

Regional Workshop on Environment Statistics and Climate Change Statistics

Disaster Statistics St. Vincent and the Grenadines

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Introduction

St. Vincent and the Grenadines:

- ❖ A Multi Island State
- ❖ Consists of 32 Islands and Cays
- ❖ Eight Inhabited Islands
- ❖ 150 Square Miles
- ❖ Located in the Lesser Antilles
- ❖ Likely to be affected by tropical storms and hurricanes

Introduction Cont'd

- ❖ Country has experienced 25 Hazardous events since 2002
- ❖ Majority are meteorological events which cause hydrological events
- ❖ These events were considered as extreme because of any of the following:
 - 10 or more persons died
 - 100 or more persons affected/injured/homeless.
 - Declaration by the government of a state of emergency
 - appeal for international assistance

Types of Natural Events and Disasters

Year	Disaster Sub Group	Disaster Type	Disaster Sub Type	Disaster Sub Sub Type	Date of Occurrence
2002	Meteorological	Storm	Tropical Storm	Tropical Storm Lili	
2004	Meteorological	Storm	Tropical Storm	Tropical Storm Ivan	
2005	Hydrological	Landslide	Mudflow & Debris		
	Meteorological	Storm	Tropical Storm	Hurricane Emily	
2007	Meteorological	Storm	Tropical Storm	Hurricane Dean	
2008	Meteorological	Storm	Convective Storm	Heavy Rains	
	Hydrological	Landslide	Mudflow & Debris		
	Meteorological	Storm	Tropical Storm	Hurricane Omar	
	Hydrological	Storm	Convective Storm	Storm Surge	
2010	Hydrological	Landslide			
	Meteorological	Storm	Tropical Storm	Hurricane Tomas	

Source: National Emergency Management Organization (NEMO)

Types of Natural Events and Disasters Cont'd

Year	Disaster Sub Group	Disaster Type	Disaster Sub Type	Disaster Sub Sub Type	Date of Occurrence
2011	Meteorological	Storm	Convective Storm	Rain	
	Hydrological	Landslide			
	Hydrological	Flood			
2012	Meteorological	Storm	Convective Storm	Heavy rains	
2013	Meteorological	Storm	Convective Storm	Heavy rains	24 th December
	Hydrological	Landslide			24 th December
	Hydrological	Flood			24 th December
2014	Meteorological	Storm	Convective Storm	Heavy rains	06 th September
	Hydrological	Landslide			
	Hydrological	Flood			

Source: National Emergency Management Organization (NEMO)

Types of Natural Events and Disasters Cont'd

Year	Disaster Sub Group	Disaster Type	Disaster Sub Type	Disaster Sub Sub Type	Date of Occurrence
2016	Meteorological	Storm	Tropical Storm	Tropical Storm Matthew	26 th – 29 th September
	Meteorological	Storm	Convective Storm		9 th & 29 th November
	Hydrological	Landslide			10 th & 29 th November
	Hydrological	Flood			11 th & 29 th November

Source: National Emergency Management Organization (NEMO)

