

Update #6

Volcanic Activity in St. Vincent and the Grenadines

Report from the Delegation in St. Vincent and the Grenadines

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SITUATION

Volcanic Activity

The La Soufriere Volcano has had at least 32 distinct eruptions since April 9, 2021. Twenty of these were during the first two days of the eruption. The last of these was on April 22, 2021. Since the eruptions started, the volcano has discharged over 20 million cubic metres of new material. The hazard level remains high (Red) meaning that eruptions can occur at any time without further notice.

On April 29, 2021, St. Vincent received over five inches of rainfall in some areas. The rains, which consistently fell from the early morning hours, exacerbated the already difficult situation. There was extensive flooding reported from several areas across the country, resulting in landslides and reports of damage and destruction of property. In the north, lahars – mudflows occasioned by recent volcanic deposits – inundated several valleys, resulting in further damage to roads, bridges and properties in villages in the northeast. Lahars are one of the anticipated dangers going into the rainy season and it is expected that such mudflows will remain a hazard for some time.

The University of the West Indies, Seismic Research Centre continues to monitor the activities at the volcano from their observation point at Belmont, in the Orange Zone, providing daily updates on activities.

Red & Orange Zone

The Red and Orange Zone remain off-limits to all persons except some essential services personnel. Some persons have however begun to temporarily return home to check on property and do some clean-up work even as this is still not advised. The recent lahars point especially to the new dangers consequent on the volcanic eruptions.

Evacuations

There are currently over 13,000 registered persons located in 85 public shelters or private dwellings in the Yellow and Green Zones. The National Emergency Management Organisation (NEMO), with the support of local, regional and international bodies, manages these shelters.

Damage and Losses

There have been no reported loss of human life because of the disaster up to this point. There is substantial property damage, especially in the Red Zone and Orange Zones. Damage to property is an escalating phenomenon as structures collapse under the weight of ash. This may become an increasing issue of concern as the rainy season draws near [the ash holds high levels of moisture, which increases the weight on roofs].

IMPLICATIONS FOR AGRICULTURE

Four teams were established by the Ministry of Agriculture on April 19, 2021, at a meeting chaired by the Minister of Agriculture, Honourable Saboto Caesar. The four teams are:

1. Physical Assets Committee;
2. Food and Nutrition Security Committee;
3. Damage and Loss Assessment Committee; and
4. Recovery Committee.

The Damage and Loss Assessment Team is chaired by IICA and includes senior technical staff of the Ministry of Agriculture and representatives from the FAO and CARDI. Preliminary estimates of damage and loss indicate that there is ~USD 65 million in damage and losses sustained by the agricultural sector as summarized in the table below. These are however only preliminary numbers as this is an ongoing event and the team has not been able to complete the estimate of damage to agriculture infrastructure given some of the logistical and technical challenges involved in the process.

Category	Crops	Apiculture	Livestock	Forestry	Fisheries	Infrastructure	Grand Total EC\$	Grand Total US\$
Total	115,360,089	226,750	969,905	56,247,750	5,239,158	NA	178,043,652	65,942,093

Summary of Damage

I. Arrowroot

The Arrowroot crop is grown predominantly in the northeast area located in the red zone. This is an important crop to the livelihoods of people in these communities. The sole factory was extensive damaged and possibly has to be written off. The entire unharvested crop was destroyed.

II. Vegetables

There was a 100% loss in the red and orange zones. This was primarily the peak season for tomatoes, sweet peppers and cabbages in the north windward and north leeward areas (red and orange zones). These areas produced up to 70% of the vegetables produced in the country. Losses in the Yellow and Green Zones have of course been substantially less.

III. Root Crops

There was extensive damage to root and tuber crops in the Red and Orange Zones. What was not directly loss is now compromised by abandonment and the damage from domesticated animals that have been let loose [the latter is the situation with all annual crops].

IV. Bananas and Plantains

There banana and plantain crop in the Red and Orange Zones has been decimated. These are important commodities, especially for regional export and the domestic market.

V. Tree Crops

Tree crops across the country have been impacted with ash resulting in breaking of branches and stripping of some trees. In some cases, snapping of trees is evident. This area of the country has the most coconut, many of which have been damaged. Extensive damage was also observed on mangoes, avocados, cocoa and other tree crops.

Apiculture

The thriving apiculture industry with 713 hives across the country was not severely impacted since less than 10 percent of the hives are located in the red and orange zones. The total damage was estimated at \$116,500.00 and loss amounted to \$110,250.00.

Livestock

There was extensive loss of vegetation (pasture and other forage on which to graze animals) in the red and orange zones. All classes of livestock are currently let loose based on prior advice from the MAFFRIL given the nature of the emergency. The losses in the sector will mount as lack of management, stray dog attacks and praedial larceny take their toll.

Fisheries

The fishery sector in the Red, Orange and Yellow zones has been significantly impacted. Approximately 800 fishers have been affected with 278 relocated. The number of vessels damaged were reduced as the MAFFRIL provided prior advice to fishers to safeguard their vessels. It has been reported that seven (7) vessels with their engines and other equipment have been damaged. International export of fisheries products have ceased due to the closure of the airport. The quantification of such loss is still to be determined.

