> MCBBRH, "Annual Report 2021-2022", (The Municipal Council of Beau Bassin Rose Hill, 2022), Pg 58, <u>Annual-Report-MBBRH-21-22.pdf.</u>

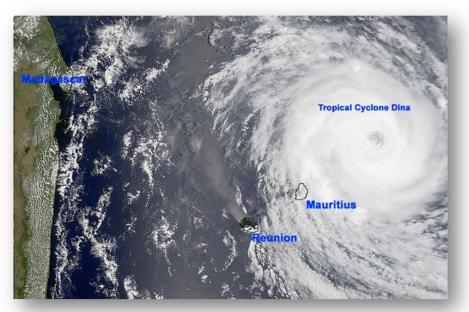
<sup>&</sup>lt;sup>44</sup> Ibid., 63 <sup>45</sup> Ibid., 69

#### Hazards exposure

The township of BBRH is exposed to a range of hazards which have been captured in the Risk Matrix illustrated at *Annex 1* and grouped based on the guidance of the UNDRR/ISC Sendai Hazard Definition and Classification Review 2020 Technical Report<sup>46</sup>.

#### Meteorological & Hydrological Hazards

BBRH is exposed to the risks associated with meteorological and hydrological hazards in the form of tropical storms of varying intensities, torrential rains and flash floods. As per the annexed risk matrix, the occurrence of those hazards has been classified from possible to imminent with probable damages on the built environment ranging from serious to catastrophic. According to an analysis of data carried out by the MMS, no net increase in the number of storms has been observed in the South West Indian



Very intense tropical cyclone Dina approaching Mauritius in January 2002

Ocean tropical cyclone basin over the past decades. However, an increasing trend in the number of storms reaching tropical cyclone strength has been observed with rapid or even explosive intensifications<sup>47</sup>. According to the disaster risk profile for Mauritius prepared under the South West Indian Ocean Risk Assessment Financing Initiative<sup>48</sup>, tropical cyclones are the most significant risks faced by the country with 80% of damages generated by cyclonic gusts.

<sup>&</sup>lt;sup>46</sup> UNDRR, "HAZARD DEFINITION & CLASSIFICATION REVIEW, TECHNICAL REPORT" (United Nations Office for Disaster Risk Reduction, 2020), Pg 28-30, <u>Hazard definition and classification review (Technical Report)</u> <u>UNDRR</u>.

<sup>&</sup>lt;sup>47</sup> MMS, "Climate Change", Mauritius Meteorological Services, Accessed on 16 September 2023, <u>metservice.intnet.mu/climate-services/climate-change.php</u>.

<sup>&</sup>lt;sup>48</sup> The World Bank, "South West Indian Ocean Risk Assessment and Financing Initiative, Summary Report, 2017", (The International Bank for Reconstruction and Development/ The World Bank, Washington DC, 2017), Pg 19-22, <u>https://www.gfdrr.org/en/publication/southwest-indian-ocean-risk-assessment-and-financing-initiative-summary-report-and-risk</u>.

Additionally, flooding is categorized as the second largest risk faced by the island causing approximately 20% of economic losses mostly associated with residential property damages<sup>49</sup>.

As at date, due to an absence of historical data on flooding, it is assumed that the town of BBRH has not been directly impacted by extreme meteorological and hydrological hazards in the form of flash floods. Nevertheless, considering that BBRH is a highly built-up area, a direct impact from such extreme weather event could potentially cause consequential disruptions to the socio-economic activities of the town.

Furthermore, it is noted that the likelihood of disasters with a nationwide impact is increased by the island's physical remoteness and relatively limited land mass. It should be recalled that the passage of the very intense tropical cyclone Dina 50km from the North coast of Mauritius in January 2002 generated sustained cyclonic gusts ranging from 200-228 km/hr <sup>50</sup> and caused significant economic losses and damages to critical infrastructures of the country<sup>51</sup>. It should be pointed out that since the passage of this extreme event, the landscape of BBRH has been reshaped with exponential urban developments. However, those commendable progresses in development have also increased the risk of economic losses from disasters. Accordingly, while acknowledging that the country continues to face the risk of disasters, mainly from the impacts of cyclones and flooding, it is necessary for the Municipal Council to strengthen the resilience of its systems to extreme weather events through appropriate disaster mitigation measures.

<sup>&</sup>lt;sup>49</sup>The World Bank, "Disaster Risk Profile, Mauritius", (The International Bank for Reconstruction and Development/ The World Bank, Washington DC, 2016), Pg 2-7, <u>mauritius.pdf (gfdrr.org)</u>.

<sup>&</sup>lt;sup>50</sup> MMS, "List of Historical Cyclones", Mauritius Meteorological Services, Accessed on 16 September 2023, <u>metservice.intnet.mu/publications/list-of-historical-cyclones.php</u>.

<sup>&</sup>lt;sup>51</sup> United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA), "Mauritius - Tropical Cyclone Dina OCHA Situation Report No. 4", Relief Web, 25<sup>th</sup> January 2002, Accessed on 16 September 2023, <u>Mauritius - Tropical Cyclone Dina OCHA Situation Report No. 4 - Mauritius | ReliefWeb</u>.

#### **Geo-Hazards**

As per the annexed risk matrix, Geo-Hazards in the form of slope failures and rock falls have been considered as probable events in BBRH and may potentially have adverse impacts on exposed areas. Those hazards are normally triggered by seasonal weather conditions such as torrential rains but are also a result of constructions on slopes and deforestation. Moreover, it should be pointed out that volcanic eruptions occurred at significant geographical distances from Mauritius as witnessed with the Hunga Tonga-Hunga Ha'apai eruption in the southern Pacific Ocean could potentially have very serious impacts on air quality but have been categorized as less probable events.



Slope failure at Corps de Garde Mountain, Stanley, Rose Hill

#### **Technological Hazards**

It is observed from the annexed risk matrix that the town is exposed to a range of technological hazards. Structural fires are classified as probable events with potentially serious damages. Furthermore, though classified as improbable to less probable events, aircraft accidents, terrestrial oil spills and air pollution may also have very serious to catastrophic consequences on the town's-built environment, public health and socio-economic activities.

#### **Situational Analysis**

#### Local Disaster Risk Governance

The DRRM institutional structure of the Municipal Council is based on the mandates of the NDRRM Act which calls for the setting up of a Local Disaster Risk Reduction and Management Committee hereinafter called the Local Committee. As per Section 19 of the NDRRM Act, the Local Committee is chaired by the Mayor or Chairperson of the Council and consist of the Chief Executive as vice-chairperson, the Local Disaster Management Coordinator, representatives of key Ministries, public utilities, NGOs, parastatal bodies and any other co-opted person with relevant expertise as may be decided by the chairperson. The Local Committee is mandated under section 20 of the NDRRM Act<sup>52</sup> to:

(a) Work closely with its local community in disaster risk analysis and vulnerability assessment;

(b) Prepare and implement, in accordance with any guidelines laid down by the National Council, the Local Plan to be approved by the National Centre;

- (c) Promote and implement DRRM education and public awareness programmes;
- (d) Build capacity, acquire resources and coordinate DRRM activities;

(e) Conduct trainings, drills and simulation exercises; and

(f) Every 6 months, submit a periodical report related to its activities to the National Centre.

Additionally, according to section 21 subsections (1) and (2) of the NDRRM Act, "The Local Government Service Commission shall, for every local authority, appoint a Local Disaster Management Coordinator to coordinate all disaster risk reduction and management activities in respect of the area under the jurisdiction of that local authority". "The Local Disaster Management Coordinator shall act as the liaison officer between the National Centre and the local authority".