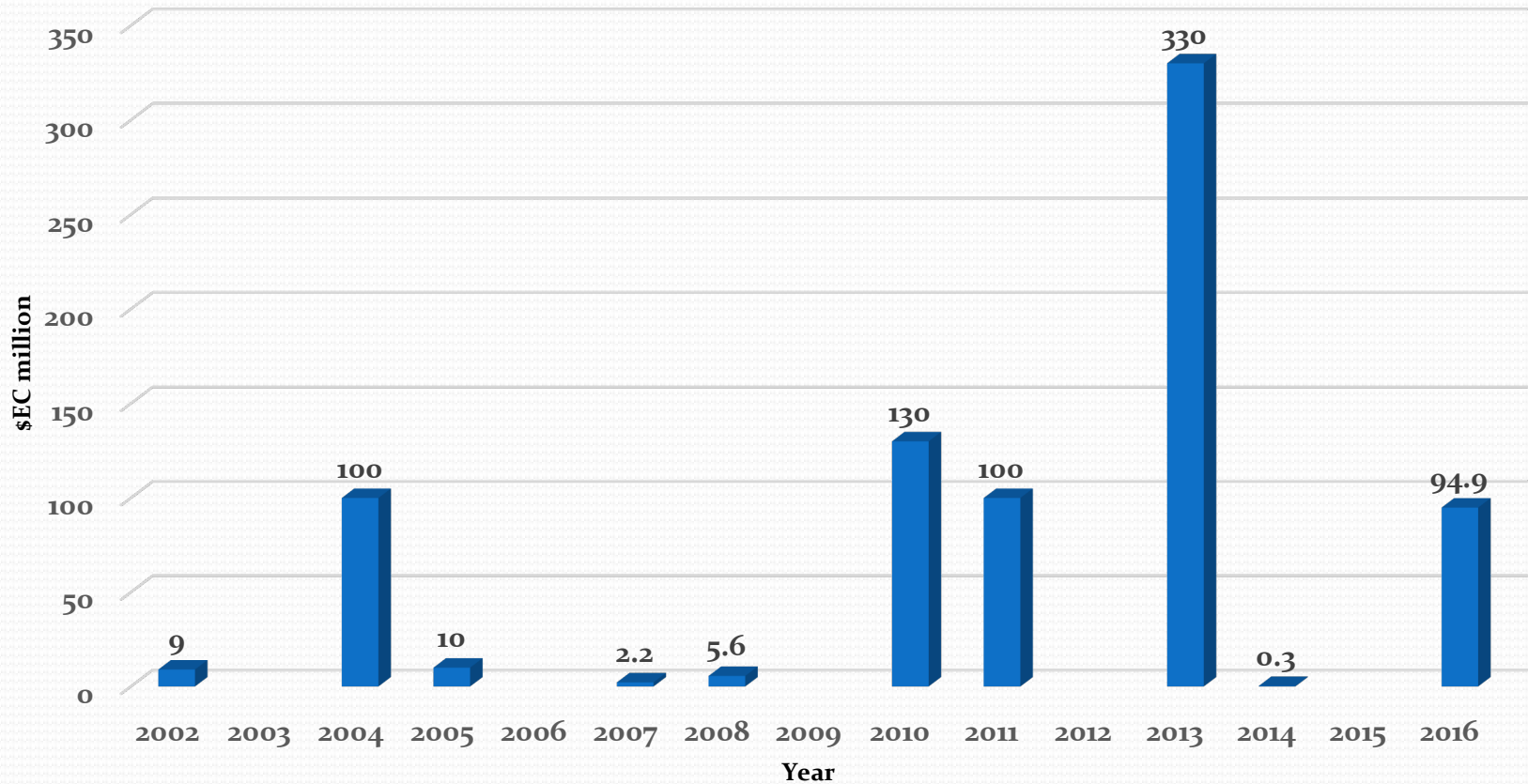
Deaths

Year	Number of Deaths	Year	Number of Deaths
2002	4	2010	0
2003	0	2011	0
2004	0	2012	0
2005	3	2013	12
2006	0	2014	0
2007	0	2015	0
2008	1	2016	3
2009	0		

Source: National Emergency Management Organization (NEMO)