Forestry

The established plantations and the natural forest suffered in excess of 65% damage in the Red, Orange and Yellow zones. The estimated damage is \$56,247,750. Estimates of the damage and loss to the ecosystem services, fauna and flora and wildlife, including the nesting of the national bird *Amazona guildingii* will require further technical expertise.

Agriculture Infrastructure

Substantial damage was done to agricultural infrastructure in the Red and Orange zones, since most of the agricultural investments are in this area (Agricultural Biotechnology Centre, arrowroot and cassava factories, fisheries complex, CARDI Field Station, Ministry of Agriculture Livestock Centre, Langley Park Palletisation Centre, and Perseverance Agricultural Station). Information on the extent of damage and loss to private sector infrastructure (shade houses, farm sheds, animals housing and equipment) have not been fully assessed.

The impact on the sector is therefore tremendous, considering the range of commodities affected and the number of farmers and fishers who operated from that zone as indicated in table 2 below.

Table 2: Summary Table of Farmers and Fishers in the Different Hazard Zones

Zones	Total numbers of registered farmers	Total number registered fishers	Total by zone
RED	1850	125	1975
ORANGE	1023	153	1176
YELLOW	2569	2	2571
GREEN	4996	1468	6464
	10,438	1,748	12,186

ACTIONS BY THE IICA

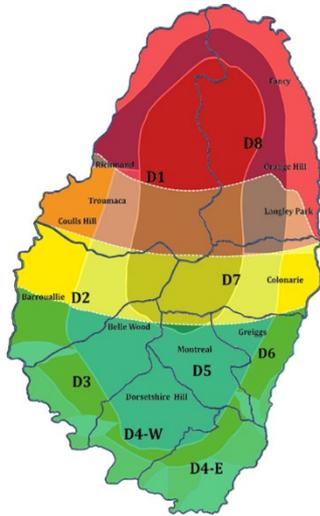
IICA has remained committed to working with the stakeholders in the sector through contributions to the overall response efforts. The primary focus of the delegation has been on the contribution to the damage and loss assessment exercise for which the ministry has assembled a team, which is chaired by the Technical Specialist at the Delegation.

IICA is also working closely with the recoveries committee to help them to construct the strategy that will address assistance to the farming sector in the very short, short and medium terms.

IICA is also looking actively towards the initiation of actions to provide support to farmers and farmers organizations. In this regard, IICA has engaged with the Canada Fund for Local Initiatives (CFLI) to develop a project to support farmers. Two organisations have been engaged in consultations with regards to the opportunity to develop a project proposal for the consideration of CFLI. The organisations are the South Windward Farmers in Action Producers Cooperative Society and Central Leeward Farmers Cooperative.

The delegation is also engaging with the media. Apart from these update reports, the delegations has featured in local news on our work and has participated in an interview with TV 6, a premiere news channel from Trinidad and Tobago. The latter was done in the Red Zone during a tour – April 28, 2021 - of the farms in this area with a Delegation, which included the Permanent Secretary from the Ministry of Agriculture, other senior ministry personnel and FAO and CARDI personnel. A Reuters reporter, operating from Trinidad and Tobago has also interviewed the Technical Specialist and has received information on our work and the ongoing disaster.

Map of St. Vincent



Agricultural Region	Agricultural District
1	D1, D2, D3
2	D4-W, D4-E, D5, D9
3	D6, D7, D8

Fig. Composite map of St Vincent including Agro-ecological zones (CARDI), Agricultural Regions and Districts (MAFFRTIL) and Volcanic Hazard Zones (UWI SRC). Layers and overlays put together by Colville King, Diversification Officer MAFFRTIL, April 2021.

LA SOUFRIERE VOLCANO HAZARD ALERT LEVEL

Alert Level	Symptoms	Action Scientist	Action: Civil Authorities
Green	Volcano is quiescent (quiet): seismic and fumarolic (steam vent) activities are at or below the historical level at this volcano. No other unusual activity has been observed.	Normal monitoring	Undertake ongoing public awareness campaign and work on volcanic emergency plans.
Yellow	Volcano is restless: seismic or fumarolic activity or both are above the historical level at this volcano or other unusual activity has been observed (this activity will be specified at the same time that the alert level is raised).	Monitoring system will be brought up to full capability. Civil authorities alerted.	Undertake ongoing public awareness campaigns and work on volcanic emergency plans. Advise vulnerable communities of evacuation procedures in the event of an emergency.
Orange	Highly elevated level of seismicity or fumarolic activity or both or other highly unusual symptoms. Eruptions may occur with less than 24 hours notice.	Monitoring system continuously manned. Regular visual inspection of potential vent areas. Continuous ground deformation and hydrothermal monitoring. Daily assessment reports to civil authorities.	Coordinate evacuation (if necessary) based on hazard zones. Entry to the restricted access zone by scientist will be permitted after evacuation on a case-by-case basis. Organize regular radio and television announcements.
Red	Eruption is in progress or may occur without further warning	Measurements as permitted by safety condition. Civil authorities advised continuously.	Coordinate continued evaluation as necessary. Organize regular radio and television announcements.