As a result, it is observed that critical steps have been taken by the Republic of Mauritius to foster a decentralized approach to disaster risk governance with the setting up of a Local Committee and the appointment of a Local Disaster Management Coordinator responsible for the coordination and implementation of DRRM initiatives within the jurisdiction area of the town. Nevertheless, this institutional structure, though highly commendable, is nowadays anchoring the limits of its efficiency due to an absence of a dedicated unit in charge of the coordination and implementation of disaster mitigation, preparedness, response and recovery activities of the town.

<sup>&</sup>lt;sup>52</sup> National Disaster Risk Reduction and Management Act, 2016, Section 20, (Government of the Republic of Mauritius). <u>NDRRMC Act 2016 (govmu.org)</u>.

Accordingly, to ensure the adequate execution of the functions of the Local Committee and the appropriate coordination and implementation of this Local DRRM Strategy & Action Plan 2023-2030 it is recommended that a Local DRRM Unit comprised of dedicated staffs supported with adequate budgets be setup at the Municipal Council as addressed in Essential 1 of the Local DRRM Action Plan.

#### **Disaster Risk Financing**

Provisions are made under Section (39) of the NDRRM Act and Section 60 (j) (E) of the Environment Protection Act 2002 (as amended) for the financing of DRRM activities, projects, schemes and programmes<sup>53</sup> <sup>54</sup>. Additionally, under the national budget 2023-2024, it has been noted that a sum of Rs 18 million has been earmarked for the Ministry of Local Government and Disaster Risk Management to implement Disaster Risk Management Programmes in Local Authorities<sup>55</sup>.

To that effect, this commendable initiative will support the Municipal Council to ensure the effective implementation of its DRRM Strategy and Action Plan for the financial year 2023-2024 while aligning with the National DRRM Policy Engagement 2020-2030.

Accordingly, the working areas addressed in Essential 3 of the Local DRRM Action Plan should enable the concerned institutions to establish appropriate DRRM disbursement methods/mechanisms and support the Local Committee in its disaster resilient activities.

#### **Contingency Plans**

Contingency planning refers to "a management process that analyses disaster risks and establishes arrangements with clearly identified institutional roles and resources and operational arrangements for specific actors in times of need to ensure timely and appropriate responses"<sup>56</sup>.

<sup>&</sup>lt;sup>53</sup> Environment Protection Act, 2002, Section 60 (j) (E), (Government of the Republic of Mauritius). <u>Legislations</u> (govmu.org).

<sup>&</sup>lt;sup>54</sup> National Disaster Risk Reduction and Management Act, 2016, Section 20, (Government of the Republic of Mauritius). <u>NDRRMC Act 2016 (govmu.org)</u>.

<sup>&</sup>lt;sup>55</sup> Budget 2023-2024, "Financial Resources: Vote Item 5-1, Local Government", Ministry of Finance, Economic Planning and Development, Accessed on 16 September 2023. <u>V 05 012023 24Lgovt.pdf (govmu.org)</u>.

<sup>&</sup>lt;sup>56</sup> UNDRR, "Report of the Open-Ended Intergovernmental Expert Working Group on Indicators and Terminology Relating to Disaster Risk Reduction." (United Nations Office for Disaster Risk Reduction, December 1, 2016), Pg 12, <u>Report of the open-ended intergovernmental expert working group on indicators and terminology relating to</u> <u>disaster risk reduction | UNDRR.</u>

The Municipal Council has developed contingency plans involving several agencies for responses to the impacts from Cyclones and Flood hazards with focused attention placed on the most vulnerable areas of the town. It is also noted that all plans have been aligned in accordance with provisions of the National Covid-19 legislation and regulations to face dual shocks such as disease outbreaks and climate-related disasters simultaneously. Additionally, the National Disaster Scheme (NDS) 2015 as a non-legal binding document provides guidelines to agencies and stakeholders in understanding and undertaking their roles, responsibilities and actions in preparedness and response to natural hazards such as cyclones, flooding and landslides<sup>57</sup> amongst others.

However, it is noted that over and above the contingency plans developed by the Municipal Council and the guidelines laid in the NDS 2015, emergency services, utilities service providers and other concerned agencies have also developed their own Service Continuity, Business Continuity and Internal Contingency Plans, Standard Operating Procedures and protocols which are applied by their institution in times of hazardous events or a disaster. Nevertheless, it is noted that these internal contingency plans, procedures and protocols have not been consulted by the Municipal Council when developing the contingency plans therefore leading to certain gaps in the coordination and communication of local emergency and disaster response operations.

Furthermore, a key challenge pertaining to contingency planning as identified in the report on the Diagnosis of National and Local Capacities to manage Disaster Risk in the Republic of Mauritius 2020, refers to an uneven quality in contingency plan. Findings from the report stated that "Contingency plans do not systematically include all the key elements such as the potential scenario, the threshold/triggers to activate the plans, the post-disaster assessment process, and the existing capacities and potential financial gaps. This means that all the existing contingency plans are not budgeted and are not scenario-oriented. The absence of these key elements is an important gap as actors and Government don't know ahead of any disaster the magnitude of any potential emergency situation in order to allow them to be prepared financially and logistically"<sup>58</sup>. Those gaps have also been observed in the contingency plans developed by the Municipal Council.

As a result, it is recommended for the Municipal Council with the collaboration of concerned stakeholders and agencies, to consider the timely and effective implementation of working areas related to the above challenges as addressed in Essentials 1, 2, 8 and 9 of the Local DRRM Action Plan. Consequently, those actions will enable the concerned stakeholders to have a standardized

<sup>&</sup>lt;sup>57</sup> NDRRMC, "National Disaster Scheme 2015", (National Disaster Risk Reduction and Management Centre, Line Barracks, Port Louis, Mauritius, 2015), Pg 9-45; 217-228, <u>NDS EDITION 2015.pdf (govmu.org)</u>.

<sup>&</sup>lt;sup>58</sup> Government of the Republic of Mauritius, Office of the United Nations Resident Coordinator for Mauritius, Capacity for Disaster Reduction Initiative (CaDRi) Partnership, "Diagnosis of National and Local Capacities to manage Disaster Risk in the Republic of Mauritius", (National Disaster Risk Reduction and Management Centre, Mauritius, 2020), Pg 143, <u>https://mauritius.un.org/en/113529-capacity-disaster-reduction-initiative-cadri</u>.

approach to emergency and disaster responses while applying effective disaster preparedness, response and recovery measures.

## **Simulation Exercises**

A Simulation Exercise (SimEx) is a fictional disaster event created with the purpose of testing the plans and procedures that would come into effect during a real emergency while helping to identify strengths and weaknesses<sup>59 60</sup>.

The Municipal Council through its Local Committee is mandated under Section 20 subsection (e) of the NDRRM Act to conduct drills and simulation exercises within its jurisdiction area. Accordingly, since the enactment of the law several full-scale and table top simulation exercises have been organized targeting the most vulnerable communities of the town. Simulations practiced consist mainly of responses and evacuations to impacts from natural hazards such as cyclones, flooding and landslides. In 2019, the municipal council also organized at Hazardous Material SimEx in the Industrial Zone of Coromandel to test the effectiveness of response agencies in case of such emergency.

However, a key challenge pertaining to SimEx identified in the report on the Diagnosis of National and Local Capacities to manage Disaster Risk in the Republic of Mauritius 2020, concerns the realism in the conduct of simulation exercises. "It is observed that participants in SimEX had prior knowledge of the location of the disaster site, number of victims, timing of the event and other details of the exercise. To that effect, this prior knowledge eliminates the ability to gauge the effectiveness of the response of various agencies and entities to a sudden disaster event which occurs without warning. Additionally, an absence of facilitator team trained specifically to facilitate SimEx, prepare the terms of reference, establish scenarios and injects and organize debriefing sessions is also noted"<sup>61</sup>. Those key challenges have also been observed during SimEx carried out by the Municipal Council.