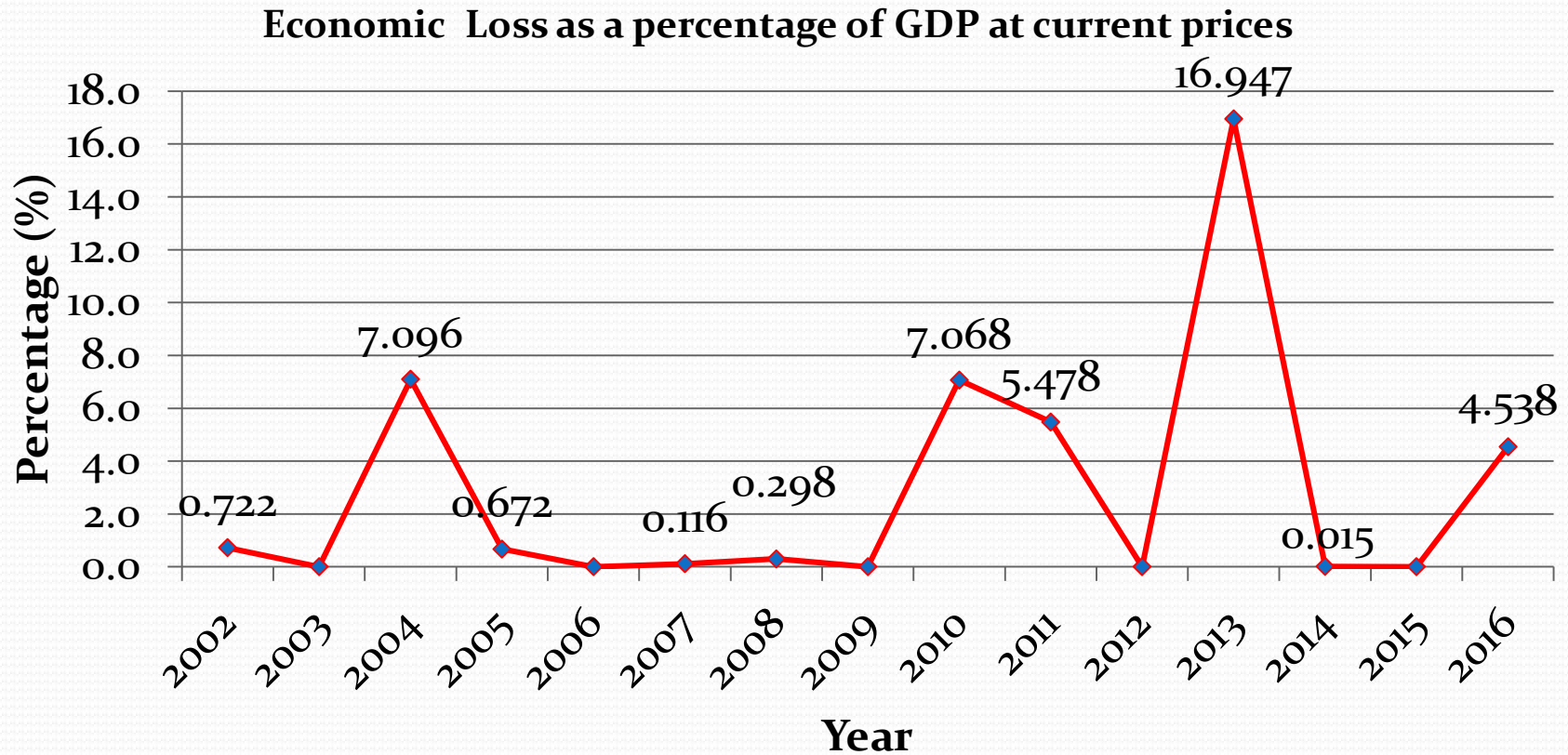
Economic Loss

Economic Loss



Source: National Emergency Management Organization (NEMO)

Economic Loss as a percentage of GDP at Current Prices



Source: National Emergency Management Organization (NEMO) & the Statistical office

Physical Loss

Year	Hazard	Social Impact
2002	Tropical Storm Lili	10, 000 persons were affected 24 houses completely destroyed
2004	Hurricane Ivan	56 houses completely destroyed Over 400 families earmarked for relocation along the eastern coast
2005	Landslide (Bequia)	
	Hurricane Emily and landslides	533 houses severely damaged 18 houses completely destroyed
2007	Hurricane Dean	10% of banana crops destroyed 7 houses destroyed 6 fishing boats destroyed Extreme costal inundation
2008	Heavy rains	1,000 affected
	Landslide and Hurricane Omar/storm surge	30 boats destroyed

Source: National Emergency Management Organization (NEMO)

Physical Loss Cont'd

Year	Hazard	Social Impact
2012	Heavy rains	<p>39 landslides reported 1 home was destroyed 14 homes were damaged 11 homes flooded</p>
2013	Floods (Dec 2013)	<p>530 homes affected (34 destroyed, 118 damaged, 299 flooded, 79 landslides reported) Significant damage to bridges and road network 50% of population without water for several days Schools disrupted for a week Northern part of island isolated for several days (2 days North Leeward, and 4 days Fancy - North Windward was inaccessible)</p>
2014	Trough system - Heavy Rains (6th September 2014)	<p>4 homes damaged 1 family displaced for approximately 1 year 48 landslides 10 retaining walls collapsed 1 road damaged 13 homes flooded with household items damaged Flooding at the E. T. Joshua Airport. Airport was closed most of Saturday and opened at 5pm</p>

Physical Loss Cont'd

Year	Hazard	Social Impact
2016	Tropical Storm Matthew - 28th - 29th September 2016	1 person injured 6 homes destroyed 21 persons displaced 483 person occupied 24 emergency shelters on mainland St. Vincent 61 homes damaged 49 landslides 28 retaining walls collapsed 57 homes flooded Island wide shut down on 28th and 29th September
	Trough System- November 9th	1 injured 4 homes destroyed 2 homes uninhabitable 10 persons sought shelter 42 retaining walls collapsed 41 homes damaged 52 landslides reported Essential services only on 9th November, public service and businesses closed
	Trough System- November 29th	177 persons sought shelter 15 homes destroyed 30 homes damaged Disruption to water and electricity for several days, mainly on the North Windward part of the island Schools closed on 29th and 30th November Sandy Bay Government School closed for rest of term as building was used as an emergency shelter

Local vs International Data (Total Affected)

Disaster No	Type	Date	Total Affected		
			SVG	EM-DAT	UNSTATS
2004-0462	Storm	08/09/2004	56 houses, 400 families	1,004	
2005-0382	Storm	14-07-2005	551 houses damaged or destroyed	530	2567
2006					60
2007	Storm & Landslides		7 houses and 6 fishing boats destroyed, extreme costal inundation		104
2008	Storm		1,000 affected		197
2009					3

EM-DAT definition of Total Affected: Sum of injured, homeless, and affected

Source: EM-DAT: The Emergency Events Database - Universite catholique de Louvain (UCL) - CRED, D. Guha-Sapir - www.emdat.be, Brussels, Belgium, unstats.un.org/sdgs/indicators/database & National Emergency Management Organization (NEMO)

