

Better solutions.  
Fewer disasters.  
Safer world.



# Valverde

Dominican Republic National Disaster Preparedness  
Baseline Assessment  
Province Profile

## Findings: Risk and Vulnerability Assessment (RVA)

### Province: Valverde

Province Capital: Santa Cruz de Mao

Area: 931 km<sup>2</sup>

Located in the Northwest Region, Valverde is known for rice production and milling, with a variety of other crops grown in the area as well. Livestock and mining also contribute to the economy.



Municipality	Population
Mao	81,575
Esperanza	66,014
Laguna Salada	25,422



**Multi-Hazard Risk Rank:  
High (10 of 32)**

**Lack of Resilience Rank:  
Medium (20 of 32)**

## RVA Component Scores

Table 1. Province Scores and Ranks (compared across Provinces) for each Index

Multi-Hazard Risk		Lack of Resilience		Multi-Hazard Exposure		Vulnerability		Coping Capacity	
High		Medium		High		High		Very High	
Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)	Score	Rank (of 32)
0.536	10	0.463	20	0.682	12	0.482	12	0.556	4

## Multi-Hazard Exposure (MHE)

Multi-Hazard Exposure<sup>1</sup> Rank: 12 of 32 Provinces (Score: 0.682)

Table 2. Estimated ambient population<sup>2</sup> exposed to each hazard



Cyclone

100%

190,513 People



Earthquake

100%

190,513 People



Landslide

54%

102,102 People



Flood

74%

140,136 People



Tsunami

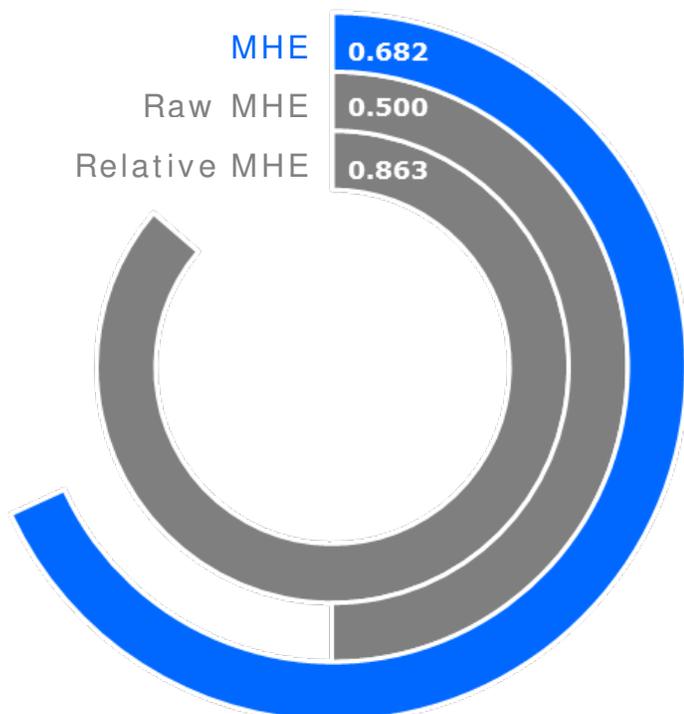
0%

0 People

### Case Study: Fighting HIV in Valverde

In collaboration with USAID, the province of Valverde has worked to control the HIV epidemic among its communities through the PEPFAR program. PEPFAR “seeks to increase the availability of testing, improve linkages and retention of persons living with HIV into care and treatment services, achieve viral suppression, and reduce the number of newly HIV-infected individuals.” With a population at high risk of HIV infection, Valverde seeks to strengthen its capacity to manage this significant health risk by increasing community awareness and resilience.

*“AIDS-Free Generation” – USAID, 1 August 2017*



<sup>1</sup> Multi-Hazard Exposure: Average exposure of the population to hazards.

<sup>2</sup> Ambient Population: 24-hour average estimate of the population in each province. Ambient population typically differs from census population.

## Findings: Risk and Vulnerability Assessment (RVA)

### Vulnerability (V)

Vulnerability<sup>3</sup> Rank: 12 of 32 Provinces (Score: 0.482) Vulnerability in Valverde is influenced by Gender Inequality, Environmental Stress, and Vulnerable Health Status. The bar chart on the right indicates the socioeconomic themes contributing to the Province's overall Vulnerability score.