<sup>&</sup>lt;sup>59</sup> New Zealand Aid Programme, Adventist Development and Relief Agency (ADRA) New Zealand, Caritas Aotearoa New Zealand, Christian World Service, Oxfam New Zealand, Rotary New Zealand, TEAR Fund New Zealand and UNICEF New Zealand, "DISASTER SIMULATION EXERCISES: A how to guide for the Pacific" (UNDRR, PreventionWeb, New Zealand, 2014), Pg 5-18, <u>Disaster simulation exercises: A how to guide for the Pacific | PreventionWeb</u>.

<sup>&</sup>lt;sup>60</sup>\_UNDRR, "Words into Action guidelines - Design and conduct of simulation exercises – SIMEX", (United Nations Office for Disaster Risk Reduction, Geneva, Switzerland, 2020), Pg 19-37, <u>Words into Action guidelines -</u> <u>Design and conduct of simulation exercises - SIMEX | PreventionWeb</u>.

<sup>&</sup>lt;sup>61</sup> Government of the Republic of Mauritius, Office of the United Nations Resident Coordinator for Mauritius, Capacity for Disaster Reduction Initiative (CaDRi) Partnership, "Diagnosis of National and Local Capacities to manage Disaster Risk in the Republic of Mauritius", (National Disaster Risk Reduction and Management Centre, Mauritius, 2020), Pg 145, <u>https://mauritius.un.org/en/113529-capacity-disaster-reduction-initiative-cadri</u>.

Accordingly, it is recommended for the Municipal Council with the collaboration of key stakeholders and agencies to ensure the timely and effective implementation of the working areas related to the above challenges as addressed in Essentials 1, 2, 6 and 9 of the Local DRRM Action Plan. Consequently, the application of those objectives will enable key agencies and stakeholders to strengthen their institutional capacities and apply effective disaster preparedness, response and recovery measures.

## **The Local Emergency Operations Command (LEOC)**

As per Section 22 (1) of the NDRRM Act, in the event of a disaster within the jurisdiction area of BBRH there shall be a Local Emergency Operations Command (LEOC) setup at the level of the Council to lead response operations. The LEOC is chaired by the mayor and shall consist of key personnel from the Council to be supported by designated members from emergency services. According to the NDS 2015, the LEOC is activated solely for the purpose of coordinating all activities during a disaster and makes use of the well-established command, control, coordination and communication system of the Police so as to avoid unnecessary duplication of resources, as far as practicable.

Considerable efforts have been made by the Municipal Council to develop internal SOPs for its departments upon a LEOC activation with their respective roles and responsibilities clearly defined. Those internal SOPs have revealed to be effective in the coordination and reporting of post emergency situations. Departments of Public Infrastructure, Public Health, Welfare and Administration have been assigned the tasks to provide preliminary reports and detailed assessments in the aftermath of a hazardous event or a disaster which are then compiled and reported to the NEOC. However, some significant challenges still exist as regard to the functionality and operational management of the LEOC and these are further described in the following paragraphs.

The LEOC is mainly activated under request of the NDRRMC/NEOC upon issuance of warning and alerts from the Mauritius Meteorological Services. Those warning and alert mostly related to cyclone and flood hazards which may be interpreted as *Hazardous Events*<sup>62</sup>.

It is noted that the LEOC is to be activated when there is a disaster in line with Section 22 (1) of the NDRRM Act. Section 2 of the NDRRM Act, defines a disaster as "a serious disruption of the functioning of a community or a society involving widespread human, material, economic or

<sup>&</sup>lt;sup>62</sup> UNDRR, "Report of the Open-Ended Intergovernmental Expert Working Group on Indicators and Terminology Relating to Disaster Risk Reduction." (United Nations Office for Disaster Risk Reduction, Geneva, December 1, 2016), Pg 13 & 20, <u>Report of the open-ended intergovernmental expert working group on indicators and</u> terminology relating to disaster risk reduction | PreventionWeb.

environmental losses and impacts which exceeds the ability of the affected community or society to cope using its own resources."

However, based on the past practical experience of the Municipal Council in the coordination of emergency response operations, activating the LEOC during hazardous events without an agreed threshold and without dedicated multi-agency Standard Operating Procedures (SOPs) has proven to lead to significant periods of inactivity and duplication of information between emergency services.

Additionally, it should be pointed out that facilities and amenities to the standards of an emergency operation cell as the LEOC are presently not available at the Municipal Council. It is also noted that there is a limited deployment of emergency services to assist the Municipal Council at the LEOC on a 24/hr basis due to an absence of SOPs and trainings.

As a result, it is recommended to consider the timely and effective implementation of working areas related to the above challenges as addressed in Essentials 1, 6 and 8 of the Local DRRM Action Plan. As a result, the application of these objectives will enable the concerned stakeholders to better organize for disaster resilience, strengthen their institutional capacities and infrastructure resilience with a standardized approach to local disaster response and recovery operations.

## **Disaster Recovery**

In the event of a disaster with a whole-of-country impact the National Crisis Committee will take the lead in the supervision, coordination and communication of disaster response and recovery operations for the interest of the country. Funds for recovery processes would mostly be allocated from the Prime Minister's Relief Fund<sup>63</sup> and donations from private sector organizations, local NGOs and individuals.

Tropical cyclones are the highest priority hazards followed by flooding for Mauritius<sup>64</sup>. Impacts from such hazards could potentially cause significant economic, materials and environmental losses leading to prolonged recovery processes. It is noted that due to a lack of expertise, knowledge and understanding of post disaster recovery processes, few efforts have been made to develop a comprehensive local disaster recovery and reconstruction plan adapted to the specific context of BBRH Township.

As a result, to support and assist the NCC in a post-disaster recovery context, it is recommended for the concerned institutions to consider the timely and effective implementation of working areas

<sup>&</sup>lt;sup>63</sup> DHA, "Prime Minister's Relief Fund", Defence and Home Affairs Division, Accessed on 17 September 2023, <u>https://dha.govmu.org/Pages/Services/Prime\_Minister\_Relief\_Fund.aspx</u>.

<sup>&</sup>lt;sup>64</sup> The World Bank, "Disaster Risk Profile, Mauritius", (The International Bank for Reconstruction and Development/ The World Bank, Washington DC, 2016), Pg 2-7, <u>mauritius.pdf (gfdrr.org)</u>

related to the above challenges as addressed in Essentials 1, 3 and 10 of the Local DRRM Action Plan.

## Private Sector & SMEs engagement in DRR

The private sector plays a key role in development both as an employer and investor. It is obvious that a deeper knowledge of its responsibilities in DRRM is necessary. According to the Diagnosis of National and Local Capacities to manage Disaster Risk in the Republic of Mauritius 2020 report, the NDRRM Act *"does not set clear obligations for private sector actors"*<sup>65</sup>. To that effect, the absence of such commitments could be detrimental to local businesses mainly Small and Medium Enterprises (SMEs) who are considered as highly volatile and vulnerable to impacts from natural and anthropogenic hazards.

The township of BBRH is nowadays an agglomeration of SMEs and other private sector organizations operating in a wide array of economic activities. Local businesses specialized in food, textile, garments, telecommunication, electronics sectors and others significantly contribute to the economic wellbeing of the town. They supply the daily demand of the local community, generate profits, pay their taxes and create employment for citizens from both inside and outside the town.