Local vs International Data (Total Affected) Cont'd

Disaster No	Type	Date	Total Affected		
			SVG	EM-DAT	UNSTATS
2010-0571	Storm	29-10-2010	250 homes affected	6,100	6304
2011-0179	Flood	11/04/2011	110 homes damaged, 7 families relocated	275	1374
2012	Storm				4
2013-0531	Flood	23-12-2013	550 homes damaged or destroyed	17,422	2034
2014	Storm	06/09/2014	14 homes damaged, 11 homes flooded		23
2016-0494	Flood	29-11-2016	189 person affected	25,000	

EM-DAT definition of Total Affected: Sum of injured, homeless, and affected

Source: EM-DAT: The Emergency Events Database - Universite catholique de Louvain (UCL) - CRED, D. Guha-Sapir - www.emdat.be, Brussels, Belgium, unstats.un.org/sdgs/indicators/database & National Emergency Management Organization (NEMO)

Local vs International Data (Total Damage)

Disaster No	Type	Date	Total Damage ('000 US\$)		
			SVG	EM-DAT	Un Stats
2002-0653	Storm	24-09-2002	3,330	11,000	
2004-0462	Storm	08/09/2004	37,040	5,000	
2005	Storm		3,700		7,280
2006					334
2007	Storm & Landslides		810		398
2008	Storm		2,070		565
2009					29
2010-0571	Storm	29-10-2010	48,150	25,000	26,615
2011	Storm				3,778
2013-0531	Flood	23-12-2013	122,220	108,000	8,820
2014	Storm				102
2016-0494	Flood	29-11-2016	35,150	6,500	

Source: EM-DAT: The Emergency Events Database - Universite catholique de Louvain (UCL) - CRED, D. Guha-Sapir - www.emdat.be, Brussels, Belgium, Unstat.un.org/sdgs/indicators/database & National Emergency Management Organization (NEMO)

Local vs International data(Total Deaths)

Year	SVG	UnStats	EM-Dat
2002	4	0	4
2003	0	0	N.A.
2004	0	0	N.A.
2005	3	2	N.A.
2006	0	0	N.A.
2007	0	0	N.A.
2008	1	1	N.A.
2009	0	0	N.A.
2010	0	0	N.A.
2011	0	0	N.A.
2012	0	0	N.A.
2013	12	12	12
2014	0	0	N.A.
2015	0	0	N.A.
2016	3	0	N.A.

Source: EM-DAT: The Emergency Events Database - Universite catholique de Louvain (UCL) - CRED, D. Guha-Sapir - www.emdat.be, Brussels, Belgium, Unstat.un.org/sdgs/indicators/database & National Emergency Management Organization (NEMO)

Comparison of Indicators

Global SDG Indicator	Tier	Duplicate Of	SENDAI Indicator	CARICOM Core	Available Locally	Frequency
1.5.1	II	11.5.1 & 13.1.1	A1 & B1	Yes	Yes	Annually
1.5.2	II		C1	Yes	Yes	Annually
1.5.3	I	11.b.1 & 13.1.2	E1	Yes	Yes	Annually
1.5.4	II	11.b.2 & 13.1.3	E2	No	No	
11.5.1	II	1.5.1 & 13.1.1	A1 & B1	Yes	Yes	Annually
11.5.2	II		C1, D1 & D5	Yes	Yes	Annually
11.b.1	I	1.5.3 & 13.1.2	E1	No	No	
11.b.2	II	1.5.4 & 13.1.3	E2	Yes	Yes	Annually
13.1.1	II	1.5.1 & 11.5.1	A1 & B1	Yes	Yes	Annually
13.1.2	I	1.5.3 & 11.b.1	E1	Yes	Yes	Annually
13.1.3	II	1.5.4 & 11.b.2	E2	No	No	

Data Challenges

- ❖ Timeliness of data
- ❖ Incomplete data
- ❖ Personalization of data
- ❖ Persons in relevant organizations are not aware of the Statistics Act
- ❖ Data transferred as a favour between friends
- ❖ Discrepancies between national and international data

Conclusion

- ❖ It is apparent that St. Vincent and the Grenadines was impacted by natural disasters from 2002 - 2016
- ❖ These caused significant damages, injuries and loss of lives
- ❖ Economic Loss was significant especially in 2013
- ❖ Persons were displaced and had to be housed in shelters
- ❖ There are differences in the National and International data

Way Forward

- ❖ Conduct training with stakeholders on the importance of:

proper data collection methods

data quality

data sharing

building capacity of a team, not individuals

non personalization of data

The Statistics Act and the role of the Statistical Office

- ❖ Liaise with the relevant international organizations and share the national data with them

Questions



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