



UNDP CRISIS RESPONSE AND RECOVERY PROGRAMME

LA SOUFRIÈRE VOLCANIC ERUPTION ST. VINCENT AND THE GRENADINES

BARBADOS AND THE EASTERN CARIBBEAN

THE APPROACH

Following the volcanic eruption of La Soufrière volcano in St. Vincent on 8 April 2021, it is estimated that 16,000 to 20,000 persons have been affected with approximately 30 villages being evacuated. Ash and volcanic material have already blanketed the entire island which has interrupted most of the economic activity, decimated crops and can have adverse effects on the health of persons exposed.

Since the volcano is still active with pyroclastic flows, detailed damage assessments are still pending, particularly with regards to the impact on infrastructure, buildings and households. It is expected that, beyond immediate needs of the evacuees, the cleaning of the volcanic ash in the short term and the restoration and regeneration of forestry, watersheds and biodiversity will be critical in the long term.

Currently, livelihoods have been disrupted due to the impacts on agriculture, business closures and further impacts on the already decimated tourist sector. As such some initial economic reactivation is envisioned.

Previous disasters have illustrated a disproportionate impact on women and girls, therefore all of the activities in this project will address differential needs of men and women and address equitable distribution of benefits, resources, status and rights with a gender-inclusive focus.

UNDP, is the global lead on recovery, with a permanent presence in St. Vincent and the Grenadines (SVG). Its solid working relationship with the government and established community networks thanks to ongoing projects in the country, will allow UNDP to quickly offer its experience in previous crisis response operations in the region, to the people and institutions of SVG to assist national efforts to accelerate recovery and reactivate local economies.

OBJECTIVES:

Support national institutions and impacted communities to quickly recover from the impact of the volcano's eruption by:



Supporting Household and Building Damage Assessments (HBDA) for data driven and evidence based decision making processes. This may include possible development of a building recovery toolkit



Cleaning volcanic ash, clearing debris and supporting economic reactivation in the most affected areas while providing emergency employment to over 2,000 households directly impacted by the volcano eruption.



Restoration and regeneration of forestry, watersheds and protected areas damaged by the eruption.



PILLAR 1

SUPPORTING HOUSEHOLD AND BUILDING DAMAGE ASSESSMENTS (HBDA) FOR DATA DRIVEN AND EVIDENCE BASED DECISION MAKING PROCESSES.

Since 2018, UNDP and countries around the world have been using a [Household and Building Damage Assessment \(HBDA\) Toolkit](#) to support authorities in crisis-affected areas on data collection after the impact of natural hazards. The HBDA informs prioritization and risk-informed rehabilitation and rebuilding processes which not only look at the level of damage to buildings and other infrastructure, but also include a series of basic socio-economic indicators in Health, Food Security, Education, and Water Sanitation and Hygiene (WASH) at the household level. The HBDA allows prompt collection of digital and geo-referenced data on household vulnerabilities, damage to infrastructure and residential and commercial buildings, utility services, and needed materials for repairs.

The toolkit is designed to be flexible by including only desired indicators from a matrix of questions or even new indicators tailored to the nature of the crisis. If started early, this tool can produce valuable information for the Post Disaster Needs Assessment (PDNA), especially for the housing, community infrastructure, social sectors and most importantly for the human impact assessment.

The HBDA makes use of a [KoboToolbox](#), a toolkit for collecting and managing data in challenging environments and visualized by [Microsoft Power BI](#), an intelligence platform used for the analysis and visualization of data.

Further analysis of all these data can assist governments in prioritizing quicker recovery, monitoring, policy-making, and disaster preparedness.

The following *unique features* of the HBDA make it a revolutionary tool in post-disaster contexts:

- A team of UNDP HBDA experts can be deployed (virtually, if required) in just 48 hours to the affected area and train a group of local inspectors to conduct the HBDA. Training can occur virtually.
- All data is processed on a real-time basis, producing immediate visual, dynamic, and interactive reports.
- The HBDA Toolkit can be accessed through a mobile app available for both Android and iOS, even without available storage or data.
- Thanks to the navigability of the tool, after the training, anyone with a smartphone can become an inspector. However, it is recommended that inspectors collecting data are familiar with engineering. Continuous supervision by UNDP and engineers is provided.



