



NDPBA

PHILIPPINES PROVINCE RISK PROFILES

SUBNATIONAL ASSESSMENT RESULTS





THE PHILIPPINES

ABRA

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ABRA

CAPITAL: BANGUED

Area: 4,200 km²

Abra is a landlocked province located in the northern area of Luzon Island. It has mountains of the Ilocos Range in the west and the Cordillera Central in the east. It also has several significant rivers that run throughout. The population of Abra is a melting pot of people from dominant Spanish ancestry to Austronesian ethnicity. There are a variety of natural resources available in Abra including gold, raw cement materials and rock phosphate. The population in Abra is exposed to earthquake, flood, landslide, liquefaction, wild fire and typhoon hazards. Recent impacts include the devastating effects of typhoons Mankhut and Yutu which also triggered flooding and landslides. The impacts resulted in repeated displacements of the population in Abra and delayed assistance due to the limited ability to distribute resources.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.442 • Rank: 75/84



RESILIENCE (R) - High
Score: 0.603 • Rank: 19/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.532 • Rank: 62/84



VULNERABILITY (V) - Medium
Score: 0.431 • Rank: 45/84



COPING CAPACITY (CC) - Very High
Score: 0.637 • Rank: 11/84



Population (2018)
238,088



Population in Poverty
15.0%



Literate population
98.7%



Access to improved water
28.9%



Average life expectancy
68.5 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 62 / 84 PROVINCES
SCORE: 0.532



MHE
0.532

Raw MHE
0.417

Relative MHE
0.646

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

238,088

\$1.3 Billion



Tsunami

-

-

-



Flood

51%

120,666

\$633.4 Million



Liquefaction

46%

108,973

\$786.5 Million



Landslide

22%

52,821

\$238.4 Million



Volcano

-

-

-



Drought

-

-

\$348,470



Wildfire

13%

31,521

\$157.6 Million



Storm Surge

-

-

-



Typhoon Winds

100%

238,088

\$1.3 Billion



VULNERABILITY (V)

RANK: 45 / 84 PROVINCES ASSESSED
SCORE: 0.431

Vulnerability in Abra is primarily driven by Environmental Stress and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.689** **RANK: 3/84 PROVINCES ASSESSED**

4.77 Livestock density
178.1 Barren land (per 10k hectares)
2.38% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.467** **RANK: 32/84 PROVINCES ASSESSED**

9.0% Malnutrition among children (0 to 5 years old)
19.04 Infant mortality rate (per 1k live births)
59.51 Maternal mortality rate (per 100k live births)
68.53 Life expectancy
423 Disability (per 100k persons)

19.1 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.8 Intestinal disease mortality rate (per 100k persons)
1.2 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.639** **RANK: 13/84 PROVINCES ASSESSED**

28.9% Households with improved safe water source
89.5% Households with sanitary toilet facility



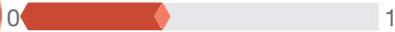
Information Access Vulnerability

0  1 **SCORE: 0.467** **RANK: 43/84 PROVINCES ASSESSED**

98.72% Literacy rate (age 10 and older)
108.30% Gross primary school enrollment rate
3.07% Internet Access
70.95% Households with radio
59.92% Households with television



Economic Constraints



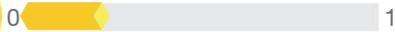
SCORE: 0.392 **RANK: 45/84** PROVINCES ASSESSED

0.62
Economic
dependency
ratio

15.00%
Poverty
incidence



Gender Inequality



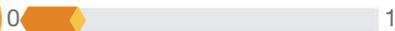
SCORE: 0.215 **RANK: 80/84** PROVINCES ASSESSED

1.01
Female to male
secondary school
enrollment Rate

0.54
Labor force
participation ratio



Population Pressures



SCORE: 0.145 **RANK: 83/84** PROVINCES ASSESSED

0.52
Population
growth rate
(2010-2015)

2.2
Average annual
urban population
growth rate

0.5%
Informal settlers



COPING CAPACITY (CC)

RANK: 11 / 84 PROVINCES ASSESSED
SCORE: 0.637

Abra exhibits weaker Coping Capacity in the areas of Transportation Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.811** **RANK: 4/84 PROVINCES ASSESSED**

0.91

Purchasing power of the peso

71.84%

Labor force participation rate

5068.22

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.595** **RANK: 54/84 PROVINCES ASSESSED**

89.1%

Voter participation

19.18

Organized violence (per 100k persons)

16.73%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.496** **RANK: 24/84 PROVINCES ASSESSED**

0.15

Protected areas (per 1k ha)

86.5%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.553 RANK: 44/84 PROVINCES ASSESSED**



Health Care Capacity **SCORE: 0.429 RANK: 58/84 PROVINCES ASSESSED**

7.79	2.79	54.69%	8.18
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.165 RANK: 83/84 PROVINCES ASSESSED**

0.30	37.13
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.707 RANK: 39/84 PROVINCES ASSESSED**

2.2%	96.7%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.681 RANK: 30/84 PROVINCES ASSESSED**

79.3%	23.1%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.783 RANK: 8/84 PROVINCES ASSESSED**

109.94	4.51	4.51
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 19 / 84 PROVINCES ASSESSED
SCORE: 0.603

Abra's score and ranking are due to Medium Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Clean Water Access Vulnerability



Transportation Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 55 / 84 PROVINCES ASSESSED
SCORE: 0.233



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 53 / 84 PROVINCES ASSESSED
SCORE: 0.142



Liquefaction

RANK: 47 / 84 PROVINCES ASSESSED
SCORE: 0.165



Landslide

RANK: 44 / 84 PROVINCES ASSESSED
SCORE: 0.207



Volcano

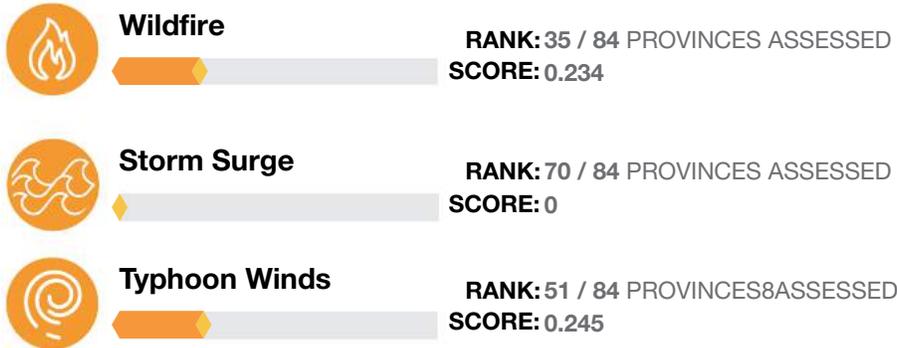
RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 57 / 84 PROVINCES ASSESSED
SCORE: 0.003

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

75 / 84
 RANK WITHIN PROVINCES
 Score: 0.442



Abra's score and ranking are due to Low Multi-hazard exposure combined with Medium Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE (represented by colored bars)
 COUNTRY SCORE (represented by grey bars)



ABRA RECOMMENDATIONS

1

Environmental Stress

- Findings show that in Abra nearly 51% of the population are exposed to flooding hazards and about 22% are exposed to landslides. To help mitigate disaster impacts, ensure reforestation efforts continue and are focused on high risk areas.
- Promote sustainable agriculture and livestock practices. Work with local farmers and global partners to bring about new opportunities, innovations and other enhancements to the agricultural sector. To increase resilience in Abra, ensure that construction projects incorporate holistic risk assessments with emphasis on environmental mitigation plans.

2

Clean Water Access Vulnerability

- In Abra, only 29% of households have access to improved water sources, which is the lowest in the Philippines. Focus on increasing clean water infrastructure especially in rural and remote areas to reduce health risks.
- Abra's population is highly exposed to floods and landslides, which can lead to contaminated surface water. Invest in improved drinking water and sanitation infrastructure to reduce the spread of waterborne illnesses.

3

Transportation Capacity

- Abra ranked lowest amongst the 84 territories in the Philippines for road density (0.3 kilometers per square kilometer). Since Abra is landlocked, roads are critical to the transportation network of the province. Continue to invest in road improvement and expansion projects, which will provide more evacuation routes and increased connectivity.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Health Care Capacity

- Abra is ranked low compared to the rest of the Philippines, 74th out of 84 territories, in vaccination coverage. Only 54.7% of children are fully vaccinated, which could lead to outbreaks of otherwise preventable diseases. Expand efforts to remove barriers to health care access, such as cost and distance to increase utilization of services.
- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

AGUSAN DEL NORTE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

AGUSAN DEL NORTE

CAPITAL: CITY OF BUTUAN

Area: 2,612 km²

Agusan del Norte is located in the western section of Mindanao, in the basin of the Agusan River. Mountainous terrain dominates the northeastern and western areas of Agusan del Norte, with flat rolling lands between the flanking peaks. Major agricultural crops in Agusan del Norte are rice, corn, coconut, abaca, banana and mango. The population in Agusan del Norte grew at a rate of 1.43% between 2010 and 2015. The growing population adds to the complexities of dealing with the instability within the province and the region. There are many internally displaced indigenous people, and this is likely to worsen as people return from other countries in the midst of the COVID-19 pandemic. Further adding to the vulnerabilities of the province, the population is also often displaced due to exposures to multiple hazards including typhoons, floods, landslides and earthquakes.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.516 • Rank: 31/84



RESILIENCE (R) - High
Score: 0.582 • Rank: 30/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.711 • Rank: 24/84



VULNERABILITY (V) - Medium
Score: 0.435 • Rank: 43/84



COPING CAPACITY (CC) - High
Score: 0.598 • Rank: 20/84



Population (2018)
687,721



Population in Poverty
19.4%



Literate population
98.6%



Access to improved water
93.5%



Average life expectancy
68.3 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 24 / 84 PROVINCES
SCORE: 0.711



MHE
0.711

Raw MHE
0.645

Relative MHE
0.777

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

94%

648,511
\$4.3 Billion



Tsunami

<1%

551
-



Flood

68%

464,227
\$3.4 Billion



Liquefaction

42%

289,741
\$2.4 Billion



Landslide

14%

94,722
\$307.4 Million



Volcano

<1%

1,272
\$9.6 Million



Drought

11%

75,228
\$409.4 Million



Wildfire

24%

163,995
\$1.8 Billion



Storm Surge

22%

150,858
\$875.8 Million



Typhoon Winds

100%

687,098
\$4.4 Billion



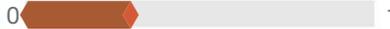
VULNERABILITY (V)

RANK: 43 / 84 PROVINCES ASSESSED
SCORE: 0.435

Vulnerability in Agusan del Norte is primarily driven by Vulnerable Health Status and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.3** **RANK: 75/84 PROVINCES ASSESSED**

0.96 Livestock density
7.3 Barren land (per 10k hectares)
4.84% Forest cover change



Vulnerable Health Status

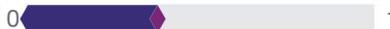
0  1 **SCORE: 0.541** **RANK: 17/84 PROVINCES ASSESSED**

5.4% Malnutrition among children (0 to 5 years old)
1.09 Infant mortality rate (per 1k live births)
190.79 Maternal mortality rate (per 100k live births)
68.25 Life expectancy
581 Disability (per 100k persons)

29.4 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
7.4 Intestinal disease mortality rate (per 100k persons)
6 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



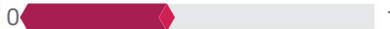
Clean Water Vulnerability

0  1 **SCORE: 0.378** **RANK: 50/84 PROVINCES ASSESSED**

93.5% Households with improved safe water source
89.4% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.405** **RANK: 56/84 PROVINCES ASSESSED**

98.63% Literacy rate (age 10 and older)
121.51% Gross primary school enrollment rate
5.74% Internet Access
55.26% Households with radio
65.23% Households with television



Economic Constraints

0  1 **SCORE: 0.469** **RANK: 34/84** PROVINCES ASSESSED

0.63
Economic
dependency
ratio

19.37%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.498** **RANK: 32/84** PROVINCES ASSESSED

1.08
Female to male
secondary school
enrollment Rate

0.44
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.456** **RANK: 24/84** PROVINCES ASSESSED

1.43
Population
growth rate
(2010-2015)

5.92
Average annual
urban population
growth rate

2.7%
Informal settlers



COPING CAPACITY (CC)

RANK: 20 / 84 PROVINCES ASSESSED
SCORE: 0.598

Agusan del Norte exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.554** **RANK: 31/84 PROVINCES ASSESSED**

0.91

Purchasing power of the peso

64.20%

Labor force participation rate

1313.9

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.703** **RANK: 23/84 PROVINCES ASSESSED**

87.8%

Voter participation

12.48

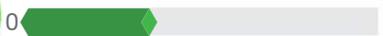
Organized violence (per 100k persons)

30.98%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.353** **RANK: 44/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

24.7%

Forest reserves



Infrastructure Capacity



SCORE: 0.62 RANK: 23/84 PROVINCES ASSESSED



Health Care Capacity SCORE: 0.544 RANK: 31/84 PROVINCES ASSESSED

6.98	2.22	66.33%	3.73
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.604 RANK: 22/84 PROVINCES ASSESSED

0.82	8.68
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.824 RANK: 15/84 PROVINCES ASSESSED

7.3%	96.1%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.667 RANK: 36/84 PROVINCES ASSESSED

80.2%	19.5%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.462 RANK: 40/84 PROVINCES ASSESSED

31.13	1.55	2.81
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 30 / 84 PROVINCES ASSESSED
SCORE: 0.582

Agusan del Norte's score and ranking are due to Medium Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Vulnerable Health Status



Gender Inequality



Emergency Services Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 43 / 84 PROVINCES ASSESSED
SCORE: 0.269



Tsunami

RANK: 46 / 84 PROVINCES ASSESSED
SCORE: 0.054



Flood

RANK: 22 / 84 PROVINCES ASSESSED
SCORE: 0.251



Liquefaction

RANK: 38 / 84 PROVINCES ASSESSED
SCORE: 0.199



Landslide

RANK: 48 / 84 PROVINCES ASSESSED
SCORE: 0.202



Volcano

RANK: 50 / 84 PROVINCES ASSESSED
SCORE: 0.095



Drought

RANK: 43 / 84 PROVINCES ASSESSED
SCORE: 0.167

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

31 / 84
RANK WITHIN PROVINCES
Score: 0.516



Agusan del Norte’s score and ranking are due to High Multi-hazard exposure combined with Medium Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



AGUSAN DEL NORTE RECOMMENDATIONS

1

Vulnerable Health Status

- Agusan del Norte ranked 4th in maternal mortality and 8th in infectious disease mortality. Continue efforts in community outreach, increased access to health care and other public health interventions. Expand monitoring and control programs for communicable diseases.
- Agusan del Norte is also ranked low in overall health care capacity, which may contribute to the provinces high mortality rates. Increasing access to health care through investments in infrastructure and service provision, especially in areas with high mortality rates, will help to alleviate health burdens.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Wildfires expose nearly 24% of the population and 40% of the capital stock in Agusan del Norte. The province is also exposed to hazards such as flooding and typhoon winds. Invest in increased resources for the fire department will reduce impacts from Wildfires. Additionally, fire trucks can be used for the dual purpose of early warning sirens for other hazards.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Health Care Capacity