However, the key risks linked with disasters for SMEs and other private sector businesses frequently relates to supply chains and markets volatility<sup>66</sup> due to the extensive nature of contemporary supply chains which covers different economies and industries<sup>67</sup>. For instance, disaster impact on global supply chains may have adverse cascading effects on other supply chain partners located away from the affected region<sup>68</sup> as observed with the Covid-19 pandemic. Furthermore, SMEs and other private sector organizations of the town could also be adversely impacted by the landfall of a very intense tropical cyclone or a flash flood event of similar

<sup>&</sup>lt;sup>65</sup> Government of the Republic of Mauritius, Office of the United Nations Resident Coordinator for Mauritius, Capacity for Disaster Reduction Initiative (CaDRi) Partnership, "Diagnosis of National and Local Capacities to manage Disaster Risk in the Republic of Mauritius", (National Disaster Risk Reduction and Management Centre, Mauritius, 2020), Pg 54, <u>The Capacity for Disaster Reduction Initiative (CADRI) | United Nations in Mauritius</u>.

<sup>&</sup>lt;sup>66</sup> United Kingdom Climate Impacts Programme (UKCIP), "Making Progress: UKCIP & adaptation in the UK", (UK Climate Impacts Programme, Oxford, Uk, September 2011), Pg 54-55, <u>Making progress: UKCIP & amp; adaptation in the UK - ORA - Oxford University Research Archive</u>.

<sup>&</sup>lt;sup>67</sup> Gayan Wedawatta, Bingunath Ingirige, Dilanthi Amaratunga, "Building up Resilience of Construction Sector SMEs and Their Supply Chains to Extreme Weather Events," *International Journal of Strategic Property Management* Vol 14, No.4 (2010): Pg 4-5. (PDF) Building Up Resilience of Construction Sector SMEs and Their Supply Chains to Extreme Weather Events (researchgate.net).

<sup>&</sup>lt;sup>68</sup> Gayan Wedawatta, Bingunath Ingirige, David Proverbs, "Small businesses and flood impacts: The case of the 2009 flood event in Cockermouth", *Journal of Flood Risk Management* Vol 7, No.1. (2014): Pg 23-24. (PDF) Small businesses and flood impacts: The case of the 2009 flood event in Cockermouth (researchgate.net).

magnitude as witnessed in March 2013 in Port Louis. To that effect, impacts of similar extreme events on both global and domestic supply chains and markets could potentially lead to business closures, significantly disrupt economic activities of the town and give rise to social crises.

Accordingly, as highlighted in the Sendai Framework, to increase the resilience of productive assets throughout the supply chain, it is fundamental that businesses judiciously estimate how to balance supply chain efficiencies and disaster risk and invest in bolstering their supply chain's long-term continuity plans<sup>69</sup>.

As a result, it is recommended for the concerned institutions to consider the timely and effective implementation of working areas related to the above challenges as addressed in Essentials 2, 4, 5, 6, 7 and 10 of the Local DRRM Action Plan. In so doing, the application of these objectives will amongst others enable private sector organizations and SMEs of the town to have a better understanding of the potential local disaster risks, strengthen their institutional and societal capacities for resilience and actively participate in the recovery process while promoting the concept of building back better.

<sup>&</sup>lt;sup>69</sup> UNDRR, "Sendai Framework for Disaster Risk Reduction 2015-2030." (United Nations Office for Disaster Risk Reduction, Third World Conference on Disaster Risk Reduction, March 18, 2015), Pg 20, <u>Sendai Framework for Disaster Risk Reduction 2015-2030 | UNDRR.</u>

# Methodology for the development of the Local DRRM Strategy & Action Plan 2023-2030

The development of this Local DRRM Strategy & Action Plan was guided by a participatory and consultative process, aiming to gather diverse perspectives, expertise, and local knowledge to accurately reflect the needs and priorities of the town's local communities, as well as align with national and international frameworks for disaster risk reduction. This section provides an overview of the key steps and activities undertaken, highlighting the engagement of stakeholders, the data collection process, the analysis and synthesis of information, and the collaborative decision-making process that guided the formulation of the strategy and action plan.

The Municipal Council of BBRH employed a participatory approach, involving key stakeholders such as government entities, United Nations agencies, community-based organizations, academic institutions, private sector organizations, and community members. Stakeholder consultations, workshops, and meetings were conducted to gather input, insights, and recommendations to inform the strategy's development.

## National Training of Trainers (ToT)

On 2-4 July 2019, the Municipal Council of BBRH and other local authorities of Mauritius participated in a national Training of Trainers organized by the National Disaster Risk Reduction and Management Centre (NDRRMC) jointly with the UN Office for Disaster Risk Reduction. This training gave an overview of the Sendai Framework for Disaster Risk Reduction 2015-2030, contextualizing it to the sub-national level. It also provided a great opportunity for the participants who were drawn from the 12 local authorities of the island and other key stakeholders involved in DRRM to better understand the national policy landscape and share experiences. During the course of this workshop participants were introduced to the Making Cities Resilient 2030 concept and the handling of the Disaster Resilience Scorecard for Cities as a diagnosis tool to undertake stakeholder engagement stocktaking and develop tailored local disaster risk reduction (DRR) strategies in line with requirements of the Sendai Framework.

Workshop on the development and implementation of a Local Disaster Risk Reduction Strategy & Action Plan for Beau Bassin Rose Hill Township

On 15-16 November 2021 a 2-day multi-agency workshop was organized with members of the LDRRMC of the Municipal Council of BBRH to kick start the process of developing a Local Disaster Risk Reduction and Management Strategy and Action Plan for the township of BBRH. The workshop also welcomed the participation of the Local Disaster Management Coordinators from the 11 other local authorities of the country with view to encourage same actions be replicated in other council areas.

The workshop was organized by the Municipal Council with the technical assistance of the United Nations Resident Coordinator's Office (UNRCO), the United Nations Human Settlement Programme (UN HABITAT) and the United Nations Office for Disaster Risk Reduction (UNDRR).





During the course of this workshop participants were introduced to the CityRap Tool and the Making Cities Resilient 2030 campaign (MCR 2030) as potential avenues to support advancing DRR efforts, promoting resilience, and contributing to the achievement of the Sendai Framework's goals at the local level. To that effect, trainees acquired skills to effectively prepare engaging training sessions with key stakeholders, fostering collaboration, inclusivity, and ownership throughout the local strategy development process.

#### Municipal Council of Beau Bassin Rose Hill Commits to Disaster Risk Reduction and Resilience

MCBBRH was the first local authority in the Republic of Mauritius to participate in the Making Cities Resilient 2030 initiative since June 2022. The Municipal Council embarked on its resilience journey in Stage B on the Resilience Roadmap<sup>70</sup> and was provided a certificate of commitment to Disaster Risk Reduction and Resilience as illustrated at *Annex II*.

<sup>&</sup>lt;sup>70</sup> UNDRR, "A plan from vulnerability to resilience," United Nations Office for Disaster Risk Reduction, Making Cities Resilient 2030 (MCR 2030), Accessed on 17 September 2023. <u>Resilience Roadmap: Resilience Roadmap Stage</u> <u>Assessment | Making Cities Resilient 2030 (undrr.org)</u>

## Workshop on The Disaster Resilience Scorecard for Cities and The 10 Essentials for Making Cities Resilient

On 13-16 December 2022 the Municipal Council organized a multi-agency workshop on the **Disaster Resilience Scorecard for Cities**<sup>71</sup>, a tool developed by the UNDRR to help local authorities in monitoring and reviewing progress and challenges in the implementation of the Sendai Framework and to enable the development of a local disaster risk reduction strategy and action plan.