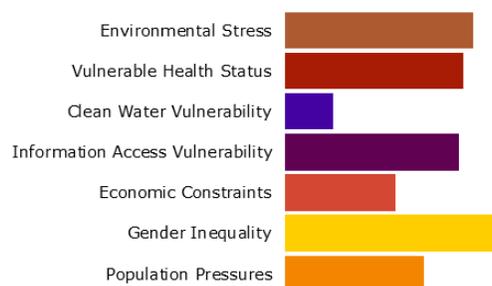


Table 3. Component Scores for each Vulnerability Sub-component

	<b>Environmental Stress</b>	81.4% Province Susceptible to Drought	0.2% Average Annual Forest Change				
	<b>Vulnerable Health Status</b>	18.4 Infant Mortality Rate	150.6 Maternal Mortality Rate	10.7 Chronic Malnutrition	10.5% Population Disabled		
	<b>Clean Water Vulnerability</b>	6.4% Households without Access to Improved Water	6.3% Households without Access to Flush Toilets				
	<b>Information Access Vulnerability</b>	19.6% Illiteracy	80.4% Primary School Enrollment	92.9% Households without Internet	27.6% Households without TV	53.5% Households without Radio	6.0 Average years of Schooling
	<b>Economic Constraints</b>	55.0 Economic Dependency Ratio	55.1% Population in Poverty	34.2% CEP Beneficiaries			
	<b>Gender Inequality</b>	37.7% Female Seats in Government	1.2 Female to Male Years of Schooling	0.52 Female to Male Labor Ratio			
	<b>Population Pressures</b>	0.82% Average Annual Population Change	1.6% Average Annual Urban Population Change				

<sup>3</sup> Vulnerability: The socioeconomic conditions that are associated with the susceptibility to disruptions in a country's normal functions.

## Findings: Risk and Vulnerability Assessment (RVA)

### Coping Capacity (CC)

Coping Capacity<sup>4</sup> Rank: 4 of 32 Provinces (Score: 0.556)  
 The thematic areas with the weakest relative scores are Environmental Capacity and Infrastructure (Health Care). The bar chart on the right indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.

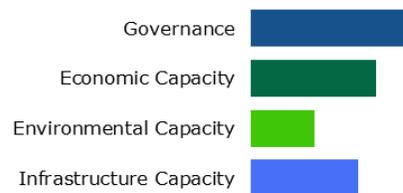


Table 4. Component Scores for each Coping Capacity Sub-component

	<b>Economic Capacity</b>	<b>0.96</b> Debt to Service Ratio	<b>94.4%</b> Employment Rate (Male)	<b>RD\$ 19,937</b> Average Annual Income per Capita			
	<b>Governance</b>	<b>74.9%</b> Registered Voter Participation (2016 Election)	<b>14.2</b> Homicide Rate per 100k persons	<b>84.2%</b> Households with Garbage Collection			
	<b>Environmental Capacity</b>	<b>19.4%</b> Protected or Reforested Land					
	<b>Infrastructure Capacity</b>						
	<b>Health Care Capacity</b>		<b>9.3</b> Hospital Beds per 10,000 Persons	<b>12.1</b> Nurses per 10,000 Persons	<b>12.9</b> Physicians per 10,000 Persons	<b>2.8 km</b> Average Distance to Nearest Hospital	<b>0.45</b> Vaccination Index <sup>5</sup>
	<b>Communications Capacity</b>		<b>15.9%</b> Households with Access to Fixed Phone Line	<b>76.7%</b> Households with Access to Mobile Phone			
	<b>Transportation Capacity</b>		<b>43.3 km</b> Average Distance to Nearest Port or Airport	<b>1.04 km</b> Total Length of Road per km <sup>2</sup> (area)			

<sup>4</sup> Coping Capacity: The systems, means, and abilities of a country to absorb and respond to events that could potentially disrupt normal function.

<sup>5</sup> Vaccination Coverage Index: Coverage of DPT (diphtheria, pertussis, and tetanus), Polio, Tuberculosis, and Measles vaccinations. Index values range from 0 to 1, with 1 indicating higher coverage.

## Lack of Resilience (LR)

Lack of Resilience<sup>6</sup> Rank: 20 of 32 Provinces (Score: 0.463)

Valverde's score and ranking are due to high Vulnerability combined with very high Coping Capacity scores. Valverde has the highest Vulnerability and the 7th highest Coping Capacity.