- Findings show that both infectious disease mortality and maternal mortality are elevated in Agusan del Norte. Focus efforts on increasing access to health care, particularly for mothers and infants. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas. Continue screenings for infectious diseases and work toward improving mortality rates.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



Tovemindanao

THE PHILIPPINES

AGUSAN DEL SUR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

AGUSAN DEL SUR

CAPITAL: PROSPERIDAD

Area: 9,990 km²

Agusan del Sur is located in the eastern portion of Mindanao Island. It is the seventh largest province in the country. Agusan del Sur is heavily forested, but has lost much of its forest resources due to existing industries. The central land of Agusan del Sur is a valley that is formed from the mountain ranges on the eastern and western sides of the province. It is unique in that it experiences no dry season with heavy rainfall year-round. It is located below the typhoon belt but often feels impacts of depressions that pass nearby. Agriculture and forestry employ majority of the population. Rice is the primary crop with other important agricultural commodities including corn, banana, palm oil and coconuts.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.568 • Rank: 9/84



RESILIENCE (R) - Low
Score: 0.519 • Rank: 62/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.741 • Rank: 19/84



VULNERABILITY (V) - High
Score: 0.488 • Rank: 22/84



COPING CAPACITY (CC) - Low
Score: 0.526 • Rank: 60/84



Population (2018)
742,969



Population in Poverty
30.4%



Literate population
97.2%



Access to improved water
90.4%



Average life expectancy
65.3 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 19 / 84 PROVINCES
SCORE: 0.741



MHE
0.741

Raw MHE
0.682

Relative MHE
0.801

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

742,969

\$5.8 Billion



Tsunami

-

-

-



Flood

48%

359,662

\$2.9 Billion



Liquefaction

65%

480,183

\$3.5 Billion



Landslide

11%

81,008

\$616.9 Million



Volcano

<1%

854

\$7.6 Million



Drought

75%

558,976

\$4.5 Billion



Wildfire

<1%

471

\$21.5 Million



Storm Surge

-

-

-



Typhoon Winds

100%

742,882

\$5.8 Billion



VULNERABILITY (V)

RANK: 22 / 84 PROVINCES ASSESSED
SCORE: 0.488

Vulnerability in Agusan del Sur is primarily driven by Economic Constraints and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.229** **RANK: 80/84 PROVINCES ASSESSED**

0.51 Livestock density
7.09 Barren land (per 10k hectares)
5.30% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.63** **RANK: 6/84 PROVINCES ASSESSED**

6.1% Malnutrition among children (0 to 5 years old)
4.45 Infant mortality rate (per 1k live births)
44.5 Maternal mortality rate (per 100k live births)
65.34 Life expectancy
862 Disability (per 100k persons)

18 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.7 Intestinal disease mortality rate (per 100k persons)
1.1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.434** **RANK: 36/84 PROVINCES ASSESSED**

90.4% Households with improved safe water source
88.2% Households with sanitary toilet facility



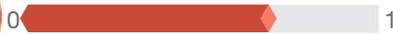
Information Access Vulnerability

0  1 **SCORE: 0.599** **RANK: 15/84 PROVINCES ASSESSED**

97.21% Literacy rate (age 10 and older)
124.09% Gross primary school enrollment rate
1.70% Internet Access
37.25% Households with radio
46.34% Households with television



Economic Constraints



SCORE: 0.703

RANK: 10/84 PROVINCES ASSESSED

0.71

Economic
dependency
ratio

30.40%

Poverty
incidence



Gender Inequality



SCORE: 0.391

RANK: 53/84 PROVINCES ASSESSED

1.09

Female to male
secondary school
enrollment Rate

0.55

Labor force
participation ratio



Population Pressures



SCORE: 0.432

RANK: 33/84 PROVINCES ASSESSED

1.25

Population
growth rate
(2010-2015)

6.62

Average annual
urban population
growth rate

2.5%

Informal settlers



COPING CAPACITY (CC)

RANK: 60 / 84 PROVINCES ASSESSED
SCORE: 0.526

Agusan del Sur exhibits weaker Coping Capacity in the areas of Transportation Capacity and Energy Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.643 **RANK: 18/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

69.44%

Labor force participation rate

2417.84

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.586 **RANK: 58/84 PROVINCES ASSESSED**

83.1%

Voter participation

8.31

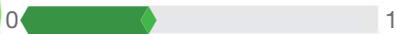
Organized violence (per 100k persons)

13.97%

Garbage pickup



Environmental Capacity



SCORE: 0.351 **RANK: 45/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

24.4%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.409** **RANK: 75/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.456** **RANK: 50/84** PROVINCES ASSESSED

4.35	0.85	80.71%	8.35
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.318** **RANK: 72/84** PROVINCES ASSESSED

0.39	25.88
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.432** **RANK: 72/84** PROVINCES ASSESSED

1.2%	79.6%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.381** **RANK: 70/84** PROVINCES ASSESSED

62.6%	6.8%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.459** **RANK: 41/84** PROVINCES ASSESSED

18.15	1.82	2.94
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 62 / 84 PROVINCES ASSESSED
SCORE: 0.519

Agusan del Sur's score and ranking are due to High Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Vulnerable Health Status



Transportation Capacity



Energy Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 17 / 84 PROVINCES ASSESSED
SCORE: 0.343



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 31 / 84 PROVINCES ASSESSED
SCORE: 0.223



Liquefaction

RANK: 12 / 84 PROVINCES ASSESSED
SCORE: 0.288



Landslide

RANK: 34 / 84 PROVINCES ASSESSED
SCORE: 0.251



Volcano

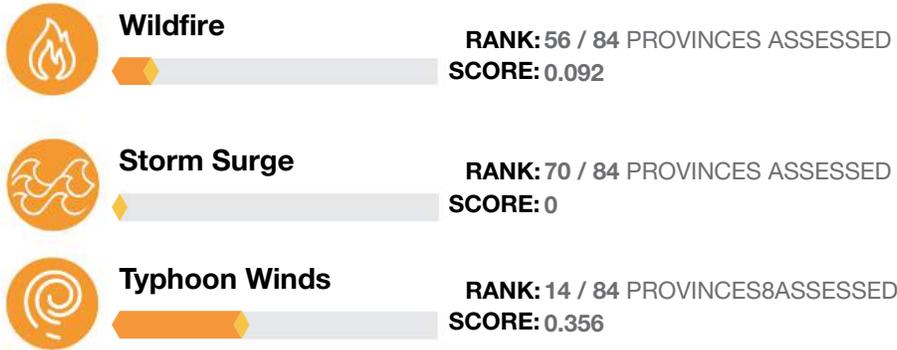
RANK: 47 / 84 PROVINCES ASSESSED
SCORE: 0.101



Drought

RANK: 13 / 84 PROVINCES ASSESSED
SCORE: 0.400

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

9 / 84
 RANK WITHIN PROVINCES
 Score: 0.568



Agusan del Sur’s score and ranking are due to High Multi-hazard exposure combined with High Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



AGUSAN DEL SUR RECOMMENDATIONS

1

Economic Constraints

- Lower socio-economic status has been shown to result in greater disaster impacts and slower recovery times. Investing in public assistance can increase resilience by increasing available resources and options for low income individuals.
- Nearly 75% of the labor force in Agusan del Sur is employed in the agricultural or forestry industry. Diversifying forestry projects and agricultural crops and promoting small business, as well as local hiring will boost the economy and labor market.

2

Vulnerable Health Status

- In Agusan del Sur there are 862 disabled persons per 100,000 population, which is the 3rd highest in the Philippines. Disaster management plans should incorporate provisions for the special needs of disabled persons during disasters, including evacuation, shelter, and medical care.
- Continue efforts in community outreach, increased access to health care and other public health interventions. Additionally, sustain monitoring and control programs for communicable diseases.

3

Transportation Capacity

- Result show that Agusan del Sur has low road density (0.39 kilometers per square kilometer). Continue road enhancements and expansion projects through the Department of Public Works. Invest in transportation infrastructure to increase evacuation and resource distribution routes. Additionally, expansion projects will benefit socio-economic development through increased access to markets and enhanced social connectivity.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Energy Capacity

- Agusan del Sur ranked 36th out of the 84 territories in energy capacity. The findings show that only 62% of households have access to electricity and 7% have access to liquid petroleum gas. Invest in expanded and improved energy infrastructure. Focus efforts on increasing household access and developing renewable energy sources such as solar and wind.
- Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access, especially in rural communities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

AKLAN

NDPBA PROVINCE PROFILE

THE PHILIPPINES

AKLAN

CAPITAL: KALIBO

Area: 1,760 km²

Aklan Province is located on the interior coast of the central Philippine Archipelago on the island of Panay. It ranges from steep mountains in the south to an extensive, but sheltered, 155km coastline. The size of the population in Aklan ranks in as the second smallest in region (Western Visayas). There are three fault lines that intersect Aklan, but no active volcanoes. There are many inland water sources with ample coastlines and marshlands along them. Flooding is a major hazard for Aklan and threatens the population along with the economic stability. The province depends heavily on agriculture growing palay, coconut and rice as primary crops. Tourism also brings in revenue for Aklan.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.482 • Rank: 55/84



RESILIENCE (R) - High
Score: 0.599 • Rank: 24/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.644 • Rank: 34/84



VULNERABILITY (V) - Low
Score: 0.385 • Rank: 60/84



COPING CAPACITY (CC) - High
Score: 0.582 • Rank: 28/84



Population (2018)
591,193



Population in Poverty
8.8%



Literate population
98.1%



Access to improved water
91.7%



Average life expectancy
68.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 34 / 84 PROVINCES
SCORE: 0.644



MHE
0.644

Raw MHE
0.569

Relative MHE
0.718

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

84%

495,109
\$2.4 Billion



Tsunami

<1%

357
-



Flood

73%

434,256
\$2 Billion



Liquefaction

59%

348,101
\$1.8 Billion



Landslide

8%

49,998
\$205.2 Million



Volcano

-
-
-



Drought

-
-
-



Wildfire

-
-
-



Storm Surge

30%

178,544
\$651.1 Million



Typhoon Winds

100%
590,461
\$2.6 Billion



VULNERABILITY (V)

RANK: 60 / 84 PROVINCES ASSESSED
SCORE: 0.385

Vulnerability in Aklan is primarily driven by Environmental Stress and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.585** **RANK: 23/84** PROVINCES ASSESSED

2.92 Livestock density
34.52 Barren land (per 10k hectares)
0.71% Forest cover change



Vulnerable Health Status

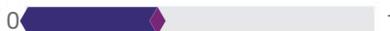
0  1 **SCORE: 0.523** **RANK: 21/84** PROVINCES ASSESSED

9.4% Malnutrition among children (0 to 5 years old)
11.41 Infant mortality rate (per 1k live births)
118.45 Maternal mortality rate (per 100k live births)
68.2 Life expectancy
472 Disability (per 100k persons)

20.9 Tuberculosis mortality rate (per 100k persons)
0.3 HIV mortality rate (per 100k persons)
4.9 Intestinal disease mortality rate (per 100k persons)
0.3 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



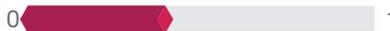
Clean Water Vulnerability

0  1 **SCORE: 0.378** **RANK: 49/84** PROVINCES ASSESSED

91.7% Households with improved safe water source
90.9% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.401** **RANK: 59/84** PROVINCES ASSESSED

98.08% Literacy rate (age 10 and older)
113.32% Gross primary school enrollment rate
4.24% Internet Access
70.91% Households with radio
73.73% Households with television



Economic Constraints

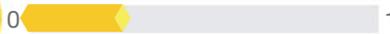
0  1 **SCORE: 0.271** **RANK: 62/84** PROVINCES ASSESSED

0.59
Economic
dependency
ratio

8.76%
Poverty
incidence



Gender Inequality

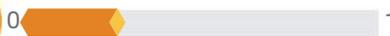
0  1 **SCORE: 0.276** **RANK: 73/84** PROVINCES ASSESSED

1.02
Female to male
secondary school
enrollment Rate

0.53
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.261** **RANK: 80/84** PROVINCES ASSESSED

1.35
Population
growth rate
(2010-2015)

3.06
Average annual
urban population
growth rate

0.8%
Informal settlers



COPING CAPACITY (CC)

RANK: 28 / 84 PROVINCES ASSESSED
SCORE: 0.582

Aklan exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.615** **RANK: 20/84 PROVINCES ASSESSED**

0.91

Purchasing power of the peso

62.62%

Labor force participation rate

2467.62

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.691** **RANK: 26/84 PROVINCES ASSESSED**

86.0%

Voter participation

2.53

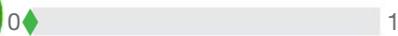
Organized violence (per 100k persons)

10.40%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0** **RANK: 77/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

0.0%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.634** **RANK: 20/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.566** **RANK: 25/84** PROVINCES ASSESSED

15.83	2.64	61.39%	5.05
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.639** **RANK: 18/84** PROVINCES ASSESSED

1.16	10.63
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.805** **RANK: 17/84** PROVINCES ASSESSED

4.9%	97.9%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.701** **RANK: 27/84** PROVINCES ASSESSED

89.8%	13.4%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.459** **RANK: 42/84** PROVINCES ASSESSED

29.09	1.7	2.55
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 24 / 84 PROVINCES ASSESSED
SCORE: 0.599

Aklan's score and ranking are due to Low Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Vulnerable Health Status



Emergency Services Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 64 / 84 PROVINCES ASSESSED
SCORE: 0.210



Tsunami

RANK: 48 / 84 PROVINCES ASSESSED
SCORE: 0.048



Flood

RANK: 26 / 84 PROVINCES ASSESSED
SCORE: 0.236



Liquefaction

RANK: 28 / 84 PROVINCES ASSESSED
SCORE: 0.222



Landslide

RANK: 59 / 84 PROVINCES ASSESSED
SCORE: 0.167



Volcano

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

55 / 84

RANK WITHIN PROVINCES
Score: 0.482



Aklan's score and ranking are due to Medium Multi-hazard exposure combined with Low Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



AKLAN RECOMMENDATIONS

1

Environmental Stress

- In Aklan flooding, typhoons and seismic hazards expose a large proportion of the population. Allocate funds to protect and improve the natural environment, which will help mitigate direct and indirect impacts of hazards. Continue investing in greening projects, reforestation efforts and sustainable agriculture to increase resilience.