The Scorecard is structured around the "10 Essentials for Making Cities Resilient<sup>72</sup>", which offers a broad coverage of the many issues cities need to address to become more disaster resilient. The participants gained a comprehensive understanding of the Scorecard and the 10 Essentials, enabling them to effectively evaluate the town's current level of resilience and identify areas for improvement. Participants completed the Scorecard and provided input for the draft Local Disaster Risk Reduction & Management Strategy and Action Plan 2023-2030, that was later

circulated for further comments and inputs.

<sup>&</sup>lt;sup>71</sup> UNDRR, "Disaster Resilience Scorecard for Cities," United Nations Office for Disaster Risk Reduction, Making Cities Resilient 2030 (MCR 2030), Accessed on 17 September 2023. <u>Disaster Resilience Scorecard for Cities</u> <u>Making Cities Resilient (undrr.org)</u>.

<sup>&</sup>lt;sup>72</sup> UNDRR, "The 10 Essentials for Making Cities Resilient," United Nations Office for Disaster Risk Reduction, Making Cities Resilient 2030 (MCR 2030), Accessed on 17 September 2023. <u>The Ten Essentials for Making Cities</u> <u>Resilient | Making Cities Resilient (undrr.org)</u>.

Validation Workshop of the Draft Local Disaster Risk Reduction and Management Strategy and Action Plan for the Township of Beau Bassin Rose Hill

On 12-13 May 2023, the Municipal Council organized a validation workshop wherein a platform was provided for stakeholders to review, provide feedback, and validate the proposed strategy and action plan. The workshop convened key representatives from government entities, United Nations agencies, NGOs, private sector organisations, and elected members of the council.





Through the interactive setup, participants deliberated on the different components of the strategy and action plan, to ensure that the document is comprehensive, contextually relevant, and aligned with the needs of BBRH and the priorities of the Republic of Mauritius.

#### Engagement with local communities

On 12<sup>th</sup> August 2023, the Municipal Council organized a half day working session with civil society organisations and community members of the town to present the Local DRRM Strategy and Action Plan with a specific focus on actions proposed in Essential 7 entitled "Strengthen Societal Capacity for Resilience".

During the course of this working session, participants were introduced to the Making Cities Resilient 2030 and Community-based Disaster Management (CBDM) concepts which was followed by an open dialogue wherein their DRR needs and requirements were addressed. Accordingly, those needs and requirements where relevant and applicable have been further addressed as working areas and actions in Essential 7 of this Local DRRM Action Plan.



## Integration of Persons with Disabilities in the local disaster preparedness, response and recovery planning

At a meeting held on 24 August 2023 at the Ministry of Local Government and Disaster Risk Management regarding the approval of the Local DRRM Strategy and Action Plan 2023-2030 for the Township of Beau Bassin Rose Hill it was proposed that additional considerations be brought to persons with disabilities (PwD) into the disaster preparedness and response planning of the town and same to be integrated as working areas in the Local DRRM Action Plan.

To that effect, a multi-agency working session was organized on 30<sup>th</sup> August 2023 wherein group works and open discussion on disaster preparedness and response measures for PwD were addressed and their integration in the 10 Essentials for Making Cities Resilient highlighted.





The working session welcomed the participation of stakeholders specialised in assisting PwD in disaster preparedness and response planning and includes amongst others, the Special Education Needs Authority, Ministries responsible for Social Security and Gender Equality, first responders (Police, SAMU, Fire Rescue Service, Disaster Response Unit), the Mauritius Red Cross Society and municipal officers.

Accordingly, the outcomes of this working session were integrated as specific objectives and working areas for PwD addressed in Essentials 1, 2, 6, 7 and 9 of the Local DRRM Action Plan.

## Local Disaster Risk Reduction and Management Strategic Priorities

The Local DRRM Strategic Priorities plays a vital role in guiding the implementation of the Local DRRM Action Plan for the township of BBRH. This section provides a comprehensive overview of the key strategic priorities that will direct efforts towards building resilience, reducing risks, and enhancing the overall disaster preparedness, response and recovery capabilities of the town. By identifying these strategic priorities, the DRRM strategy aims to allocate resources and efforts in a targeted and effective manner, ensuring that interventions address the specific hazards, vulnerabilities, and capacities within the town.

## Vision: A Safe, Adaptive and Resilient Township

The vision of the Municipal Council of Beau Bassin Rose Hill is a Safe, Adaptive and Resilient Township. This vision has been intrinsically aligned with the National DRRM Vision 2020-2030 which is a *"Safe, Adaptive and Resilient Nation"* and the National DRRM Policy 2020-2030 statement that *"disaster impacts should be proactively reduced to the lowest levels possible with available local and external resources"*. The local vision is predicated on the notion that suburban communities of the town, civil society, the Municipal Council, Ministries, other governmental agencies, private sector organizations and local NGOs together share the responsibilities of enabling citizens of BBRH of being protected from the threats of hazards and develop their respective capabilities. These priorities have been identified through a comprehensive process that incorporates risk assessments, stakeholder consultations, and community engagement. Through collaborative efforts, innovative solutions, and a commitment to proactive risk reduction, the Municipal Council envision a future where the township of BBRH stands as a model of resilience, inspiring neighbouring communities and contributing to a more resilient nation.

## **Mission**

Through proactive approaches and involvement of all levels of society in understanding and managing disaster risks, increase the town's resilience by minimizing human losses and the adverse impacts of disasters on its economic, social, physical and environmental assets.

## <u>Goal</u>

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, social, health, cultural, educational, environmental, technological, and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.

## **Guiding principles**

The Local DRRM Strategy for BBRH is guided by the set of principles presented in the Sendai Framework. The guiding principles provide a foundation for effective and inclusive disaster risk reduction, ensuring the protection of lives, livelihoods, and assets while promoting sustainable development and fostering resilience and are illustrated as follows:

- i. The BBRH Local DRRM Strategy recognizes the primary responsibility of the state in preventing and reducing disaster risks through cooperation at various levels;
- ii. It emphasizes shared responsibilities among central governments, national authorities and stakeholders, taking into account their specific circumstances and governance systems;
- iii. The strategy aims to protect people, property, livelihoods, and cultural and environmental assets while promoting human rights and development;
- iv. It emphasizes the importance of inclusive participation, empowering local communities, and engaging all relevant institutions, including public, private, and academic sectors;
- v. The strategy promotes a multi-hazard approach and risk-informed decision-making based on disaggregated data and science-based risk information, while integrating traditional knowledge. It highlights the coherence between disaster risk reduction and other agendas such as sustainable development, climate change and environmental management.
- vi. The strategy emphasizes the importance of addressing underlying risk factors through predisaster investments and "Building Back Better" in the post-disaster recovery phase.
- vii. It recognizes the need for effective global partnerships and international cooperation, especially for finance, technology transfer, and capacity-building.

## **Strategic Priorities**

The Local DRRM Strategic Priorities have been fully aligned with four Strategic Pillars of the National DRRM Strategic Framework drawn from the four Priorities for Action of the Sendai Framework and provides intrinsic linkages between local and national DRRM efforts. The four Local DRRM strategic priorities are herewith illustrated as follows:

## 1. Understanding Disaster Risk through a Risk Culture

Consciousness is the cornerstone of effective action. This strategic priority derived from Priority 1 of the Sendai Framework and the first National DRRM Strategic Pillar outlines the necessity of understanding the nature of local disaster risk to implement effective risk mitigation measures. Thus, understanding disaster risks paves the way for the development of a risk culture across local communities through the judicious management of natural and anthropogenic risks to make a robust and resilient township. By prioritizing *Understanding Disaster Risk through a Risk Culture*, the Municipal Council of BBRH aims to create a community that is knowledgeable, proactive, and resilient in the face of disasters.