PILLAR 2

CLEANING VOLCANIC ASH, CLEARING DEBRIS AND ECONOMIC REACTIVATION IN THE MOST AFFECTED AREAS WHILE PROVIDING EMERGENCY EMPLOYMENT TO OVER 2,000 HOUSEHOLDS DIRECTLY IMPACTED BY THE VOLCANO ERUPTION

The proposed programme addresses national priorities of the government noting the positive impact such a measure would have in terms of protecting the health of residents and restoration of livelihoods. This project will also assist communities and government in cleaning ash, debris, bricks, cement, rubble and vegetation from the destroyed area, market places, homes and streets to pave the way for rebuilding these areas and allowing safe access to communities and businesses. It can also provide short term financial support to persons who have previously lost their jobs due to COVID-19 in addition to being impacted by the volcanic eruption.

Three outputs are envisioned for the project as follows:

1. Procurement of equipment, materials and tools to support the livelihoods programme
2. Definition and implementation of an emergency waste management strategy
3. An emergency livelihood support programme with targeted mechanisms that are informed by gender equality considerations and focusing on the most vulnerable through ash, debris and waste management in St. Vincent and the Grenadines

OUTPUT 1:

PROCUREMENT OF EQUIPMENT, MATERIALS AND TOOLS TO SUPPORT THE LIVELIHOODS PROGRAMME

The emergency employment programme will require labour as well as the procurement of tools, equipment and the use of light machinery depending on the task. In areas where there is a need for heavy machinery this will be coordinated with the Ministry of Health, Wellness & the Environment as well as the Ministry of Transport, Works, Lands and Surveys and Physical Planning. Workers will need to be provided with Personal Protective Equipment (PPE), including gloves and boots and will be required to be adequately dressed for safety reasons. It will also be necessary to procure face masks, goggles and helmets. Workers will be trained or instructed on how to undertake safety training prior to employment. Tools and small equipment purchased under the programme will be kept by the communities during the process and after the process is completed.

OUTPUT 2:

DEFINITION AND IMPLEMENTATION OF AN EMERGENCY WASTE MANAGEMENT STRATEGY

To ensure the proper handling and management of volcanic ash, debris and related waste; and taking into account the possible use of volcanic ash as fertilizer, an emergency waste management strategy will be developed. This will include cleaning, storage, transportation, disposal and/or use and distribution. The strategy will be elaborated under the leadership of relevant national stakeholders and in consultation with relevant partners.

OUTPUT 3:

AN EMERGENCY LIVELIHOOD SUPPORT PROGRAMME WITH TARGETED MECHANISMS THAT ARE INFORMED BY GENDER EQUALITY CONSIDERATIONS AND FOCUSING ON THE MOST VULNERABLE THROUGH ASH, DEBRIS AND WASTE MANAGEMENT IN ST. VINCENT AND THE GRENADINES

The restoration of road access and removal of health hazards directly benefits the internally displaced and remaining affected populations as well as relief and assessment teams by allowing safe access to or safer habitation of affected communities. Creating an emergency employment programme will also be important in supporting and increasing a measure of security for vulnerable affected households.

Activities will include, among others, community training and assistance for the removal of the ash, rubble, cleaning of the drains, rehabilitation of the key access points, such as culverts and water channels, opening access to crops, the clearing of agricultural land and the sorting of ash to facilitate re-distribution for future use. It is envisioned that this will be completed through the organisation and employment of community teams in close coordination with the government, community authorities and other relevant national partners. Best practices and lessons learned will contribute to enhancing the effectivity and efficiency of the activities on the ground as well as the overall coordination of the Programme.

Weekly wages will be provided as part of the cash for work programme which will enable those most at risk to access critical goods and services while they await re-establishment of substantive economic activity. Essential services are at varying levels of operability with the initial action aiming to employ persons as part of wider early recovery plans. UNDP and the Government of St. Vincent and the Grenadines will collaborate relating to the design and implementation of the cash for work programme which would directly target 380 persons over the project period.