2

Vulnerable Health Status

- Findings show that vulnerable health status is a major driver of vulnerability in Aklan. Continue work to enhance personal hygiene practices and monitor environmental health indicators to improve health outcomes of the communities.
- Continue efforts in community outreach, increased access to health care and other public health interventions. Expand monitoring and control programs for communicable diseases.

3

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Health Care Capacity

- Due to the vulnerable health status of the population in Aklan, prioritize efforts to increase health care capacity. Continue to work with local and international partners to invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holopono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ALBAY

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ALBAY

CAPITAL: CITY OF LEGAZPI

Area: 2,575 km²

Albay Province is located in southeastern Luzon Island. The region is generally mountainous and contains Mayon Volcano – the most active volcano in the Philippines. Significant activity occurred as recently as 2018 and with other recent events including the cyclone-induced mudflows in 2006 that killed upward of 1,000 people. The area also contains the Albay Biosphere Reserve, which is equal in size (250,000 hectares) to the province. Economic drivers are agriculture in the fertile plains between mountains, and tourism (Mayon and the Biosphere, as well as protected marine areas on both eastern and western coasts). Residents of Albay are also referred to as Albayanos. As with most of the country there are many dialects spoken, especially in the inner towns of Albay. Agriculture is the major industry for Albay with some manufacturing and forestry industries also contributing to the economy. Rural communities finally benefit from handcrafted items.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.536 • Rank: 21/84



RESILIENCE (R) - Medium
Score: 0.56 • Rank: 46/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.730 • Rank: 20/84



VULNERABILITY (V) - High
Score: 0.475 • Rank: 28/84



COPING CAPACITY (CC) - High
Score: 0.596 • Rank: 23/84



Population (2018)
1,293,646



Population in Poverty
14.8%



Literate population
99.2%



Access to improved water
96.9%



Average life expectancy
69.1 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 20 / 84 PROVINCES
SCORE: 0.730



MHE
0.730

Raw MHE
0.732

Relative MHE
0.728

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

89%

1,149,865
\$6.8 Billion



Tsunami

8%

102,586
\$624.8 Million



Flood

-

-
-



Liquefaction

35%

459,168
\$3.7 Billion



Landslide

7%

93,797
\$335.7 Million



Volcano

15%

190,974
\$998.2 Million



Drought

86%

1,114,112
\$6.6 Billion



Wildfire

3%

33,534
\$151.9 Million



Storm Surge

12%

159,258
\$892.7 Million



Typhoon Winds

100%

1,292,828
\$7.1 Billion



VULNERABILITY (V)

RANK: 28 / 84 PROVINCES ASSESSED
SCORE: 0.475

Vulnerability in Albay is primarily driven by Environmental Stress and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.679** **RANK: 4/84 PROVINCES ASSESSED**

1.4 Livestock density	124.15 Barren land (per 10k hectares)	-3.12% Forest cover change
---------------------------------	---	--------------------------------------



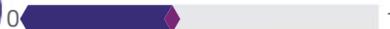
Vulnerable Health Status

0  1 **SCORE: 0.474** **RANK: 31/84 PROVINCES ASSESSED**

10.5% Malnutrition among children (0 to 5 years old)	5.04 Infant mortality rate (per 1k live births)	45.53 Maternal mortality rate (per 100k live births)	69.09 Life expectancy	494 Disability (per 100k persons)
33.2 Tuberculosis mortality rate (per 100k persons)	0.1 HIV mortality rate (per 100k persons)	4.4 Intestinal disease mortality rate (per 100k persons)	0.5 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)	



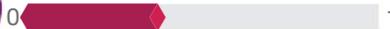
Clean Water Vulnerability

0  1 **SCORE: 0.421** **RANK: 42/84 PROVINCES ASSESSED**

96.9% Households with improved safe water source	78.4% Households with sanitary toilet facility
--	--



Information Access Vulnerability

0  1 **SCORE: 0.378** **RANK: 64/84 PROVINCES ASSESSED**

99.24% Literacy rate (age 10 and older)	115.03% Gross primary school enrollment rate	4.89% Internet Access	65.30% Households with radio	69.58% Households with television
---	--	---------------------------------	--	---



Economic Constraints



SCORE: 0.434

RANK: 37/84 PROVINCES ASSESSED

0.65

Economic
dependency
ratio

14.78%

Poverty
incidence



Gender Inequality



SCORE: 0.439

RANK: 42/84 PROVINCES ASSESSED

1.08

Female to male
secondary school
enrollment Rate

0.48

Labor force
participation ratio



Population Pressures



SCORE: 0.503

RANK: 17/84 PROVINCES ASSESSED

1.22

Population
growth rate
(2010-2015)

9.56

Average annual
urban population
growth rate

3.1%

Informal settlers



COPING CAPACITY (CC)

RANK: 23 / 84 PROVINCES ASSESSED
SCORE: 0.596

Albay exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.521 **RANK: 37/84 PROVINCES ASSESSED**

0.91

Purchasing power of the peso

62.69%

Labor force participation rate

1156.01

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.713 **RANK: 18/84 PROVINCES ASSESSED**

85.8%

Voter participation

7.47

Organized violence (per 100k persons)

27.85%

Garbage pickup



Environmental Capacity



SCORE: 0.513 **RANK: 19/84 PROVINCES ASSESSED**

22.11

Protected areas (per 1k ha)

10.3%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.584** **RANK: 32/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.532** **RANK: 36/84** PROVINCES ASSESSED

7.08	3.05	57.18%	3.46
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.542** **RANK: 35/84** PROVINCES ASSESSED

1.17	20.65
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.715** **RANK: 36/84** PROVINCES ASSESSED

3.0%	94.6%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.716** **RANK: 26/84** PROVINCES ASSESSED

85.5%	20.0%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.413** **RANK: 50/84** PROVINCES ASSESSED

26.65	1.41	2.3
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 46 / 84 PROVINCES ASSESSED
SCORE: 0.56

Albany's score and ranking are due to High Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Population Pressures



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 32 / 84 PROVINCES ASSESSED
SCORE: 0.300



Tsunami

RANK: 7 / 84 PROVINCES ASSESSED
SCORE: 0.3



Flood

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 29 / 84 PROVINCES ASSESSED
SCORE: 0.221



Landslide

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0.191



Volcano

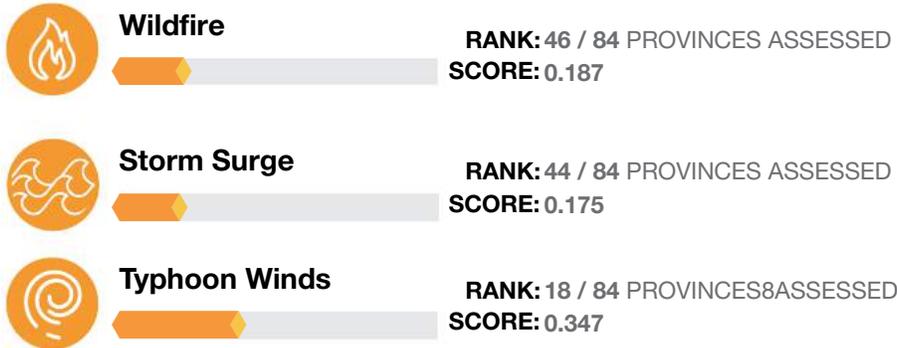
RANK: 4 / 84 PROVINCES ASSESSED
SCORE: 0.391



Drought

RANK: 11 / 84 PROVINCES ASSESSED
SCORE: 0.402

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

21 / 84

RANK WITHIN PROVINCES
Score: 0.536



Albay's score and ranking are due to High Multi-hazard exposure combined with High Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



ALBAY RECOMMENDATIONS

1

Environmental Stress

- In Albay, there was a 3.12% loss in forest cover between 2000 and 2010, which is the 5th highest forest cover change in the Philippines. Advocate for and commit to reforestation projects throughout Albay.
- Recent projects taking place in Albay have focused on organic fertilizer use. That work along with more diverse sustainable agricultural-based projects should be undertaken. Efforts should include work with local farmers, partners and other stakeholders.

2

Population Pressures

- In Albay, the growing population puts more stresses on the environment and public services. Continue to closely monitor the growth of the population and allocate resources to keep up the shifting demands. Ensure environmental impacts are minimized through proper planning and oversight throughout society, from expansion projects to natural resource management.
- Albay is also ranked 9th in the Philippines for informal settlements. Investments in housing and resource access will reduce vulnerabilities. Work with local stakeholders and diverse partners to ensure public services and assistance keeps up with population growth.

3

Emergency Services Capacity

- Population pressures in Albay are increasing the need to expand emergency service capacity. As the population grows, there is an increased demand on the already limited resources and space in evacuation shelters. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Although Albay ranked relatively high compared to the rest of the Philippines in economic capacity, population pressures and environmental stresses can undermine financial stability in the province. Continue to encourage programs that diversify the economy in Albay to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ANTIQUE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ANTIQUE

CAPITAL: SAN JOSE

Area: 2,731 km²

Antique stretches across the entire western coastal area of Panay Island in Western Visayas, bordered by tall mountains in the east. The steep mountains isolated the sea-faring people of Antique and the distinct separation is attributed for the unique dialect in Antique of Indo-Malayan origin. The major products in Antique are rice, sugarcane and coconut. Antique also has diverse natural terrestrial and marine resources. Typhoons are a major hazard in Antique along with flooding, earthquakes and liquefaction. In 2019, Typhoon Phanfone impacted Antique and took a similar path to Haiyan resulting in damage to infrastructure, evacuations and loss of life.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium

Score: 0.508 • Rank: 37/84



RESILIENCE (R) - Low

Score: 0.537 • Rank: 58/84



MULTI-HAZARD EXPOSURE (MHE) - Medium

Score: 0.599 • Rank: 47/84



VULNERABILITY (V) - Medium

Score: 0.436 • Rank: 42/84



COPING CAPACITY (CC) - Low

Score: 0.511 • Rank: 66/84



Population (2018)

575,811



Population in Poverty

13.2%



Literate population

97.7%



Access to improved water

97.9%



Average life expectancy

67.9 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 47 / 84 PROVINCES
SCORE: 0.599



MHE
0.599

Raw MHE
0.542

Relative MHE
0.656

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

89%

512,816
\$2 Billion



Tsunami

<1%

1,721
\$150,670



Flood

53%

302,550
\$1.2 Billion



Liquefaction

57%

325,661
\$1.3 Billion



Landslide

15%

86,171
\$508.9 Million



Volcano

—

—
—



Drought

—

—
—



Wildfire

4%

23,572
\$163 Million



Storm Surge

19%

111,989
\$287.4 Million



Typhoon Winds

100%

575,546
\$2.3 Billion



VULNERABILITY (V)

RANK: 42 / 84 PROVINCES ASSESSED
SCORE: 0.436

Vulnerability in Antique is primarily driven by Vulnerable Health Status and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.612** **RANK: 14/84 PROVINCES ASSESSED**

3.25 Livestock density
72.97 Barren land (per 10k hectares)
1.90% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.618** **RANK: 7/84 PROVINCES ASSESSED**

13.6% Malnutrition among children (0 to 5 years old)
12.2 Infant mortality rate (per 1k live births)
79.82 Maternal mortality rate (per 100k live births)
67.9 Life expectancy
753 Disability (per 100k persons)

27.2 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.9 Intestinal disease mortality rate (per 100k persons)
1.5 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.256** **RANK: 71/84 PROVINCES ASSESSED**

97.9% Households with improved safe water source
90.5% Households with sanitary toilet facility



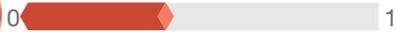
Information Access Vulnerability

0  1 **SCORE: 0.548** **RANK: 24/84 PROVINCES ASSESSED**

97.66% Literacy rate (age 10 and older)
117.96% Gross primary school enrollment rate
1.96% Internet Access
52.43% Households with radio
51.70% Households with television



Economic Constraints



SCORE: 0.402

RANK: 44/84 PROVINCES ASSESSED

0.64

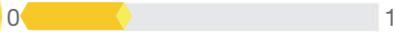
Economic
dependency
ratio

13.21%

Poverty
incidence



Gender Inequality



SCORE: 0.28

RANK: 70/84 PROVINCES ASSESSED

1.05

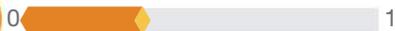
Female to male
secondary school
enrollment Rate

0.57

Labor force
participation ratio



Population Pressures



SCORE: 0.334

RANK: 65/84 PROVINCES ASSESSED

1.22

Population
growth rate
(2010-2015)

9.57

Average annual
urban population
growth rate

1.0%

Informal settlers



COPING CAPACITY (CC)

RANK: 66 / 84 PROVINCES ASSESSED
SCORE: 0.511

Antique exhibits weaker Coping Capacity in the areas of Health Care Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.424 **RANK: 66/84 PROVINCES ASSESSED**

0.86

Purchasing power of the peso

58.36%

Labor force participation rate

2043

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.635 **RANK: 42/84 PROVINCES ASSESSED**

85.2%

Voter participation

3.66

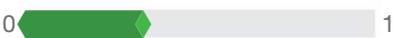
Organized violence (per 100k persons)

7.89%

Garbage pickup



Environmental Capacity



SCORE: 0.344 **RANK: 46/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

22.9%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.528** **RANK: 54/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.382** **RANK: 64/84** PROVINCES ASSESSED

4.41	1.7	56.45%	6.56
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.496** **RANK: 42/84** PROVINCES ASSESSED

0.72	17.58
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.687** **RANK: 43/84** PROVINCES ASSESSED

1.8%	96.6%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.542** **RANK: 57/84** PROVINCES ASSESSED

81.8%	6.7%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.532** **RANK: 29/84** PROVINCES ASSESSED

41.11	2.19	2.86
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 58/ 84 PROVINCES ASSESSED
SCORE: 0.537

Antique’s score and ranking are due to Medium Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Vulnerable Health Status



Environmental Stress



Health Care Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 52 / 84 PROVINCES ASSESSED
SCORE: 0.244



Tsunami

RANK: 38 / 84 PROVINCES ASSESSED
SCORE: 0.074



Flood

RANK: 37 / 84 PROVINCES ASSESSED
SCORE: 0.200



Liquefaction

RANK: 26 / 84 PROVINCES ASSESSED
SCORE: 0.227



Landslide

RANK: 21 / 84 PROVINCES ASSESSED
SCORE: 0.265



Volcano

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

37 / 84

RANK WITHIN PROVINCES
Score: 0.508



Antique’s score and ranking are due to Medium Multi-hazard exposure combined with Medium Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



ANTIQUÉ RECOMMENDATIONS

1

Vulnerable Health Status

- Antique is ranked 7th for malnutrition vulnerability, with 13.6% of children suffering from thinness and wasting, a sign of current nutritional deficiencies. Continue programs to provide nutritional meals to families and improved access to resources such as health care. Getting timely care for malnourished children is important to prevent chronic health outcomes.
- The findings also show that Antique is ranked 7th in the Philippines for disabled persons. Work to ensure disaster management plans incorporate provisions for the special needs of disabled persons during disasters, including evacuation, shelter, and medical care.