Through enhanced risk awareness, communication, community engagement, and knowledge management, the township of BBRH will be better equipped to anticipate, prepare for, and reduce the impacts of disasters, ultimately ensuring the safety and well-being of its residents. This priority serves as a foundation for the effective implementation of subsequent priorities, enabling informed decision-making, risk reduction interventions, and fostering a collective commitment towards building a risk-informed culture at all levels of BBRH society and community.

As a result, this priority's expertise serves as the foundation for 14 objectives addressed in Strategic Priority 1 of the Local DRRM Action Plan 2023-2030.

## 2. Strengthening Disaster Risk Governance to Manage Disaster Risk

This strategic priority derived from Priority 2 of the Sendai Framework and the second National DRRM Strategic Pillar supports the local policies, practices and processes that are used to manage and reduce disaster risk and the responsibility that the Local Committee and LEOC must play in fostering resilience and addressing impacts of disasters. As a result, this priority's expertise serves as pillar for **40 objectives** addressed in Strategic Priority 2 of the Local DRRM Action Plan 2023-2030.

#### 3. Investing in Disaster Risk Reduction for Resilience

This strategic priority derived from priority 3 of the Sendai Framework and the third National DRRM Strategic Pillar underpins the process by which financial, material and human resources are invested in building local disaster resilience. The foundation of investment is a methodical approach that integrates risk assessment (Strategic Priority One results) into the conceptualization, planning, design, and execution of physical construction and social development projects and programs. Additionally, this entails to review, revise, and update the local disaster risk reduction and management financial mechanisms. As a result, this priority's expertise serves as foundation for **9 objectives** addressed in Strategic Priority 3 of the Local DRRM Action Plan 2023-2030.

## 4. Enhancing disaster preparedness for effective recovery, rehabilitation and reconstruction

This strategic priority derived from priority 4 of the Sendai Framework and the fourth National DRRM Strategic Pillar involves several actions addressed in the Local DRRM Action Plan to ensure that disaster response and recovery are adequately planned for. In accordance with the local vision, these efforts should encompass both individuals and society at large. Thus, to gradually avoid and reduce the financial cost of disasters and their impacts, enhancing preparedness necessitates continual efforts. To that effect, through a sustainable process of building the capacity of systems and human resources, this strategic priority aims at improving local disaster preparedness, response, and recovery through the incorporation of the building back better principles. As a result, this priority's expertise serves as foundation for **12 objectives** addressed in Strategic Priority 4 of the Local DRRM Action Plan 2023-2030.

The alignment of the Local DRRM Strategic Priorities to the Ten Essential for Making Cities Resilient has been further illustrated in the form of a pictogram in the Local DRRM Action Plan 2023 - 2030.

## **Monitoring and Evaluation**

The monitoring and evaluation (M&E) section of the DRRM strategy aims to systematically track the performance of the DRRM activities, measure their results, and determine the effectiveness of implemented measures. This assessment will provide information needed for the continuous improvement of the DRRM strategy implementation.

## **Monitoring**

The purpose of monitoring is to provide an early indication of progress and to identify any adjustments that may be necessary to improve efficiency and effectiveness. Monitoring is crucial as it provides necessary information for accountability to stakeholders, allows for learning and improvement, and contributes to better outcomes and impacts. It will enable the Municipal council and members of its Local Committee to be responsive and adaptive, ensuring that the strategies and actions remain relevant and effective in the face of changing circumstances and challenges.

The findings from the monitoring activities should be regularly reviewed and used to inform decision-making, enabling continuous improvement of the strategy or project.

## Performance Monitoring

A variety of indicators will be developed to assess the progress of DRRM activities. These indicators may include, but are not limited to, number of DRRM activities implemented, people reached by awareness campaigns, level of preparedness of the community, etc.

## Monitoring Responsibility

The Municipal Council of BBRH through its Local Committee will be primarily responsible for the monitoring of the activities. The monitoring team will develop annual monitoring reports which will include the progress and challenges of the implemented DRRM activities.

## Monitoring indicators

The key monitoring indicators will include:

- 1. Number of DRRM activities implemented
- 2. Number of people trained in DRRM
- 3. Number of resources allocated and utilized for DRRM activities

## Monitoring Methods

- 1. Routine data collection: Regular data collection of key indicators to assess the progress of DRRM activities.
- 2. Regular site visits: Periodic visits to project sites to monitor on-the-ground activities.

#### Data Management

A comprehensive DRRM database will be established for effective data management. This database will contain all the relevant data about the DRRM activities and their progress.

## **Evaluation**

## Evaluation Methodology

The DRRM strategy will be evaluated using both quantitative and qualitative methodologies, such as surveys, focus group discussions, key informant interviews, etc.

#### **Evaluation Frequency**

This Local DRRM Strategy and Action Plan will be officially evaluated during the fourth quarter of 2026 and 2028 under the guidance of the Municipal Council of BBRH. Special evaluations may also be conducted following significant disaster events. The final evaluation will be carried out in the third quarter of 2030 to measure the overall success in the implementation of the Strategy and Action Plan and additional needs for risk reduction and management will be identified for the township of BBRH.

#### **Evaluation Responsibility**

External, independent evaluators will be commissioned to carry out the mid-term and end-term evaluations. Their assessments will be supplemented by the ongoing internal evaluation efforts by the Local Committee.

## Feedback Mechanism

A feedback mechanism will be established to ensure that the findings and recommendations from the monitoring and evaluation activities are considered for the continuous improvement of the DRRM strategy implementation.

## Capacity Building

Regular training and capacity building programs will be organized for the staff involved in the M&E activities to ensure they are adequately equipped to carry out their duties.

## **Partnerships**

Partnerships will be developed with national and international academic institutions, civil society organizations, and international agencies for the effective monitoring and evaluation of the DRRM strategy.

## Reporting

The Local Committee will prepare annual DRRM progress reports which will include the findings from the M&E activities. These reports will be made available to the Municipal Council and other stakeholders as deemed appropriate.

## Review and Update

The M&E plan will be reviewed and updated annually to incorporate the lessons learned from the previous year and to align it with the evolving DRRM needs of the Municipal Council of BBRH.

The log-frame illustrated at *Annex III* provides a clear structure for monitoring and evaluation of the DRRM strategy. It outlines the goal, purpose, outputs, and activities of the DRRM strategy along with corresponding indicators, means of verification, and assumptions. This log frame serves as a guide for tracking the progress and evaluating the impact of the DRRM strategy, providing essential information for decision-making and strategy improvement.

## Financing

Securing timely, adequate, and sustainable funding sources is critical to the successful implementation of Local DRRM Strategy and Action Plan for the Municipal Council of BBRH. Funding to implement the Local DRRM actions will be drawn from national and international public and private sources. The Ministry responsible for Disaster Risk Management will under relevant legislations pertaining to the financing of DRRM activities, programmes, projects and schemes create the necessary enabling environment for budget provisions to be made available to the Municipal Council for the timely and effective implementation of the objectives and actions contained in the Local Disaster Risk Reduction and Management Action Plan 2023-2030.

## Sources of Funds

The implementation of the DRRM strategy will be financed from multiple sources:

- Municipal Budget: A significant portion of funds will be allocated from the annual budget of the Municipal Council of BBRH, earmarked specifically for DRRM activities
- National Government: Financial support will be solicited from the national government, particularly departments focused on disaster management and local government affairs.
- International Donors: The strategy will actively seek funding opportunities from international donors such as development banks, UN agencies, and other global institutions that support DRRM initiatives.
- Public-Private Partnerships: Partnerships will be fostered with private sector organizations to secure additional funding, either directly or through corporate social responsibility initiatives.
- Community Contributions: Voluntary contributions from the local community and businesses will be encouraged to foster a sense of ownership and active participation in the DRRM efforts.