Through this output and using a people-centred approach, transparent criteria will be developed for the selection of beneficiaries in collaboration with key partners and the Government of St. Vincent and the Grenadines. These will be discussed and validated in consultation with the displaced population. These criteria will take into account gender, age, and other characteristics which impact how persons are affected by disasters, access assistance and are able to recover.

The design and planning of project implementation will also feature a consultation process to enable a deeper understanding of vulnerabilities and needs, and ensure that these are reduced wherever possible and new risks are not created. Participation of the most marginalized and at risk will be prioritized with separate consultations for men, women, boys and girls as needed. The programme will need to offer tasks suitable for groups with specific needs, particularly the elderly and persons with disabilities. Training on ways to increase productivity can be included to maximize the impact of the project. For example, women and girls' access to sexual and reproductive health essential services and products is likely to become impacted and therefore UNDP's intervention may include facilitating their access to services and products such as sanitary pads and other urgent responses that may be needed.

To ensure consistency with national structures, UNDP will utilize established systems in country for administering and implementation of the emergency employment programme. The programme will also ensure that the collected ash and debris is properly sorted, stored, and re-distributed (where applicable) through consultation and advice from the relevant agencies such as the Ministry of Health, Wellness & the Environment as well as the contracted truckers.

All COVID-19 related protocols will be enforced.



RESTORATION AND REGENERATION OF FORESTRY, WATERSHEDS PILLAR 3 AND PROTECTED AREAS DAMAGED BY THE ERUPTION

The volcanic eruptions and pyroclastic flows are accelerating environmental degradation and biodiversity loss that St. Vincent and the Grenadines, like many other SIDS, face due to the effects of climate change and unfriendly environmental practices.

St Vincent's approximate 12,000 ha of natural forest, concentrated in the central mountain range (proposed Central Mountain Forest Reserve), includes elfin woodland, montane forest, palm brake and seasonal evergreen forest (rainforest) that descend to lowland tropical dry forests (regionally threatened) and mangrove. Of the total forested area of St Vincent, approx. 70% is natural forest, 25% planted forest and 5% agroforestry. These forests also support much of St Vincent's diverse terrestrial biodiversity of multiple endemics and species of global significance. SVG has a diverse natural capital of both terrestrial and marine species, with multiple endemics and species of global significance including numerous International Union for Conservation of Nature (IUCN) listed species, most notably the vulnerable endemic St. Vincent Parrot (*Amazona guildingii*)¹, also SVG's national bird, the critically endangered St Vincent Black Snake *Chironius vincenti*, endangered endemic Tree Frog *Pristimantis shrevei* (or synonymously *Eleutherodactylus shrevei*) and Whistling warbler *Catharopeza bishopi*³. There are two (2) endemic lizards (*Anolis griseus* and *A. vincentianai*) on St Vincent, the other two (2) endemic lizards are found in the Grenadines, including the critically endangered Grenadines Clawed Gecko *Gonatodes daudini* (a single island endemic known to only c. 100 ha on Union Island) and the vulnerable Bequia Dwarf Gecko *Sphaerodactylus kirbyi*⁴ (endemic to Bequia and Mustique).

Deposited sediment such as ash can change soil structure negatively impacting crop yield and the health of livestock and other endemic species on the island. In some instances, ecosystems need up to 150 years to compensate from a relatively small sedimentary deposit from an eruption of about 10 to 20 centimeters⁵.

UNDP will continue to support national institutions and communities under the [Conserving Biodiversity and Reducing Land Degradation Using a Ridge-to-Reef Approach project](#), a GEF funded initiative that works in partnership with the government to enhance biodiversity and ecosystems conservation through an expanded and strengthened Protected Area (PA) system and with Sustainable Land Management (SLM). Post disaster, support to the resilience of the island's biological diversity (BD) and protect and preserve valuable ecosystems negatively impacted by the eruptions will be sought.

At the community level, the UNDP Global Environment Facility - Small Grants Programme (GEF-SGP) will be instrumental in restoring environmental sustainability, alleviating poverty and building the capacity of local NGOs and community-based organisations.