2

Environmental Stress

- Focus efforts on improving the environmental conditions of Antique, from promoting sustainable livestock rearing practices to expanding greening projects, increasing environmental resilience.
- Invest in environmental programs and policies through incentives to local farmers and monitoring efforts to stop illegal logging. Healthy environments help to absorb shocks from hazards and provide other vital ecosystem benefits to sustain economic and social development

3

Health Care Capacity

- Due to the vulnerable health status of the population in Antique, prioritize efforts to increase health care capacity. Continue to work with local and international partners to invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Economic Capacity

- Although Antique ranked relatively high compared to the rest of the Philippines in economic capacity, the labor force participation rate is low (58.36%). Continue to monitor the economic situation in Antique, while promoting the growth of small and local businesses. Public policies should focus on increasing the health of the population and the environment to ensure sustainable growth.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

APAYAO

NDPBA PROVINCE PROFILE

THE PHILIPPINES

APAYAO

CAPITAL: KABUGAO

Area: 4,502 km²

Apayao is located on the northern tip of Luzon island within the Cordillera mountains. The province is subdivided into two geographically separate regions referred to as the Upper and Lower Apayao. The total area of Apayao makes it the largest province in the region. Though the land area of Apayao is large the population density is low. There are 100,000 residents spread over an area of 4,400km², which makes Apayao the least-densely populated province in the Philippines. Most of the land in Apayao is used for farmlands, but also noted for its abundance of trees and possibilities for tourism. The province is highly exposed to typhoons and earthquakes with other hazards including flooding and landslides also exposing large portions of the population.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.480 • Rank: 57/84



RESILIENCE (R) - Medium
Score: 0.561 • Rank: 45/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.562 • Rank: 55/84



VULNERABILITY (V) - Medium
Score: 0.454 • Rank: 39/84



COPING CAPACITY (CC) - High
Score: 0.577 • Rank: 29/84



Population (2018)
121,817



Population in Poverty
16.0%



Literate population
96.5%



Access to improved water
-



Average life expectancy
67.4 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 55 / 84 PROVINCES
SCORE: 0.562



MHE
0.562

Raw MHE
0.321

Relative MHE
0.802

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

121,817

\$617.9 Million



Tsunami

-

-

-



Flood

36%

43,643

\$270.5 Million



Liquefaction

40%

49,018

\$319.7 Million



Landslide

37%

44,550

\$209.6 Million



Volcano

<1%

251

\$1.4 Million



Drought

79%

96,655

\$488.8 Million



Wildfire

<1%

242

\$879,553



Storm Surge

-

-

-



Typhoon Winds

100%

121,817

\$617.9 Million



VULNERABILITY (V)

RANK: 39 / 84 PROVINCES ASSESSED
SCORE: 0.454

Vulnerability in Apayao is primarily driven by Environmental Stress and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.595** **RANK: 18/84 PROVINCES ASSESSED**

1.38 Livestock density
40.36 Barren land (per 10k hectares)
-2.42% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.535** **RANK: 18/84 PROVINCES ASSESSED**

10.3% Malnutrition among children (0 to 5 years old)
4.16 Infant mortality rate (per 1k live births)
128 Maternal mortality rate (per 100k live births)
67.35 Life expectancy
548 Disability (per 100k persons)

14.6 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.1 Intestinal disease mortality rate (per 100k persons)
2.4 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.53** **RANK: 22/84 PROVINCES ASSESSED**

- Households with improved safe water source
77.1% Households with sanitary toilet facility



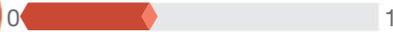
Information Access Vulnerability

0  1 **SCORE: 0.564** **RANK: 19/84 PROVINCES ASSESSED**

96.50% Literacy rate (age 10 and older)
122.41% Gross primary school enrollment rate
1.60% Internet Access
57.31% Households with radio
41.75% Households with television



Economic Constraints



SCORE: 0.355

RANK: 48/84 PROVINCES ASSESSED

0.58

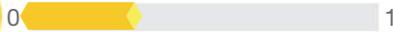
Economic
dependency
ratio

15.96%

Poverty
incidence



Gender Inequality



SCORE: 0.31

RANK: 68/84 PROVINCES ASSESSED

1.02

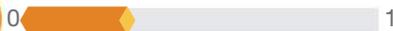
Female to male
secondary school
enrollment Rate

0.48

Labor force
participation ratio



Population Pressures



SCORE: 0.29

RANK: 78/84 PROVINCES ASSESSED

1.08

Population
growth rate
(2010-2015)

Average annual
urban population
growth rate

1.3%

Informal settlers



COPING CAPACITY (CC)

RANK: 29 / 84 PROVINCES ASSESSED
SCORE: 0.577

Apayao exhibits weaker Coping Capacity in the areas of Transportation Capacity and Communications Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.841** **RANK: 3/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

76.13%

Labor force participation rate

6380.24

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.448** **RANK: 75/84 PROVINCES ASSESSED**

81.8%

Voter participation

4.09

Organized violence (per 100k persons)

2.26%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.495** **RANK: 25/84 PROVINCES ASSESSED**

0.84

Protected areas (per 1k ha)

60.1%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.47** **RANK: 62/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.65** **RANK: 10/84** PROVINCES ASSESSED

14.74	5.37	62.76%	7.54
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.147** **RANK: 84/84** PROVINCES ASSESSED

0.30	39.2
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.299** **RANK: 78/84** PROVINCES ASSESSED

0.7%	72.9%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.403** **RANK: 69/84** PROVINCES ASSESSED

57.5%	11.3%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.849** **RANK: 5/84** PROVINCES ASSESSED

124.3	5.78	4.95
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 45 / 84 PROVINCES ASSESSED
SCORE: 0.561

Apayao's score and ranking are due to Medium Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Information Access Vulnerability



Transportation Capacity



Communications Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 51 / 84 PROVINCES ASSESSED
SCORE: 0.244



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 60 / 84 PROVINCES ASSESSED
SCORE: 0.118



Liquefaction

RANK: 52 / 84 PROVINCES ASSESSED
SCORE: 0.15



Landslide

RANK: 32 / 84 PROVINCES ASSESSED
SCORE: 0.252



Volcano

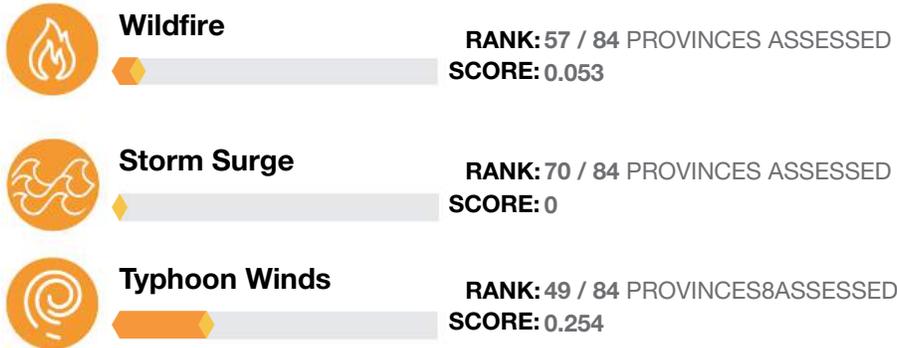
RANK: 60 / 84 PROVINCES ASSESSED
SCORE: 0.064



Drought

RANK: 23 / 84 PROVINCES ASSESSED
SCORE: 0.331

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

57 / 84

RANK WITHIN PROVINCES
Score: 0.480



Apayao's score and ranking are due to Low Multi-hazard exposure combined with Medium Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE (orange bar)
COUNTRY SCORE (grey bar)



APAYAO RECOMMENDATIONS

1

Environmental Stress

- Continue efforts to improve environmental conditions in Apayao. Use policies, programs and incentives to enhance forestry protections, reforestation, and sustainable agricultural practices.
- Apayao is highly exposed to drought and flood hazards. Provide resources and promote sustainable agricultural practices, from growing local crops that are drought resistant to using organic fertilizers.

2

Information Access Vulnerability

- Increase efforts to expand communication capacity and engage communities in Apayao to determine ways to best disseminate public information. Many households lack access to household amenities including internet, television and radio leading to the need for alternate forms of communication. Investing in siren-based notifications and increased access to communication technologies in homes will increase resilience in Apayao.

3

Transportation Capacity

- Apayao has low road density (0.31 kilometers per square kilometer) and a high average distance to ports and airports (39.2 kilometers). Continue airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increased access to markets and enhanced social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Communications Capacity

- In Apayao only 73% of barangays report having cell signal, which is the 11th lowest in the Philippines. Additionally, less than 1% of households reported having access to landlines. The population of Apayao is also highly exposed to typhoons, earthquakes, floods and landslides. Invest in communications infrastructure that is reinforced to withstand hazards and adds redundancy to the communication network.
- Findings show that the population of Apayao are also vulnerable due to limitations in access to information. Improvements to communications infrastructure should be paralleled by increased households' access to telecommunication devices. Expand private and public partnerships in the meantime to plan emergency communications.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

AURORA

NDPBA PROVINCE PROFILE

THE PHILIPPINES

AURORA

CAPITAL: BALER

Area: 3,133 km²

Aurora is located on the central side of Luzon, on the Pacific Ocean, leaving it exposed to significant cyclones that develop. Most of Aurora is generally mountainous with some flat areas surrounding the many rivers that run through it. The climate is defined by the even rainfall throughout the year. The population is mostly rural and is ranked as the 5th lowest population density in the country. Agriculture is the primary driver of the economy in Aurora, employing about half of the population. The primary crops include rice, coconut, coffee, bananas, and root crops among others.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium
Score: 0.512 • Rank: 36/84



RESILIENCE (R) - Medium
Score: 0.554 • Rank: 50/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.644 • Rank: 33/84



VULNERABILITY (V) - Medium
Score: 0.456 • Rank: 37/84



COPING CAPACITY (CC) - Medium
Score: 0.563 • Rank: 38/84



Population (2018)
216,655



Population in Poverty
11.5%



Literate population
99.1%



Access to improved water
95.2%



Average life expectancy
69.1 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 33 / 84 PROVINCES
SCORE: 0.644



MHE
0.644

Raw MHE
0.376

Relative MHE
0.912

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

95%

206,228

\$524.2 Million



Tsunami

<1%

92

-



Flood

41%

87,822

\$224.6 Million



Liquefaction

53%

114,910

\$331.8 Million



Landslide

39%

84,871

\$228.7 Million



Volcano

-

-

-



Drought

97%

210,831

\$528.1 Million



Wildfire

-

-

-



Storm Surge

23%

49,984

\$74.6 Million



Typhoon Winds

100%

216,337

\$551.3 Million



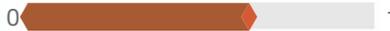
VULNERABILITY (V)

RANK: 37 / 84 PROVINCES ASSESSED
SCORE: 0.456

Vulnerability in Aurora is primarily driven by Environmental Stress and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.646** **RANK: 8/84 PROVINCES ASSESSED**

1.06 Livestock density
76.97 Barren land (per 10k hectares)
-4.06% Forest cover change



Vulnerable Health Status

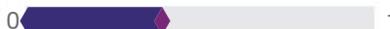
0  1 **SCORE: 0.42** **RANK: 53/84 PROVINCES ASSESSED**

17.3% Malnutrition among children (0 to 5 years old)
2.16 Infant mortality rate (per 1k live births)
23.95 Maternal mortality rate (per 100k live births)
69.07 Life expectancy
407 Disability (per 100k persons)

22.8 Tuberculosis mortality rate (per 100k persons)
0.5 HIV mortality rate (per 100k persons)
1.4 Intestinal disease mortality rate (per 100k persons)
0 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.392** **RANK: 47/84 PROVINCES ASSESSED**

95.2% Households with improved safe water source
86.0% Households with sanitary toilet facility



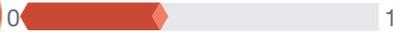
Information Access Vulnerability

0  1 **SCORE: 0.498** **RANK: 36/84 PROVINCES ASSESSED**

99.13% Literacy rate (age 10 and older)
118.20% Gross primary school enrollment rate
2.32% Internet Access
43.43% Households with radio
62.20% Households with television



Economic Constraints



SCORE: 0.386

RANK: 46/84 PROVINCES ASSESSED

0.65

Economic dependency ratio

11.50%

Poverty incidence



Gender Inequality



SCORE: 0.486

RANK: 33/84 PROVINCES ASSESSED

1.09

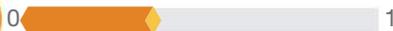
Female to male secondary school enrollment Rate

0.46

Labor force participation ratio



Population Pressures



SCORE: 0.365

RANK: 57/84 PROVINCES ASSESSED

1.21

Population growth rate (2010-2015)

11.45

Average annual urban population growth rate

1.2%

Informal settlers



COPING CAPACITY (CC)

RANK: 38 / 84 PROVINCES ASSESSED

SCORE: 0.563

Aurora exhibits weaker Coping Capacity in the areas of Health Care Capacity and Transportation Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.554 **RANK: 30/84 PROVINCES ASSESSED**

0.87

Purchasing power of the peso

62.25%

Labor force participation rate

3354.39

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.569 **RANK: 64/84 PROVINCES ASSESSED**

81.5%

Voter participation

3.15

Organized violence (per 100k persons)

8.30%

Garbage pickup



Environmental Capacity



SCORE: 0.628 **RANK: 8/84 PROVINCES ASSESSED**

13.83

Protected areas (per 1k ha)

44.2%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.545** **RANK: 47/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.379** **RANK: 65/84** PROVINCES ASSESSED

6.7	0.64	69.46%	9.91
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.459** **RANK: 50/84** PROVINCES ASSESSED

0.42	12.59
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.501** **RANK: 67/84** PROVINCES ASSESSED

0.3%	95.4%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.607** **RANK: 47/84** PROVINCES ASSESSED

74.2%	18.1%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.781** **RANK: 9/84** PROVINCES ASSESSED

162.07	3.18	5
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 50 / 84 PROVINCES ASSESSED
SCORE: 0.554

Aurora's score and ranking are due to Medium Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Information Access Vulnerability



Health Care Capacity



Transportation Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0.234



Tsunami

RANK: 50 / 84 PROVINCES ASSESSED
SCORE: 0.041



Flood

RANK: 56 / 84 PROVINCES ASSESSED
SCORE: 0.127



Liquefaction

RANK: 42 / 84 PROVINCES ASSESSED
SCORE: 0.187



Landslide

RANK: 18 / 84 PROVINCES ASSESSED
SCORE: 0.278



Volcano

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 17 / 84 PROVINCES ASSESSED
SCORE: 0.382

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

36 / 84

RANK WITHIN PROVINCES
Score: 0.512

Aurora's score and ranking are due to High Multi-hazard exposure combined with Medium Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



AURORA RECOMMENDATIONS

1

Environmental Stress

- Aurora is ranked 3rd in forest cover change vulnerability. The data show that between 2010 and 2015, total forest cover decreased by 4.06%. Focus efforts on promoting sustainable forestry practices and reforestation projects.
- Continue to work stakeholders and partners to make strides in the agricultural sector. Investments in sustainable agriculture will help reduce the local carbon footprint and ensure conservation of natural resources.