## Sustainability

To guarantee sustainable funding, efforts will be made to forge long-term partnerships with donors, advocate for increased government budget allocation for DRRM, and promote the critical importance of DRRM to the local community and businesses.

## Conclusion

The Local DRRM Strategy & Action Plan 2023-2030 for the township of BBRH represents a significant step towards building a disaster-resilient community. Considering the rapid development of the town, its growing population, the social vulnerabilities and inequalities and the changes in climate patterns, greater emphasis has to be placed on mitigating the risks related to natural and technological hazards. This strategy has been developed through a comprehensive and participatory process, considering the unique characteristics, risks, and vulnerabilities of BBRH. Additionally, it recognizes that disaster risk reduction is a shared responsibility and requires the active engagement of all stakeholders, including government agencies, communities, businesses, academia, and individuals. Moreover, the strategy also promotes inclusivity, participation, and empowerment, ensuring that the voices of all segments of society, especially the most at risk, are heard and integrated into decision-making processes.

Furthermore, while prioritizing the four strategic priorities, it is also essential that the participation of local communities, foreign migrant workers, academics and researchers in the local disaster preparedness, response and recovery planning is fully supported by the elected members of the town as well as the executive arm of its administration.

As the strategy will be progressively implemented, ongoing monitoring, evaluation, and review will be crucial to assess its effectiveness and make necessary adjustments to address emerging challenges and opportunities. Therefore, continuous engagement with the community and stakeholders will also be essential to ensure ownership, commitment, and sustained progress.

The Local DRRM Strategy & Action Plan 2023-2030 sets a clear path forward for the Municipal Council of BBRH to strengthen resilience, reduce disaster risks, protect lives, livelihoods, and assets. Through coordinated efforts, effective implementation, and the collective commitment of all stakeholders, the Municipal Council will generate a sense of belonging at all levels, towards making Beau Bassin Rose Hill a disaster resilient township in the near future.

## Local Disaster Risk Reduction and Management Action Plan 2023-2030 Township of Beau Bassin Rose Hill

The below section is an abridged version of the Local DRRM Action Plan for the Township of Beau Bassin Rose Hill.

The Local DRRM Action Plan provides a series of objectives/ working areas, indicators and timeframe with respect to the Disaster Risk Reduction and Management (DRRM) measures to be implemented by the Municipal Council of BBRH and stakeholders of its Local Disaster Risk Reduction and Management Committee up to the year ended 2030.

The Local DRRM Action Plan 2023 – 2030 has been aligned with the four DRRM Strategic Priorities established for the township of Beau Bassin Rose Hill and follows the 10 Essentials for Making Cities Resilient which are illustrated as follows:

#### **10 Essentials for Making Cities Resilient**

Essential 1: Organize for Disaster Resilience
Essential 2: Identify, understand and use current and future risk scenarios
Essential 3: Strengthen financial capacity for resilience
Essential 4: Pursue resilient urban development and design
Essential 5: Safeguard natural buffers to enhance the protective functions offered by natural ecosystems
Essential 6: Strengthen institutional capacity for resilience
Essential 7: Understand and strengthen societal capacity for resilience
Essential 8: Increase infrastructure resilience
Essential 9: Ensure effective preparedness and disaster response
Essential 10: Expedite recovery and build back better

The objectives and working areas of this Local DRRM Action Plan have been aligned with the mandates of the National DRRM Act 2016, the National DRRM Policy, Strategic Framework and Action Plan 2020 - 2030 for the Republic of Mauritius as well as the findings and recommendations of the report on the Diagnosis of National and Local Capacities to manage Disaster Risk in the Republic of Mauritius known as the CADRI Report 2020.

## Strategic Priority 1: Understanding Disaster Risk through a risk culture

Essential No.	<b>Objectives/ Working Areas</b>	Indicators	Timeframe	
			Month	Year
	1. Identify and map the critical	1. Critical Infrastructures of BBRH township identified	Mar – Jun	2025
	infrastructures of BBRH township	and mapped		
<b>Essential 2</b> Identify, understand and use current and	2. Assist SMEs of BBRH township in the development of their Business Continuity Plans (BCPs)	1. Increased proportion of SMEs with comprehensive BCPs	-	2026 - 2030
future risk scenarios	3. Identify the most probable and most severe disaster scenarios for Cyclone and	1. Most probable & most severe disaster scenarios to impacts from Cyclones and Flood hazards identified	Jan	2024
	Flood hazards	2. Disaster scenarios finalized	Feb	2024
		3. Agreed disaster scenarios formalized	Mar	2024

## Strategic Priority 2: Strengthening Disaster Risk Governance to Manage Disaster Risk

Essential No.	<b>Objectives/ Working Areas</b>	Indicators	Timeframe	
			Month	Year
		1. LEOC SOPs developed in collaboration with concerned	Aug	2024
		authorities		
	1. Develop and formalize Multi-Agency	2. Draft LEOC SOPs circulated to concerned authorities for		
	SOPs for the Operational Management of	final views and comments and circulated to NDRRMC for	Sept	2024
	the LEOC	perusal and approval. LEOC SOPs approved by NDRRMC		
		3. LEOC SOPs formalized at LDRRMC	Nov	2024
Essential 1	2. Create a Local Disaster Management	1. Local Disaster Management Unit Created	-	2025 - 2030
Organize for	Unit with dedicated staff and budget			
Disaster Resilience	3. Develop guidelines for the planning,	1. Guidelines for the planning, design and implementation		
	preparation and implementation of	of Simex developed	June	2024
	Simulation Exercises (SimEx)			
		1. Draft Contingency Plans reviewed and updated	Aug	2024
	4. Review, update and formalize Flood &	2. Draft of Contingency Plans circulated to concerned	Sept	2024
	Cyclone Contingency Plans for	authorities for final views and comments		
	vulnerable areas of the town	3. Contingency Plans formalized, agreed and understood by	Oct	2024
		concerned authorities		
Essential 6	5. Provide training to concerned			
Strengthen	LDRRMC members on operational	1. LEOC members acquainted of LEOC SOPs	July	2024
institutional	management of the LEOC			
capacity for				
resilience.				