Table 5. The 3 Thematic areas with the Weakest Relative Scores



Vulnerable Health Status



Gender Inequality



Health Care Infrastructure Capacity

## Multi-Hazard Risk (MHR)

Multi-Hazard Risk<sup>7</sup> Rank: 10 of 32 Provinces (Score: 0.536)

Valverde's score and ranking are due to high Multi-Hazard Exposure combined with high Vulnerability and very high Coping Capacity.

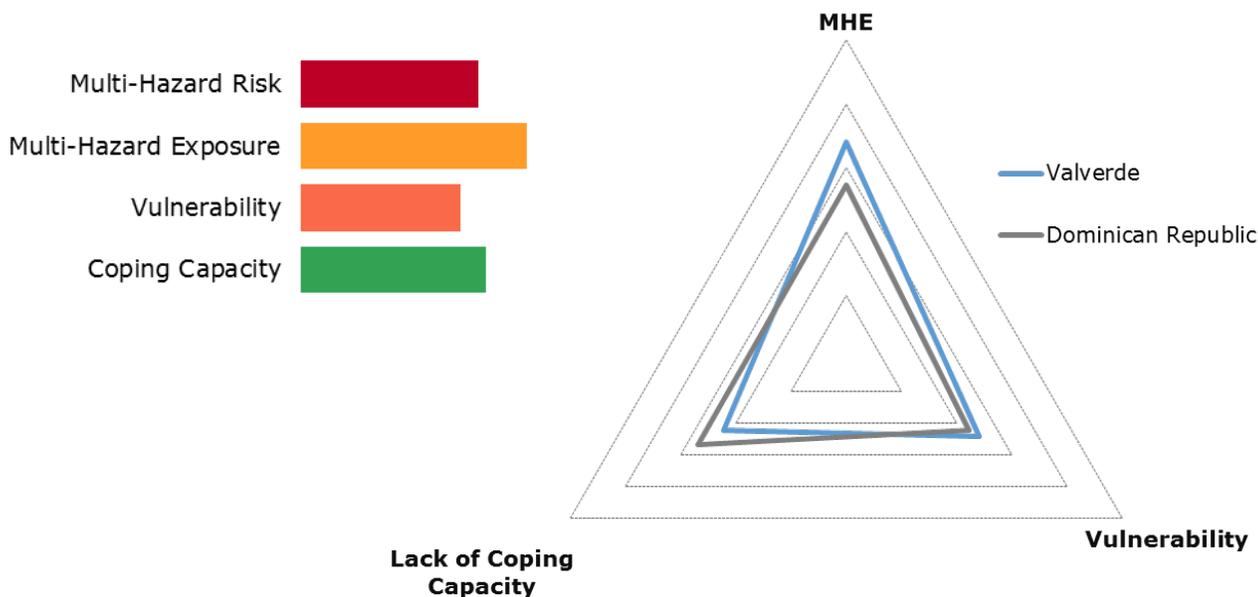


Figure 1. Province Multi-Hazard Risk Component Scores Compared to Overall Average Country Scores

<sup>6</sup> Lack of Resilience: The susceptibility to impact from the short-term inability to absorb, respond to, and recover from disruptions to a country's normal function. This index provides a hazard-independent look at current socio-economic conditions.

<sup>7</sup> Multi-Hazard Risk: The likelihood of losses or disruptions to a country's normal function due to interaction between multi-hazard exposure, socioeconomic vulnerability, and coping capacity.

## Successes



### High overall governance

Ranked 2 of 32 provinces, high governance could facilitate the implementation of disaster management initiatives into provincial and municipal communities.



### High overall coping capacity

Ranking 4 of 32 provinces, high coping capacity indicates the province's ability, using existing skills and resources, to face and manage adverse conditions, emergencies, or disasters.

## Recommendations

01

### Reduce vulnerable health status

Invest in public welfare services to decrease malnutrition, support the disabled population, and decrease infant and maternal mortality.

02

### Provide opportunities for women

Public education and awareness programs that focus on increasing the role of women in the workplace and the society will improve the resilience of women during disasters.

03

### Increase health care availability

Increase clinics and medical personnel through incentivized programs and investments to increase the health resilience of the population.