2

Information Access Vulnerability

- While results show that Aurora has relatively high information access, efforts should be made to improve community access to information. Investments in education and distribution of household communication devices will enhance public dissemination of information, as well as ensure communities are able to understand and respond appropriately.
- Aurora is often impacted by floods and typhoons, which can be forecasted ahead of time. With increased information access, the constituents of Aurora can be properly warned and updated to take appropriate action to protect their lives and homes.

3

Health Care Capacity

- Aurora has 0.64 physicians per 10,000 persons, which is the 8th lowest in the Philippines. Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Transportation Capacity

- Although transportation capacity in Aurora ranked relatively high, road density is the 9th lowest in the Philippines (0.42 kilometers per square kilometer). Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

BASILAN

NDPBA PROVINCE PROFILE

THE PHILIPPINES

BASILAN

CAPITAL: CITY OF LAMITAN

Area: 3,453 km²

Basilan is an island located off the southern tip of the Zamboanga Peninsula. Unlike many islands of the Philippines, it is densely populated with more than 350 people per square kilometer. Political evolutions and ethno-religious tensions have resulted in most of Basilan's inclusion in the Bangsamoro Autonomous Region of Muslim Mindanao (BARMM). Economic activity is divided between agriculture (coconut harvesting) and fishing. In recent years, Basilan has experienced insurgent and counter-terrorism activity. The population of Basilan is also exposed to seismic hazards, which can further exacerbate the instability in the province.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.561 • Rank: 14/84



RESILIENCE (R) - Very Low
Score: 0.249 • Rank: 83/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.182 • Rank: 79/84



VULNERABILITY (V) - Very High
Score: 0.826 • Rank: 1/84



COPING CAPACITY (CC) - Very Low
Score: 0.325 • Rank: 82/84



Population (2018)
167,936



Population in Poverty
65.7%



Literate population
85.6%



Access to improved water
31.7%



Average life expectancy
64.8 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 79 / 84 PROVINCES
SCORE: 0.182



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

83%

139,032

\$1.2 Billion



Tsunami

-

-

-



Flood

-

-

-



Liquefaction

4%

6,328

\$64.6 Million



Landslide

11%

19,082

\$160.8 Million



Volcano

<1%

12

\$65,183



Drought

-

-

-



Wildfire

-

-

-



Storm Surge

24%

41,103

\$214.2 Million



Typhoon Winds

-

-

-



VULNERABILITY (V)

RANK: 1 / 84 PROVINCES ASSESSED
SCORE: 0.826

Vulnerability in Basilan is primarily driven by Clean Water Access Vulnerability and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.51** **RANK: 34/84 PROVINCES ASSESSED**

0.53 Livestock density
107.95 Barren land (per 10k hectares)
-0.10% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.582** **RANK: 10/84 PROVINCES ASSESSED**

4.4% Malnutrition among children (0 to 5 years old)
24.62 Infant mortality rate (per 1k live births)
134.91 Maternal mortality rate (per 100k live births)
64.76 Life expectancy
406 Disability (per 100k persons)

3.3 Tuberculosis mortality rate (per 100k persons)
0.4 HIV mortality rate (per 100k persons)
2.5 Intestinal disease mortality rate (per 100k persons)
0.8 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.995** **RANK: 1/84 PROVINCES ASSESSED**

31.7% Households with improved safe water source
6.1% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.844** **RANK: 2/84 PROVINCES ASSESSED**

85.58% Literacy rate (age 10 and older)
94.25% Gross primary school enrollment rate
0.46% Internet Access
50.44% Households with radio
41.41% Households with television



Economic Constraints

0  1 **SCORE: 0.958** **RANK: 1/84** PROVINCES ASSESSED

0.8
Economic
dependency
ratio

65.70%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.979** **RANK: 1/84** PROVINCES ASSESSED

1.31
Female to male
secondary school
enrollment Rate

0.31
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.912** **RANK: 1/84** PROVINCES ASSESSED

3.23
Population
growth rate
(2010-2015)

29.69
Average annual
urban population
growth rate

4.1%
Informal settlers



COPING CAPACITY (CC)

RANK: 82 / 84 PROVINCES ASSESSED
SCORE: 0.325

Basilan exhibits weaker Coping Capacity in the areas of Health Care Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.441** **RANK: 62/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

55.11%

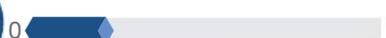
Labor force participation rate

2160.89

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.213** **RANK: 83/84 PROVINCES ASSESSED**

80.8%

Voter participation

38.95

Organized violence (per 100k persons)

4.86%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.653** **RANK: 6/84 PROVINCES ASSESSED**

22.9

Protected areas (per 1k ha)

39.0%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.211** **RANK: 83/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.108** **RANK: 84/84** PROVINCES ASSESSED

3.27	0.25	29.45%	13.39
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.474** **RANK: 46/84** PROVINCES ASSESSED

0.54	15.12
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.222** **RANK: 79/84** PROVINCES ASSESSED

0.7%	67.1%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.126** **RANK: 83/84** PROVINCES ASSESSED

53.4%	1.7%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.125** **RANK: 81/84** PROVINCES ASSESSED

0	1.38	0.83
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 83 / 84 PROVINCES ASSESSED
SCORE: 0.249

Basilan's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Clean Water Access Vulnerability



Gender Inequality



Health Care Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 21 / 84 PROVINCES ASSESSED
SCORE: 0.319



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0.000



Flood

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 75 / 84 PROVINCES ASSESSED
SCORE: 0.055



Landslide

RANK: 11 / 84 PROVINCES ASSESSED
SCORE: 0.308



Volcano

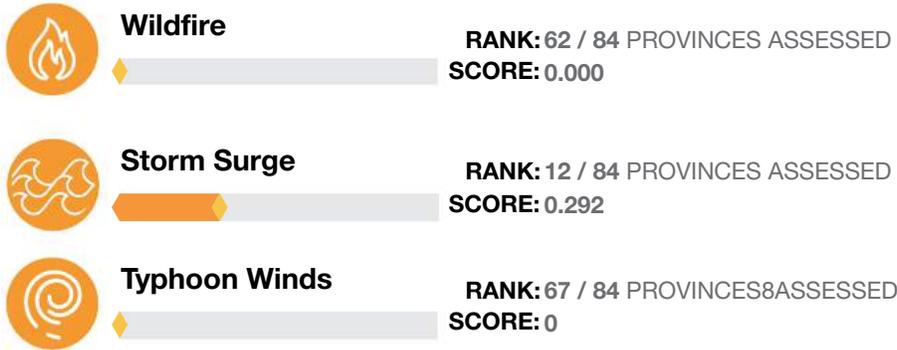
RANK: 64 / 84 PROVINCES ASSESSED
SCORE: 0.04



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

14 / 84

RANK WITHIN PROVINCES
Score: 0.561



Basilan’s score and ranking are due to Very Low Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



BASILAN RECOMMENDATIONS

1

Clean Water Access Vulnerability

- In Basilan, only 32% of households have access to improved water sources, which is the second lowest in the Philippines. Focus on increasing clean water infrastructure especially in rural and remote areas to reduce health risks.
- Basilan is also ranked highest in the Philippines for access to clean water vulnerability. Only 6% of households have access to sanitary toilets. Invest in improved drinking water and sanitation infrastructure to reduce the spread of waterborne illnesses. Routine water testing, emergency water resources and other safeguards should be reviewed to protect the population of Basilan.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Health Care Capacity

- Basilan is ranked lowest out of the 84 territories in the Philippines for health care capacity. In Basilan, only 29.5% of children are fully vaccinated and there are 0.25 physicians per 10,000 persons. Additionally, the infant mortality rate is the highest in the country (24.6 deaths per 1,000 live births). Focus on expanding care for mothers and infants, which includes increasing the number of medical professionals and free or affordable services. Investing in increased access to care will help reduce the disproportionate burdens in the province.
- Continue to work with local and international partners to increase health care capacity. Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Emergency Services Capacity

- Basilan is ranked 81st out of 84 territories for emergency services capacity. There are no local government run evacuation shelters and 0.83 fire trucks per 100,000 persons in Basilan. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Focus on establishing evacuation shelters and increasing the number of fire trucks in Basilan.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

BATAAN

NDPBA PROVINCE PROFILE

THE PHILIPPINES

BATAAN

CAPITAL: CITY OF BALANGA

Area: 1,373 km²

Bataan is a mountainous, peninsular province located on the western side of Luzon, just west of Manila Bay. With access to the South China sea and Manila Bay, Bataan benefits from waterway access to markets and a gateway to economic opportunities. With robust industries in agriculture, fishery and manufacturing Bataan is considered to be leading the country in socio-economic growth. The booming industries have taken a toll on the ecosystem and significant deterioration of coastal areas and marine waters have been observed. Typhoons and earthquakes expose the largest proportions of the population.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.443 • Rank: 74/84



RESILIENCE (R) - Very High
Score: 0.675 • Rank: 3/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.677 • Rank: 27/84



VULNERABILITY (V) - Very Low
Score: 0.315 • Rank: 78/84



COPING CAPACITY (CC) - Very High
Score: 0.664 • Rank: 5/84



Population (2018)
733,906



Population in Poverty
5.7%



Literate population
99.4%



Access to improved water
94.8%



Average life expectancy
69.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 27 / 84 PROVINCES
SCORE: 0.677



MHE
0.677

Raw MHE
0.57

Relative MHE
0.785

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

97%

713,792
\$1.8 Billion



Tsunami

3%

23,170
\$8.9 Million



Flood

89%

650,483
\$1.7 Billion



Liquefaction

47%

345,695
\$1.2 Billion



Landslide

5%

39,676
\$72.6 Million



Volcano

<1%

2,371
\$6 Million



Drought

-

-
-



Wildfire

4%

26,308
\$20 Million



Storm Surge

34%

246,213
\$870.6 Million



Typhoon Winds

100%

732,954
\$1.9 Billion



VULNERABILITY (V)

RANK: 78 / 84 PROVINCES ASSESSED
SCORE: 0.315

Vulnerability in Bataan is primarily driven by Population Pressures and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.426** **RANK: 52/84** PROVINCES ASSESSED

2.8 Livestock density
10.49 Barren land (per 10k hectares)
4.54% Forest cover change



Vulnerable Health Status

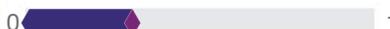
0  1 **SCORE: 0.342** **RANK: 70/84** PROVINCES ASSESSED

4.6% Malnutrition among children (0 to 5 years old)
1.85 Infant mortality rate (per 1k live births)
29.63 Maternal mortality rate (per 100k live births)
69.15 Life expectancy
151 Disability (per 100k persons)

31.2 Tuberculosis mortality rate (per 100k persons)
0.1 HIV mortality rate (per 100k persons)
6 Intestinal disease mortality rate (per 100k persons)
1.8 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



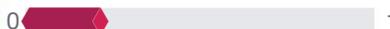
Clean Water Vulnerability

0  1 **SCORE: 0.3** **RANK: 61/84** PROVINCES ASSESSED

94.8% Households with improved safe water source
92.6% Households with sanitary toilet facility



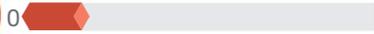
Information Access Vulnerability

0  1 **SCORE: 0.207** **RANK: 81/84** PROVINCES ASSESSED

99.42% Literacy rate (age 10 and older)
115.48% Gross primary school enrollment rate
11.36% Internet Access
71.42% Households with radio
88.60% Households with television



Economic Constraints

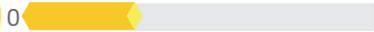
0  1 **SCORE: 0.152** **RANK: 75/84** PROVINCES ASSESSED

0.53
Economic
dependency
ratio

5.74%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.307** **RANK: 69/84** PROVINCES ASSESSED

1.05
Female to male
secondary school
enrollment Rate

0.54
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.471** **RANK: 23/84** PROVINCES ASSESSED

1.94
Population
growth rate
(2010-2015)

7.29
Average annual
urban population
growth rate

2.0%
Informal settlers



COPING CAPACITY (CC)

RANK: 5 / 84 PROVINCES ASSESSED
SCORE: 0.664

Bataan exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.499** **RANK: 45/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

62.88%

Labor force participation rate

1696.82

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.776** **RANK: 3/84 PROVINCES ASSESSED**

83.5%

Voter participation

5.08

Organized violence (per 100k persons)

69.32%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.715** **RANK: 4/84 PROVINCES ASSESSED**

202.32

Protected areas (per 1k ha)

13.8%

Forest reserves



Infrastructure Capacity



SCORE: 0.7

RANK: 8/84 PROVINCES ASSESSED



Health Care Capacity

SCORE: 0.595

RANK: 19/84 PROVINCES ASSESSED

8.59

Hopital beds
(per 10k people)

2.42

Physicians per
10,000 people

69.66%

Vaccination
coverage

3.26

Average distance to nearest
hospital (km)



Transportation Capacity

SCORE: 0.702

RANK: 11/84 PROVINCES ASSESSED

1.75

Road density
(km per sq. km)

10.8

Average distance to
nearest port (km)



Communications Capacity

SCORE: 0.882

RANK: 8/84 PROVINCES ASSESSED

8.0%

Households with a landline

100%

Mobile coverage



Energy Capacity

SCORE: 0.933

RANK: 8/84 PROVINCES ASSESSED

93.2%

Households with electricity

64.5%

Households with gas



Emergency Services Capacity

SCORE: 0.389

RANK: 55/84 PROVINCES ASSESSED

7.24

Evacuation centers
(per 100k persons)

1.52

Fire Stations
(per 100k persons)

3.16

Fire Trucks
(per 100k persons)



RESILIENCE (R)

RANK: 3 / 84 PROVINCES ASSESSED
SCORE: 0.675

Bataan's score and ranking are due to Very Low Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Population Pressures



Environmental Stress



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 66 / 84 PROVINCES ASSESSED
SCORE: 0.203



Tsunami

RANK: 26 / 84 PROVINCES ASSESSED
SCORE: 0.11



Flood

RANK: 32 / 84 PROVINCES ASSESSED
SCORE: 0.218



Liquefaction

RANK: 49 / 84 PROVINCES ASSESSED
SCORE: 0.162



Landslide

RANK: 75 / 84 PROVINCES ASSESSED
SCORE: 0.104



Volcano

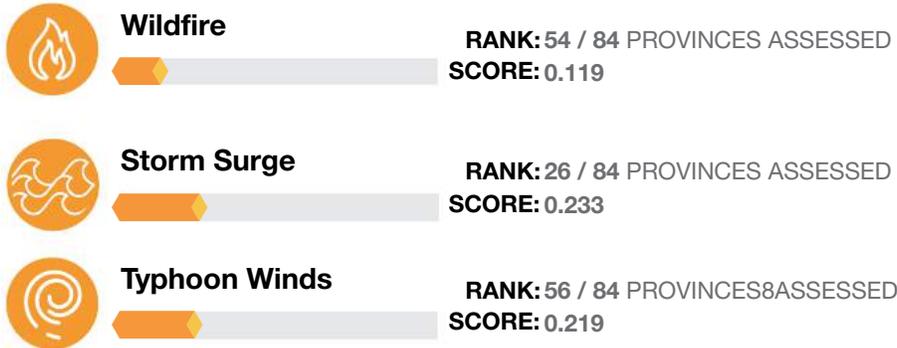
RANK: 55 / 84 PROVINCES ASSESSED
SCORE: 0.074



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

74 / 84
 RANK WITHIN PROVINCES
 Score: 0.443



Bataan’s score and ranking are due to High Multi-hazard exposure combined with Very Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



BATAAN RECOMMENDATIONS

1

Population Pressures

- Continue to monitor the growth of the population and plan resource allocation appropriately. Enforce building codes and environmental protection laws to ensure expansion is sustainable.
- Work with diverse partners to help stimulate the economy to support increased demands. Ensure equitable distribution of resources and services.