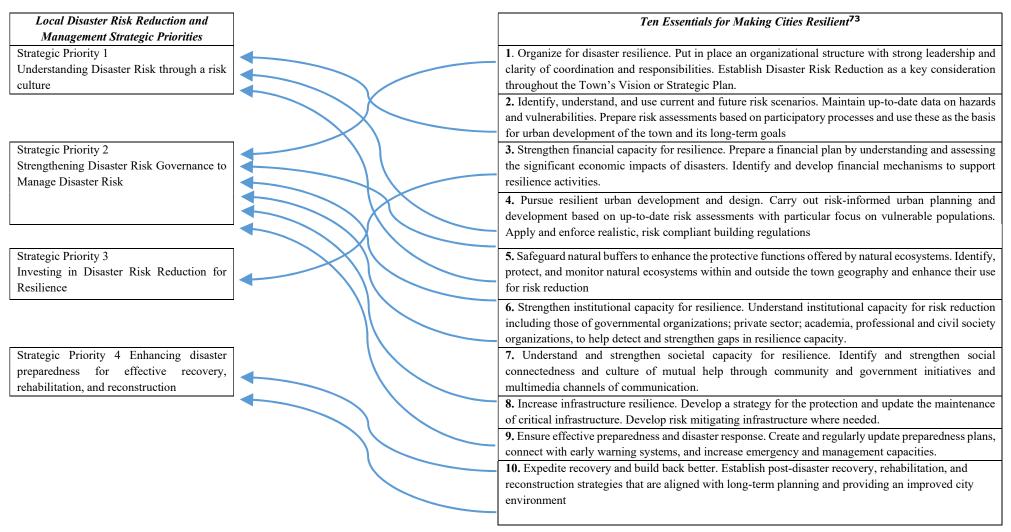
Essential No.	<b>Objectives/ Working Areas</b>	Indicators	Timeframe	
			Month	Year
		1. CDRT SOPs developed	Jul-Aug	2024
	1. Review Community	2. Selection of CDRT members completed	Sep-Nov	2024
	Disaster Response Teams	3. Training provided to CDRT members by the MRCS	Dec	2024
	(CDRTs) in the 6 Wards of	4. Role of CDRT Program Manager assigned to the MRCS	Jan	2025
	BBRH Township	5. Reporting line established between CERT and LEOC	Every Nov-May	2025-2030
	2. Create Community Fire	1. Identification & Recruitment of CFBT volunteers	Jul-Aug	2025
	Brigade Teams (CFBTs) in	2. CFBTs trained and equipped	Oct	2025
Essential 7	the 6 Wards of BBRH Township	3. CFBTs registered at Coromandel & Q. Bornes Fire Stations	Nov	2025
Understand and strengthen societal	3. Setup a Community Disaster Resilience	1. Local Disaster Resilience Programme developed         2. CDRFT members selected	Jul-Aug Sept-Nov	2025 2025
capacity for	Facilitator Team (CDRFT)	3. Inception workshop organized with CDRFT	Dec	2025
resilience		4. Role of CDRFT Program Manager assigned to the MRCS	Dec	2025
		5. Local DRR awareness campaigns conducted by CDRFT annually	Jan-Dec	2026-2030
	4. Setup a Special Needs Facilitator Team (SNFT)		Jan-Mar	2025
	for BBRH	2. SNFT members selected	April-June	2025
		3. SNFT members trained to conduct DRR awareness and sensitization campaigns for PwD within BBRH	Aug-Sept	2025
		4. Role of SNFT Program Manager assigned to the MRCS	Dec	2025
		5. Special Needs DRR awareness/ sensitization campaigns conducted by SNFT annually	Jan-Dec	2026-2030

## **Strategic Priority 3: Investing in Disaster Risk Reduction for Resilience**

Essential Objectives/ Working Areas		Indicators	Timeframe	
No.			Month	Year
Essential 3	1. Develop an "atlas" for resilience funding	1. "Atlas" for DRR & Resilience Funding Developed	Jan	2024
Strengthen financial	2. Identify priorities for disaster resilience investment	1. Local DRR Financial plan developed	Mar	2024
capacity for resilience.	3. Create a local DRRM Capacity Building Fund	<ol> <li>Local DRRM capacity building needs identified and cost estimates provided on a yearly basis</li> <li>Local DRRM Capacity Building Funds created</li> </ol>	-	2024 - 2030

## Strategic Priority 4: Enhancing disaster preparedness for effective recovery, rehabilitation and reconstruction

Essential No.	al No. Objectives/ Working Areas Indicators		Timeframe	
			Month	Year
	1. Organize full-scale Simulation	1. LEOC SOPs & CPs tested through simulation exercises	Every	2024 - 2030
	Exercises with vulnerable	2. Independent observers engaged in SimEx	May – Nov	
	communities of BBRH Township	3. Ongoing participation of CDRTs & CFBTs in full-scale SimEx		
		1. Planning of a Full-scale dual shock SimEx with all concerned		
<b>Essential 9</b>	2. Plan and organize a full-scale dual	authorities	Jun – Sept	2030
Ensure effective	shock SIMEX with the most	2. Identification of resources needed to implement the Full-Scale		
preparedness and	vulnerable communities of the town	dual shock SimEx		
disaster response		3. Full scale dual Shock SimEx organized, feedback provided to	Oct	2030
		concerned authorities		
		1. Space identified and Infrastructure designed for the setting up	Jan	2025
	3. Setup a dedicated LEOC Room	of the LEOC		
		2. Cost estimates for the construction of a LEOC room finalised	Feb	2025
		3. Cost estimates sent to concerned Ministries for financial	Mar	2025
		assistance		



## Alignment of the Local DRRM Strategic Priorities to the Ten Essentials of Making Cities Resilient

<sup>&</sup>lt;sup>73</sup> UNDRR, "The 10 Essentials for Making Cities Resilient," United Nations Office for Disaster Risk Reduction, Making Cities Resilient 2030 (MCR 2030), Accessed on 17 September 2023. <u>The Ten Essentials for Making Cities Resilient | Making Cities Resilient (undrr.org)</u>.

## ANNEXES

## ANNEX I

NATURAL & TECHNOLOGICAL HAZARDS RISK MATRX FOR BEAU BASSIN ROSE HILL TOWNSHIP							
		Aircraft Crash			Intense Tropical Cyclones (166 – 212 km/hr)		
event if it occurs	CATASTROPHIC	Earthquakes	_	Very Intense Tropical Cyclone (212 km/hr	Tropical Cyclones (165 km/hr max)	-	
it oc				>)	Flash Floods		
nt if			Drought		Structural Fires	Severe Tropical	
evei	VERY SERIOUS	Debris Flows	Mini Tornado	-	Slope Failure	Storm	
the			-		Landslide		
o mo		Oil Spill	Hazardous Chemical	Thunderstorm		Moderate	
g fr	SERIOUS	(Terrestrial)	Spills and Exposure		Tropical Depression	Tropical Storm	
ltin		Air Pollution	Hazardous Material	Lightning		T (1)	
resu		Volcanic Eruption	(HazMat) Emanation Rock Fall			Torrential Rain	
vel 1	LIMPED	voicanic Eruption		Charles Wind	Transient Distantes a	II D	
ler	LIMITED	TT- 1		Strong Wind	Tropical Disturbance	Heavy Rain	
damage level resulting from the		Hail		Heat Waves	Sugarcane & Vegetation Fires		
Probable d	UNIMPORTANT	-	-	-	-	-	
		Improbable	Less Probable	Possible	Probable	Imminent	
		Likelihood of ev	ent occurring in the ju	irisdiction area of Beau	Bassin Rose Hill		

#### **ANNEX II**



## ANNEX III

Table 1: Logical Framework for Monitoring and Evaluation (M&E)

Objectives	Indicators	Means of verification	Assumptions
ObjectivesPrevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.	Indicators Reduced: Number of deaths and missing persons attributed to disasters per 100,000 population Number of directly affected people attributed to disasters per 100,000 population. Damage to and disruption of basic services due to disasters	Means of verification Official records and statistics on disaster- related incidents	Assumptions         All the stakeholders and the Local communities are supportive and participate actively in DRRM activities
	Increased: Support for local action		
	Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus	Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.Reduced:Reduced:Number of deaths and missing persons attributed to disasters per 100,000 populationNumber of directly affected people attributed to disasters per 100,000 population.	Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.Reduced: Reduced: Official records and statistics on disaster- related incidentsOfficial records and statistics on disaster- related incidentsNumber of deaths and missing persons attributed to disasters per 100,000 populationrelated incidentsPolitical and institutional reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.Number of directly affected people attributed to disasters per 100,000 population.Damage to and disruption of basic services due to disasters Increased:Damage to and disruption of basic

	Objectives	Indicators	Means of verification	Assumptions
Purpose	<ol> <li>Enhanced awareness and understanding of disaster risks among the local population</li> <li>Improved capacity and resources for disaster risk management</li> <li>Increased investment in disaster risk reduction</li> <li>Established effective disaster response and recovery system</li> </ol>	Decreased vulnerability and increased preparedness of the community; Efficient utilization of resources for DRRM	Community surveys; Financial reports and activity reports	Stakeholders are committed to DRRM activities; Sufficient resources are allocated for DRRM Political will and commitment to DRRM at all levels of government
Outputs				
Activities				