Projects related to Conserving Biodiversity using a Ridge to Reef Approach (R2R) and the Integrated Water, Land and Ecosystems Management (IWEco) in partnership with UNEP will be instrumental in the recovery phase.

UNDP interventions will boost support towards the strategic objectives of the National Economic and Social Development Plan (2013-2025), assist the country in meeting its commitment under the St. Georges Declaration (2006) and the Caribbean Challenge initiative to protect 20% of its near-shore marine environment.

The initiative promotes the objective of the National Adaptation Plan to support the UN Convention to Combat Desertification and the National Physical Development Plan, and supports the National Parks Protected Area System Plan and the Caribbean Challenge Initiative, among other local regional and international commitments.

1 Culzac-Wilson, L. 2005. Species conservation plan for the St Vincent Parrot *Amazona guildingii*. Puerto de la Cruz, Tenerife: Loro Parque Fundación.

2 Forestry Department 2004. St Vincent Parrot census. Kingstown, St Vincent and the Grenadines: Forestry Department, Ministry of Agriculture, Forestry and Fisheries. (Unpublished report).

3 The IUCN Red List of Threatened Species. Version 2017-3. <www.iucnredlist.org>. Downloaded on 08 June 2018

4 Ibid

5 #link:<http://landbunadur.rala.is/landbunadur/wglbhi.nsf/key2/gthor6yfd9a.html>:Icelandic volcanologist Olafur Arnalds#

In response to the disaster, the project will contribute to:

1. Purchase of a 4WD dump truck for forestry services to support clean up
2. Procurement of fresh water quality testing equipment
3. Field equipment to implement reforestation activities in 3 upper watersheds including seedling propagation, site clearing, nursery, irrigation
4. Water shed restoration
5. Riverbank restoration
6. Land management use planning
7. Capacity building and resource strengthening
8. Biodiversity census
9. Sustainable Land Management and integrated water resources management measures
10. Public Education and Awareness
11. Business development / livelihood development

OUTPUT 1:

STRENGTHENED INSTITUTIONAL FRAMEWORK FOR PROTECTED AREAS, ECOSYSTEM CONSERVATION AND SUSTAINABLE LAND USE

To support national capacity and sustainability, the output will develop national SLM and BD monitoring programmes and data gathering protocols that will be integrated into the Crisis Information Management Strategy (CIMS). These will include data outputs gathered and monitoring programmes developed throughout the various components.

OUTPUT 2:

ESTABLISHMENT AND EFFECTIVE MANAGEMENT OF NEW AND EXISTING PROTECTED AREAS (PAS)

Will focus on expanding the protected area estate and gathering the site-specific baseline data, post disaster, to enable effective site management and biodiversity conservation, including species of global significance. Biodiversity and ecosystem assessments of the terrestrial and marine sites will fill key data gaps that will not only inform site and biodiversity decision-making but will enable the development of species recovery and action plans that, through project support, will enhance management and protection of 5 key known species of global significance.

OUTPUT 3:

INTEGRATED WATERSHED MANAGEMENT MEASURES IN R2R SETTING TO REDUCE THREATS TO UPSTREAM PAS AND DOWNSTREAM MARINE PROTECTED AREAS /MARINE MANAGED AREAS

Will focus areas on reducing land degradation (LD) in 3 pilot upper watersheds of the Buccament, Kingstown and Yambou watersheds by piloting Climate-smart Agriculture (CSA) and SLM practices that will integrate biodiversity benefits and support an increased diversification of household income through sustainable livelihoods, addressing the needs of women and men. These activities will demonstrate the generation of multiple benefits of integrated biodiversity, SLM, agriculture and ecosystem management.

The output will support the Forestry Services' implementation of its Forestry Enhancement Programme with native species reforestation in the identified priority steep slope areas. A total of 37 ha will be reforested (Buccament 8 ha, Montreal 12 ha, and Kingstown 17 ha). Priority was determined based on slope gradient and risk of erosion.



UNDP CRISIS RESPONSE AND RECOVERY PROGRAMME

LA SOUFRIÈRE VOLCANIC ERUPTION ST. VINCENT AND THE GRENADINES