2

Environmental Stress

- Flooding, typhoons and seismic hazards expose a large proportion of the population in Bataan. Allocate funds to improve the natural environment, which will help mitigate direct and indirect impacts of hazards. Continue to work toward a healthier environment through greening projects, reforestation efforts and sustainable agriculture.

3

Emergency Services Capacity

- Population pressures in Bataan are increasing the need to expand emergency service capacity. As the population grows, there is an increased demand on the already limited resources and space in evacuation shelters. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Bataan ranked 44th out of the 84 territories in economic capacity. Continue to encourage programs that diversify the economy in Bataan to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- As the population grows, there will be increases in the demands for emergency services and public programs. Work with stakeholders and partners to expand emergency service capacities by training community members and generating funds to support response activities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

BATANES

NDPBA PROVINCE PROFILE

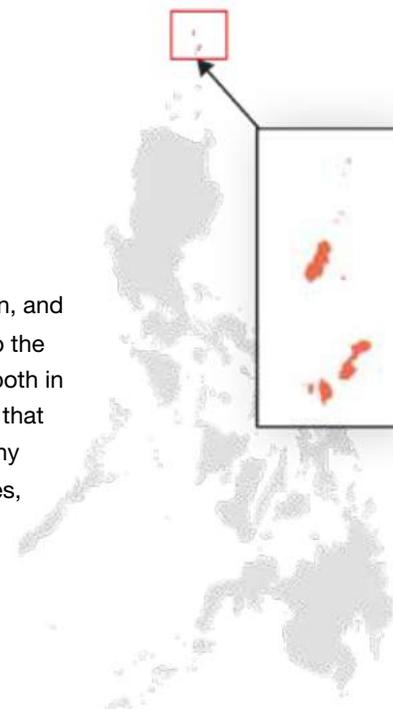
THE PHILIPPINES

BATANES

CAPITAL: BASCO

Area: 203 km²

Batanes is comprised of a small chain of ten islands some 160km from Luzon, and is therefore the northernmost province in the country. It lies almost as close to the islands of Taiwan as it does the Philippine mainland. It is also the smallest - both in terms of population and land area. It is highly susceptible to strong cyclones that pass through annually. The local population has seen little growth due to many people moving to the mainland of the Philippines, few economic opportunities, and the high price of imported goods.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.228 • Rank: 84/84



RESILIENCE (R) - Very High
Score: 0.744 • Rank: 1/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.171 • Rank: 80/84



VULNERABILITY (V) - Very Low
Score: 0.263 • Rank: 84/84



COPING CAPACITY (CC) - Very High
Score: 0.752 • Rank: 1/84



Population (2018)
16,892



Population in Poverty
6.6%



Literate population
99.3%



Access to improved water
100.0%



Average life expectancy
68.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 80 / 84 PROVINCES
SCORE: 0.171



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

 <p>Earthquake</p> <p>0%</p> <p>👤 -</p> <p>-</p>	 <p>Tsunami</p> <p>15%</p> <p>👤 2,605</p> <p>\$1.6 Million</p>
 <p>Flood</p> <p>-</p> <p>👤 -</p> <p>-</p>	 <p>Liquefaction</p> <p>-</p> <p>👤 -</p> <p>-</p>
 <p>Landslide</p> <p>44%</p> <p>👤 7,350</p> <p>\$27 Million</p>	 <p>Volcano</p> <p>55%</p> <p>👤 9,221</p> <p>\$19.7 Million</p>
 <p>Drought</p> <p>-</p> <p>👤 -</p> <p>-</p>	 <p>Wildfire</p> <p>-</p> <p>👤 -</p> <p>-</p>
 <p>Storm Surge</p> <p>5%</p> <p>👤 770</p> <p>-</p>	 <p>Typhoon Winds</p> <p>100%</p> <p>👤 16,892</p> <p>\$55.5 Million</p>



VULNERABILITY (V)

RANK: 84 / 84 PROVINCES ASSESSED
SCORE: 0.263

Vulnerability in Batanes is primarily driven by Environmental Stress and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0 1 **SCORE: 0.651** **RANK: 6/84 PROVINCES ASSESSED**

5.5 Livestock density
47.4 Barren land (per 10k hectares)
1.20% Forest cover change



Vulnerable Health Status

0 1 **SCORE: 0.232** **RANK: 83/84 PROVINCES ASSESSED**

7.97 Malnutrition among children (0 to 5 years old)	0 Infant mortality rate (per 1k live births)	0 Maternal mortality rate (per 100k live births)	68.6 Life expectancy	63 Disability (per 100k persons)
24 Tuberculosis mortality rate (per 100k persons)	0 HIV mortality rate (per 100k persons)	0 Intestinal disease mortality rate (per 100k persons)	0 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)	



Clean Water Vulnerability

0 1 **SCORE: 0** **RANK: 83/84 PROVINCES ASSESSED**

100.0% Households with improved safe water source
100.0% Households with sanitary toilet facility



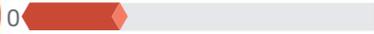
Information Access Vulnerability

0 1 **SCORE: 0.383** **RANK: 63/84 PROVINCES ASSESSED**

99.28% Literacy rate (age 10 and older)	111.64% Gross primary school enrollment rate	7.96% Internet Access	53.93% Households with radio	74.40% Households with television
---	--	---------------------------------	--	---



Economic Constraints

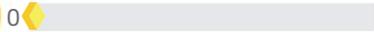
0  1 **SCORE: 0.263** **RANK: 66/84** PROVINCES ASSESSED

0.6
Economic
dependency
ratio

6.62%
Poverty
incidence



Gender Inequality

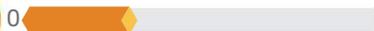
0  1 **SCORE: 0.022** **RANK: 84/84** PROVINCES ASSESSED

1.02
Female to male
secondary school
enrollment Rate

0.81
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.291** **RANK: 77/84** PROVINCES ASSESSED

0.72
Population
growth rate
(2010-2015)

20.13
Average annual
urban population
growth rate

0.2%
Informal settlers



COPING CAPACITY (CC)

RANK: 1 / 84 PROVINCES ASSESSED
SCORE: 0.752

Batanes exhibits weaker Coping Capacity in the areas of Communications Capacity and Environmental Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.881** **RANK: 1/84 PROVINCES ASSESSED**

0.9 Purchasing power of the peso
90.71% Labor force participation rate
19893.39 Local government annual regular income per capita (Philippine Peso)



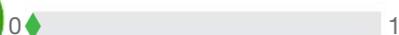
Governance

0  1 **SCORE: 0.939** **RANK: 1/84 PROVINCES ASSESSED**

87.8% Voter participation
0 Organized violence (per 100k persons)
78.15% Garbage pickup



Environmental Capacity

0  1 **SCORE: 0** **RANK: 77/84 PROVINCES ASSESSED**

0 Protected areas (per 1k ha)
0.0% Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.686 RANK: 10/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.71 RANK: 4/84 PROVINCES ASSESSED

42.58	5.72	47.73%	4.26
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.726 RANK: 10/84 PROVINCES ASSESSED

1.44	5.21
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.068 RANK: 84/84 PROVINCES ASSESSED

0.2%	65.5%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.937 RANK: 7/84 PROVINCES ASSESSED

97.2%	50.9%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.987 RANK: 1/84 PROVINCES ASSESSED

150.82	17.16	17.16
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 1 / 84 PROVINCES ASSESSED
SCORE: 0.744

Batanes’s score and ranking are due to Very Low Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Information Access Vulnerability



Communications Capacity



Environmental Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 79 / 84 PROVINCES ASSESSED
SCORE: 0.000



Tsunami

RANK: 25 / 84 PROVINCES ASSESSED
SCORE: 0.112



Flood

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 81 / 84 PROVINCES ASSESSED
SCORE: 0.000



Landslide

RANK: 71 / 84 PROVINCES ASSESSED
SCORE: 0.131



Volcano

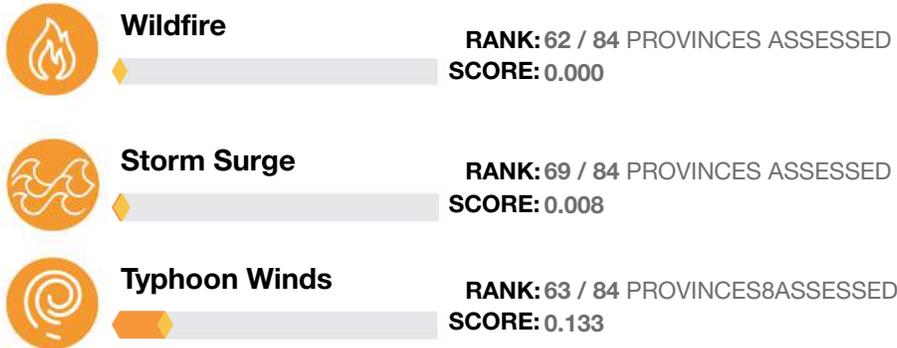
RANK: 17 / 84 PROVINCES ASSESSED
SCORE: 0.2



Drought

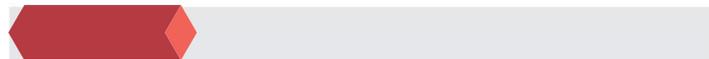
RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

84 / 84
 RANK WITHIN PROVINCES
 Score: 0.228



Batanes’s score and ranking are due to Very Low Multi-hazard exposure combined with Very Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE (represented by colored bars)
 COUNTRY SCORE (represented by grey bars)



BATANES RECOMMENDATIONS

1

Environmental Stress

- Batanes is ranked 6th highest in the Philippines for environmental stresses. Focus efforts on increasing forest cover, decreasing barren land and practicing of sustainable agriculture.
- Findings show that 43% of the population is exposed to landslide hazards in Batanes. Promote soil conservation and forested areas, especially near sloped terranes.

2

Information Access Vulnerability

- In Batanes access to information and limitations in communications infrastructure are major drivers of vulnerability. Investments in education and distribution of household communication devices will enhance public dissemination of information, as well as ensure communities are able to understand and respond appropriately. Expansion of communications infrastructure should also be prioritized to ensure coverage and reliability in the event of a major disaster.
- Continue to provide public information on what to do during disasters early and often. Ensure emergency management plans consider the limitations in access and availability of communications infrastructure.

3

Communications Capacity

- Batanes is ranked lowest in communications capacity and specifically lowest in households with landlines (<1%). Only 66% of barangays have cell signal in the Province. The population of Batanes is also highly exposed to storm, landslide and volcanic hazards. Invest in communications infrastructure that is reinforced to withstand hazards and adds redundancy to the communication network.
- Improvements to communications infrastructure should be paralleled by increased households' access to telecommunication devices. Expand private and public partnerships in the meantime to plan emergency communications. Increasing communications is especially important in Batanes, as the province consists of small islands that are about 100 miles north of Luzon.

4

Environmental Capacity

- Efforts in Batanes to increase environmental protections are needed to help reverse the degradation already seen in the province.
- Batanes is ranked the 6th highest in environmental stress. Work with stakeholders and partners to determine lands that would be suitable to designate as protected areas. Continue to monitor environmental conditions and regulate activities in forests and other natural areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

BATANGAS

NDPBA PROVINCE PROFILE

THE PHILIPPINES

BATANGAS

CAPITAL: BATANGAS CITY

Area: 3,115 km²

Batangas is located in southwestern Luzon, less than 100km from Manila. Geographically it is a combination of plains and mountains, with Lake Ta'al situated in the center. The lake also contains Ta'al Volcano, an active volcano that last erupted in early 2020. It is home to the second largest international seaport, after Manila/Subic Bay. It accounts for a significant portion of domestic shipping. Agriculture and tourism are also critical economic sectors. The population in Batangas is noted for the strong presence of Tagalog culture and in recent years has seen an influx of migrants from Visayas.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low

Score: 0.459 • Rank: 69/84



RESILIENCE (R) - High

Score: 0.603 • Rank: 21/84



MULTI-HAZARD EXPOSURE (MHE) - Low

Score: 0.583 • Rank: 50/84



VULNERABILITY (V) - Low

Score: 0.364 • Rank: 66/84



COPING CAPACITY (CC) - High

Score: 0.570 • Rank: 32/84



Population (2018)

2,618,592



Population in Poverty

8.4%



Literate population

99.4%



Access to improved water

89.0%



Average life expectancy

70.3 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 50 / 84 PROVINCES
SCORE: 0.583



MHE
0.583

Raw MHE
 0.717

Relative MHE
 0.449

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

95%

2,499,998
\$6.8 Billion



Tsunami

<1%

2,675
\$6.6 Million



Flood

11%

295,130
\$960.3 Million



Liquefaction

13%

345,203
\$1.2 Billion



Landslide

6%

168,313
\$214.8 Million



Volcano

5%

132,997
\$290.5 Million



Drought

-

-
-



Wildfire

4%

107,625
\$416.5 Million



Storm Surge

9%

231,741
\$744.7 Million



Typhoon Winds

100%

2,618,273
\$6.9 Billion



VULNERABILITY (V)

RANK: 66 / 84 PROVINCES ASSESSED
SCORE: 0.364

Vulnerability in Batangas is primarily driven by Environmental Stress and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



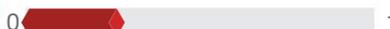
Environmental Stress

0  1 **SCORE: 0.593** **RANK: 19/84 PROVINCES ASSESSED**

13.25 **22.81** **5.47%**
 Livestock density Barren land (per 10k hectares) Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.255** **RANK: 80/84 PROVINCES ASSESSED**

6.8% **4.55** **31.14** **70.32** **120**
 Malnutrition among children (0 to 5 years old) Infant mortality rate (per 1k live births) Maternal mortality rate (per 100k live births) Life expectancy Disability (per 100k persons)

17.2 **0** **3.3** **1**
 Tuberculosis mortality rate (per 100k persons) HIV mortality rate (per 100k persons) Intestinal disease mortality rate (per 100k persons) Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



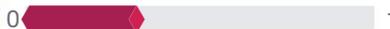
Clean Water Vulnerability

0  1 **SCORE: 0.454** **RANK: 35/84 PROVINCES ASSESSED**

89.0% **87.8%**
 Households with improved safe water source Households with sanitary toilet facility



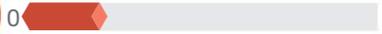
Information Access Vulnerability

0  1 **SCORE: 0.313** **RANK: 75/84 PROVINCES ASSESSED**

99.36% **106.91%** **9.78%** **61.60%** **87.95%**
 Literacy rate (age 10 and older) Gross primary school enrollment rate Internet Access Households with radio Households with television



Economic Constraints

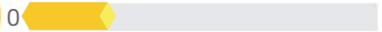
0  1 **SCORE: 0.204** **RANK: 70/84** PROVINCES ASSESSED

0.54
Economic
dependency
ratio

8.41%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.228** **RANK: 79/84** PROVINCES ASSESSED

1.04
Female to male
secondary school
enrollment Rate

0.6
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.504** **RANK: 16/84** PROVINCES ASSESSED

2.41
Population
growth rate
(2010-2015)

7.71
Average annual
urban population
growth rate

1.8%
Informal settlers



COPING CAPACITY (CC)

RANK: 32 / 84 PROVINCES ASSESSED
SCORE: 0.570

Batangas exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.459** **RANK: 59/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

63.14%

Labor force participation rate

993.64

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.673** **RANK: 29/84 PROVINCES ASSESSED**

82.6%

Voter participation

6.78

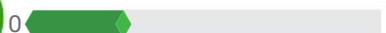
Organized violence (per 100k persons)

33.83%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.264** **RANK: 63/84 PROVINCES ASSESSED**

26.71

Protected areas (per 1k ha)

0.0%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.68** **RANK: 14/84 PROVINCES ASSESSED**



Health Care Capacity **SCORE: 0.629** **RANK: 12/84 PROVINCES ASSESSED**

11.71 **4.03** **60.83%** **3.72**
 Hospital beds (per 10k people) Physicians per 10,000 people Vaccination coverage Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.7** **RANK: 12/84 PROVINCES ASSESSED**

2.64 **17.61**
 Road density (km per sq. km) Average distance to nearest port (km)



Communications Capacity **SCORE: 0.803** **RANK: 18/84 PROVINCES ASSESSED**

11.3% **90.9%**
 Households with a landline Mobile coverage



Energy Capacity **SCORE: 0.928** **RANK: 11/84 PROVINCES ASSESSED**

95.5% **53.4%**
 Households with electricity Households with gas



Emergency Services Capacity **SCORE: 0.341** **RANK: 65/84 PROVINCES ASSESSED**

18.03 **1.06** **2.16**
 Evacuation centers (per 100k persons) Fire Stations (per 100k persons) Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 21 / 84 PROVINCES ASSESSED
SCORE: 0.603

Batangas's score and ranking are due to Low Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Population Pressures



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 24 / 84 PROVINCES ASSESSED
SCORE: 0.315



Tsunami

RANK: 33 / 84 PROVINCES ASSESSED
SCORE: 0.094



Flood

RANK: 63 / 84 PROVINCES ASSESSED
SCORE: 0.087



Liquefaction

RANK: 60 / 84 PROVINCES ASSESSED
SCORE: 0.113



Landslide

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.170



Volcano

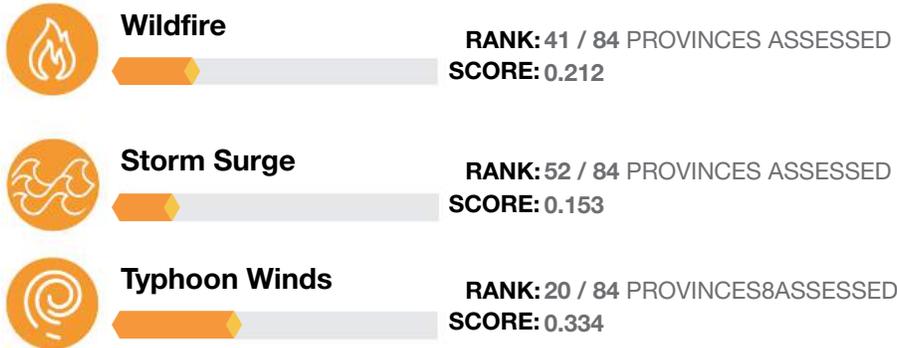
RANK: 13 / 84 PROVINCES ASSESSED
SCORE: 0.222



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

69 / 84
 RANK WITHIN PROVINCES
 Score: 0.459



Batangas’s score and ranking are due to Low Multi-hazard exposure combined with Low Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



BATANGAS RECOMMENDATIONS

1

Environmental Stress

- Batangas is ranked 2nd in the Philippines for livestock density, which require large amounts of land to sustain the animals. Work with farmers and provide them with the necessary tools and knowledge to be able to rear livestock sustainably.
- Align efforts across agencies and partnerships to increase forest cover and decrease barren land.

2

Population Pressures

- Continue to monitor the growth of the population and plan resource allocation appropriately. Enforce building codes and environmental protection laws to ensure expansion is sustainable.
- Work with diverse partners to help stimulate the economy to support increased public demands. Ensure equitable distribution of resources and services.

3

Emergency Services Capacity

- Batangas ranked 65th out of the 84 territories in the Philippines for emergency services capacity. Population pressures in Batangas are increasing the need to expand emergency service capacity. As the population grows, there is an increased demand on the already limited resources and space in evacuation shelters. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Batangas ranked 59th out of the 84 territories in economic capacity. Local government annual regular income in Batangas is 993.64 pesos per capita, which is the 9th lowest in the Philippines. Continue to encourage programs that diversify the economy in Batangas to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- As the population grows, there will be increases in the demands for emergency services and public programs. Work with stakeholders and partners to expand emergency service capacities by training community members and generating funds to support response activities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



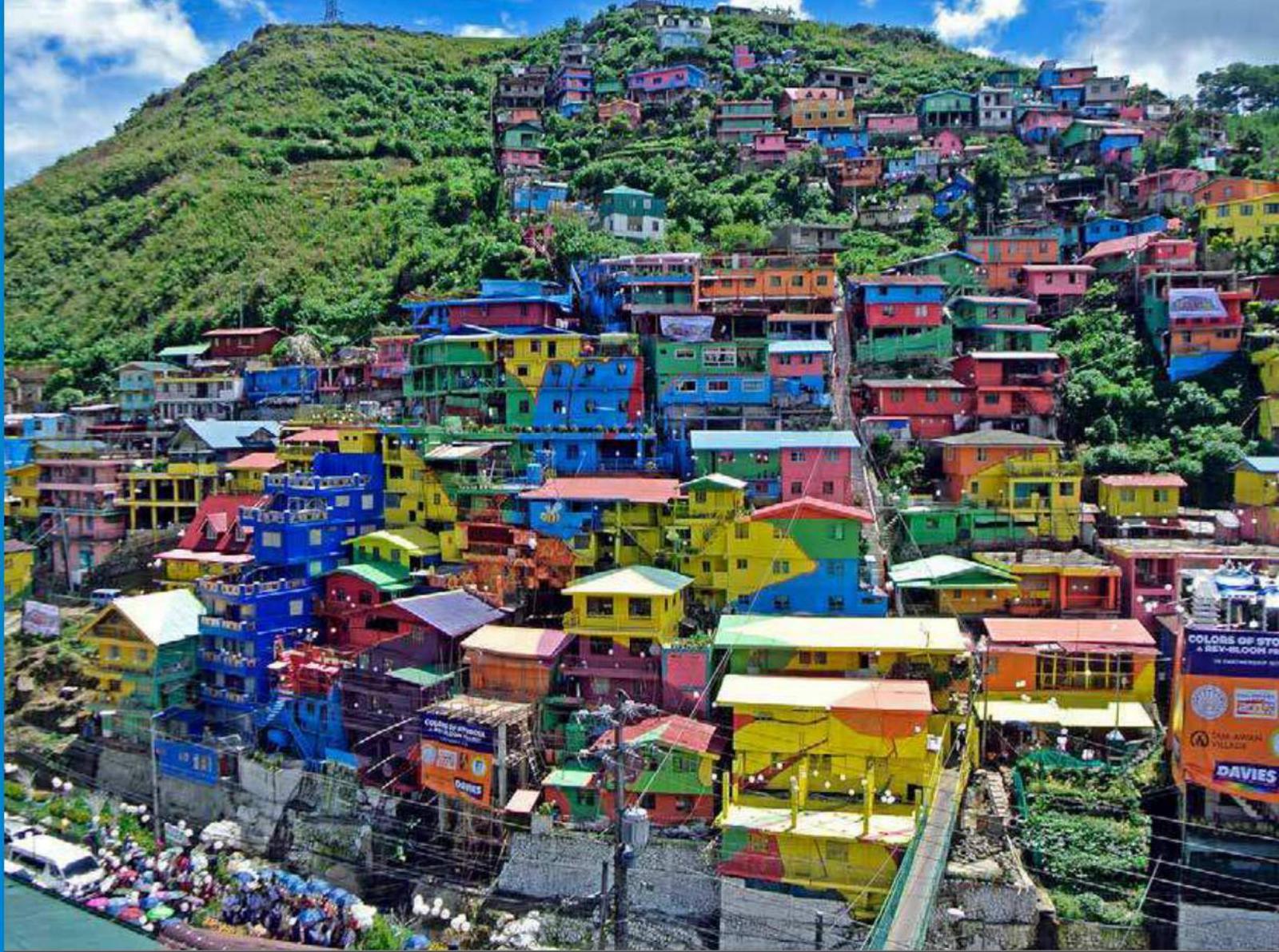
/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

BENGUET

NDPBA PROVINCE PROFILE

THE PHILIPPINES

BENGUET

CAPITAL: LA TRINIDAD

Area: 2,769 km²

Benguet is a landlocked province in north-central Luzon. The province is mountainous with peaks, ridges and canyons. The population estimate from the 2015 census makes it the most populated province in the region. Benguet is a major producer of highland agriculture, while floriculture and mining are also important sectors. The recent Polio outbreak in the country impacted Benguet and among the provinces under quarantine.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low

Score: 0.461 • Rank: 68/84



RESILIENCE (R) - Very High

Score: 0.638 • Rank: 12/84



MULTI-HAZARD EXPOSURE (MHE) - High

Score: 0.658 • Rank: 29/84



VULNERABILITY (V) - Very Low

Score: 0.329 • Rank: 74/84



COPING CAPACITY (CC) - High

Score: 0.605 • Rank: 18/84



Population (2018)

822,440



Population in Poverty

4.3%



Literate population

98.4%



Access to improved water

65.6%



Average life expectancy

69.7 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 29 / 84 PROVINCES
SCORE: 0.658



MHE
0.658

Raw MHE
 0.695

Relative MHE
 0.621

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

822,440

\$9.1 Billion



Tsunami

-

-

-



Flood

<1%

7,223

\$35.5 Million



Liquefaction

9%

74,501

\$905.5 Million



Landslide

55%

453,613

\$3 Billion



Volcano

-

-

-



Drought

1%

8,698

\$25.6 Million



Wildfire

56%

461,302

\$7.1 Billion



Storm Surge

-

-

-



Typhoon Winds

100%

822,440

\$9.1 Billion



VULNERABILITY (V)

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.329

Vulnerability in Benguet is primarily driven by Clean Water Access Vulnerability and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



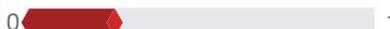
Environmental Stress

0  1 **SCORE: 0.478** **RANK: 39/84 PROVINCES ASSESSED**

2.54 Livestock density
35.47 Barren land (per 10k hectares)
4.88% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.249** **RANK: 81/84 PROVINCES ASSESSED**

2.4% Malnutrition among children (0 to 5 years old)
5.28 Infant mortality rate (per 1k live births)
31.99 Maternal mortality rate (per 100k live births)
69.72 Life expectancy
146 Disability (per 100k persons)

4.2 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
1.8 Intestinal disease mortality rate (per 100k persons)
2.4 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



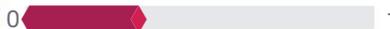
Clean Water Vulnerability

0  1 **SCORE: 0.494** **RANK: 29/84 PROVINCES ASSESSED**

65.6% Households with improved safe water source
93.0% Households with sanitary toilet facility



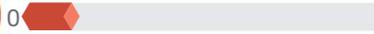
Information Access Vulnerability

0  1 **SCORE: 0.319** **RANK: 73/84 PROVINCES ASSESSED**

98.36% Literacy rate (age 10 and older)
94.62% Gross primary school enrollment rate
12.48% Internet Access
85.42% Households with radio
81.22% Households with television



Economic Constraints

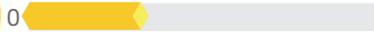
0  1 **SCORE: 0.123** **RANK: 78/84** PROVINCES ASSESSED

0.52
Economic
dependency
ratio

4.28%
Poverty
incidence



Gender Inequality

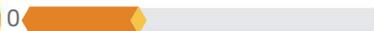
0  1 **SCORE: 0.324** **RANK: 66/84** PROVINCES ASSESSED

1.08
Female to male
secondary school
enrollment Rate

0.58
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.318** **RANK: 72/84** PROVINCES ASSESSED

1.73
Population
growth rate
(2010-2015)

4.62
Average annual
urban population
growth rate

0.8%
Informal settlers



COPING CAPACITY (CC)

RANK: 18 / 84 PROVINCES ASSESSED
SCORE: 0.605

Benguet exhibits weaker Coping Capacity in the areas of Economic Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.468** **RANK: 56/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

62.34%

Labor force participation rate

1387.09

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.652** **RANK: 38/84 PROVINCES ASSESSED**

81.7%

Voter participation

10.88

Organized violence (per 100k persons)

58.32%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.512** **RANK: 21/84 PROVINCES ASSESSED**

19.46

Protected areas (per 1k ha)

11.2%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.726** **RANK: 2/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.666** **RANK: 7/84** PROVINCES ASSESSED

10.36	8.63	56.20%	3.92
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.58** **RANK: 25/84** PROVINCES ASSESSED

1.26	17.96
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.883** **RANK: 7/84** PROVINCES ASSESSED

8.4%	99.6%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.954** **RANK: 5/84** PROVINCES ASSESSED

91.9%	82.9%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.545** **RANK: 27/84** PROVINCES ASSESSED

58.33	1.84	3.19
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 12 / 84 PROVINCES ASSESSED
SCORE: 0.638

Benguet's score and ranking are due to Very Low Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Clean Water Access Vulnerability



Environmental Stress



Economic Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 34 / 84 PROVINCES ASSESSED
SCORE: 0.280



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 70 / 84 PROVINCES ASSESSED
SCORE: 0.011



Liquefaction

RANK: 70 / 84 PROVINCES ASSESSED
SCORE: 0.07



Landslide

RANK: 8 / 84 PROVINCES ASSESSED
SCORE: 0.342



Volcano

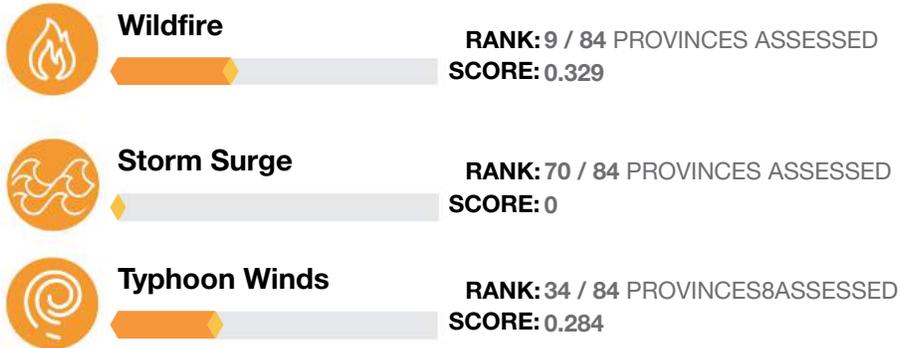
RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0.088

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

68 / 84
 RANK WITHIN PROVINCES
 Score: 0.461



Benguet’s score and ranking are due to High Multi-hazard exposure combined with Very Low Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



BENGUET RECOMMENDATIONS

1

Clean Water Access Vulnerability

- In Benguet, only 66% of households have access to improved water sources, which is the 8th lowest in the Philippines. Focus on increasing clean water infrastructure especially in rural and remote areas to reduce health risks.
- Benguet’s population is highly exposed to typhoons, which can lead to contaminated surface water. The province is also vulnerable to environmental stresses, which can exacerbate hazard impacts. Invest in improved water and sanitation infrastructure to reduce the spread of waterborne illnesses and increase resilience.

2

Environmental Stress

- Continue to work toward increasing forest cover, decreasing barren land and practicing of sustainable agriculture. Focus efforts on protecting ground and surface water resources through enforcing pollution laws, decreasing illegal logging and reducing chemical usage for agriculture. Clean water access is limited in Benguet and deterioration of water sources will increase existing vulnerabilities.

3

Economic Capacity

- Benguet ranked 56th out of the 84 territories in economic capacity. Continue to encourage programs that diversify the economy in Benguet to generate public revenue and create new job opportunities.
- Pursue policies that balance inflation rates and create equal opportunities for employment.

4

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- In Benguet Wildfires expose 78.6% of the capital stock and 56.1% of the population. Invest in increased fire stations and fire trucks to mitigate Wildfire impacts.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

BILIRAN

NDPBA PROVINCE PROFILE

THE PHILIPPINES

BILIRAN

CAPITAL: NAVAL

Area: 536 km²

Biliran is a small island province that is situated between Northern Leyte and Eastern Samar. The location and ports make it an ideal gateway to further locations in Visayas and Mindanao. Biliran is bordered by the Samar Sea, Visayan Sea and Carigara Bay. Most of the economy of Biliran is centered around agriculture, but fishing and the seaport industry are also large contributors. The Biliran contains coastal lowlands with a mountainous interior, with topography that ranges from flat to gently rolling. The population is estimated to be growing at a rate of 1.28% and most of population is employed in agriculture, hunting and forestry. Typhoons expose the largest proportion of the population in Biliran. Recently, Typhoon Phanfone impacted several provinces including Biliran taking a similar path to Typhoon Haiyan, demonstrating the risks to the population.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.472 • Rank: 62/84



RESILIENCE (R) - Medium
Score: 0.565 • Rank: 43/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.546 • Rank: 58/84



VULNERABILITY (V) - Medium
Score: 0.43 • Rank: 46/84



COPING CAPACITY (CC) - Medium
Score: 0.561 • Rank: 39/84



Population (2018)
178,306



Population in Poverty
13.8%



Literate population
98.1%



Access to improved water
99.7%



Average life expectancy
68.0 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 58 / 84 PROVINCES
SCORE: 0.546



MHE
0.546

Raw MHE
0.376

Relative MHE
0.716

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

64%

114,958

\$389.5 Million



Tsunami

<1%

436

-



Flood

44%

78,733

\$773.1 Million



Liquefaction

27%

48,766

\$479.7 Million



Landslide

10%

18,061

\$76.4 Million



Volcano

38%

68,382

\$183.5 Million



Drought

34%

61,016

\$346.6 Million



Wildfire

-

-

-



Storm Surge

27%

47,446

\$429.6 Million



Typhoon Winds

100%

177,814

\$948.5 Million



VULNERABILITY (V)

RANK: 46 / 84 PROVINCES ASSESSED
SCORE: 0.43

Vulnerability in Biliran is primarily driven by Information Access Vulnerability and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.445** **RANK: 49/84 PROVINCES ASSESSED**

1.81 Livestock density
2.27 Barren land (per 10k hectares)
-1.39% Forest cover change



Vulnerable Health Status

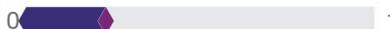
0  1 **SCORE: 0.507** **RANK: 23/84 PROVINCES ASSESSED**

14.3% Malnutrition among children (0 to 5 years old)
6.21 Infant mortality rate (per 1k live births)
56.43 Maternal mortality rate (per 100k live births)
68.02 Life expectancy
313 Disability (per 100k persons)

44.8 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
9.1 Intestinal disease mortality rate (per 100k persons)
0.6 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.231** **RANK: 74/84 PROVINCES ASSESSED**

99.7% Households with improved safe water source
84.4% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.52** **RANK: 31/84 PROVINCES ASSESSED**

98.07% Literacy rate (age 10 and older)
121.98% Gross primary school enrollment rate
3.44% Internet Access
41.69% Households with radio
57.32% Households with television



Economic Constraints



SCORE: 0.494 **RANK: 32/84** PROVINCES ASSESSED

0.71

Economic
dependency
ratio

13.76%

Poverty
incidence



Gender Inequality



SCORE: 0.427 **RANK: 45/84** PROVINCES ASSESSED

1.08

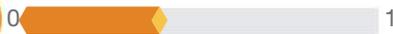
Female to male
secondary school
enrollment Rate

0.5

Labor force
participation ratio



Population Pressures



SCORE: 0.388 **RANK: 50/84** PROVINCES ASSESSED

1.13

Population
growth rate
(2010-2015)

13.45

Average annual
urban population
growth rate

1.4%

Informal settlers



COPING CAPACITY (CC)

RANK: 39 / 84 PROVINCES ASSESSED
SCORE: 0.561

Biliran exhibits weaker Coping Capacity in the areas of Health Care Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.49 **RANK: 48/84 PROVINCES ASSESSED**

0.86

Purchasing power of the peso

59.67%

Labor force participation rate

3065.09

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.594 **RANK: 55/84 PROVINCES ASSESSED**

81.4%

Voter participation

0

Organized violence (per 100k persons)

7.35%

Garbage pickup



Environmental Capacity



SCORE: 0.474 **RANK: 29/84 PROVINCES ASSESSED**

15.36

Protected areas (per 1k ha)

9.1%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.629** **RANK: 21/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.366** **RANK: 70/84** PROVINCES ASSESSED

4.25	1.43	73.71%	12.54
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.591** **RANK: 24/84** PROVINCES ASSESSED

0.97	12.67
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.708** **RANK: 38/84** PROVINCES ASSESSED

1.9%	97.7%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.669** **RANK: 32/84** PROVINCES ASSESSED

84.5%	14.9%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.809** **RANK: 7/84** PROVINCES ASSESSED

84	4	5.72
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 43 / 84 PROVINCES ASSESSED
SCORE: 0.565

Biliran's score and ranking are due to Medium Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Information Access Vulnerability



Vulnerable Health Status



Health Care Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 78 / 84 PROVINCES ASSESSED
SCORE: 0.051



Tsunami

RANK: 45 / 84 PROVINCES ASSESSED
SCORE: 0.055



Flood

RANK: 41 / 84 PROVINCES ASSESSED
SCORE: 0.183



Liquefaction

RANK: 56 / 84 PROVINCES ASSESSED
SCORE: 0.137



Landslide

RANK: 63 / 84 PROVINCES ASSESSED
SCORE: 0.159



Volcano

RANK: 5 / 84 PROVINCES ASSESSED
SCORE: 0.382



Drought

RANK: 37 / 84 PROVINCES ASSESSED
SCORE: 0.225

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

62 / 84
RANK WITHIN PROVINCES
Score: 0.472

Biliran’s score and ranking are due to Low Multi-hazard exposure combined with Medium Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



BILIRAN RECOMMENDATIONS

1

Information Access Vulnerability

- In Biliran many homes lack access to radios, television and internet. Public dissemination of information must take into consideration alternative means of getting messages across. Expand the use of stationary and emergency vehicle sirens, also ensuring the public is informed on what alarm systems are communicating and how to act. Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

2

Vulnerable Health Status

- In Biliran, vulnerable health status is a major driver of vulnerability. Continue efforts in community outreach, increased access to health care and other public health interventions. Sustain monitoring and control programs for communicable diseases.
- Investments in health care capacity are needed in Biliran. Partner with stakeholders and organizations to expand upon existing health care funding and capacities for vulnerable populations, such as those with disabilities.

3

Health Care Capacity

- Findings show that Biliran is ranked 67th out of 84 territories in health care capacity. The average distance between hospitals and populated places is 12.54 kilometers, which is the 5th highest in the country. Continue to work with local and international partners to increase health care capacity. Focus on building new hospitals and decreasing the average travel distances.
- Expand efforts to provide services through the provision of resources and increased personnel. Importantly, ensure that all efforts reach rural and remote areas.

4

Economic Capacity

- Biliran ranked 48th out of the 84 territories in economic capacity. Labor force participation rate is low (59.7%). Focus efforts on creating gainful work by investing in local and small businesses.
- Continue to encourage programs that support economic growth to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

BOHOL

NDPBA PROVINCE PROFILE

THE PHILIPPINES

BOHOL

CAPITAL: CITY OF TAGBILARAN

Area: 4,773 km²

Bohol is an island province lying in the middle of the Visayas Region. It is the tenth largest individual island and also has administrative responsibilities for more than 75 other islands. The major economic driver is tourism. Because of its position to the west of several significant landmasses, it is often spa ed the worst impacts of cyclones and rainfall. However, the area is very seismically active, including a 2013 magnitude 7.2 earthquake that led to 156 fatalities.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium

Score: 0.493 • Rank: 48/84



RESILIENCE (R) - Medium

Score: 0.575 • Rank: 35/84



MULTI-HAZARD EXPOSURE (MHE) - Medium

Score: 0.629 • Rank: 40/84



VULNERABILITY (V) - Low

Score: 0.414 • Rank: 51/84



COPING CAPACITY (CC) - Medium

Score: 0.564 • Rank: 36/84



Population (2018)

1,287,607



Population in Poverty

15.2%



Literate population

98.4%



Access to improved water

89.7%



Average life expectancy

68.8 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 40 / 84 PROVINCES
SCORE: 0.629



MHE
0.629

Raw MHE
0.678

Relative MHE
0.58

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

77%

994,066
\$4.9 Billion



Tsunami

<1%

1,223
\$93,154



Flood

33%

426,130
\$2.2 Billion



Liquefaction

26%

338,355
\$1.5 Billion



Landslide

13%

162,730
\$695 Million



Volcano

<1%

2,366
\$10.6 Million



Drought

33%

421,062
\$2.2 Billion



Wildfire

3%

39,638
\$168.6 Million



Storm Surge

14%

181,013
\$411 Million



Typhoon Winds

100%

1,286,238
\$5.8 Billion



VULNERABILITY (V)

RANK: 51 / 84 PROVINCES ASSESSED

SCORE: 0.414

Vulnerability in Bohol is primarily driven by Vulnerable Health Status and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.424** **RANK: 54/84** PROVINCES ASSESSED

2.95 Livestock density
3.42 Barren land (per 10k hectares)
2.34% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.503** **RANK: 26/84** PROVINCES ASSESSED

8.5% Malnutrition among children (0 to 5 years old)
14.01 Infant mortality rate (per 1k live births)
19.12 Maternal mortality rate (per 100k live births)
68.8 Life expectancy
538 Disability (per 100k persons)

17.2 Tuberculosis mortality rate (per 100k persons)
0.2 HIV mortality rate (per 100k persons)
5.6 Intestinal disease mortality rate (per 100k persons)
1.6 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.432** **RANK: 38/84** PROVINCES ASSESSED

89.7% Households with improved safe water source
88.9% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.45** **RANK: 48/84** PROVINCES ASSESSED

98.38% Literacy rate (age 10 and older)
110.74% Gross primary school enrollment rate
3.98% Internet Access
68.66% Households with radio
63.45% Households with television



Economic Constraints



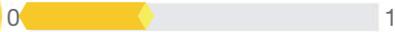
SCORE: 0.444 **RANK: 35/84** PROVINCES ASSESSED

0.66
Economic
dependency
ratio

15.23%
Poverty
incidence



Gender Inequality



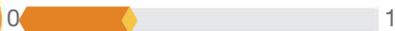
SCORE: 0.348 **RANK: 60/84** PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.53
Labor force
participation ratio



Population Pressures



SCORE: 0.301 **RANK: 76/84** PROVINCES ASSESSED

0.87
Population
growth rate
(2010-2015)

10
Average annual
urban population
growth rate

1.0%
Informal settlers



COPING CAPACITY (CC)

RANK: 36 / 84 PROVINCES ASSESSED
SCORE: 0.564

Bohol exhibits weaker Coping Capacity in the areas of Health Care Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.46 **RANK: 58/84 PROVINCES ASSESSED**

0.87

Purchasing power of the peso

64.28%

Labor force participation rate

1323.83

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.72 **RANK: 16/84 PROVINCES ASSESSED**

86.8%

Voter participation

5.43

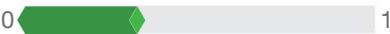
Organized violence (per 100k persons)

17.88%

Garbage pickup



Environmental Capacity



SCORE: 0.326 **RANK: 52/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

19.2%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.592 RANK: 29/84 PROVINCES ASSESSED**



Health Care Capacity **SCORE: 0.443 RANK: 54/84 PROVINCES ASSESSED**

7.92	1.78	61.33%	7.09
Hospital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.618 RANK: 21/84 PROVINCES ASSESSED**

1.66	18.49
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.715 RANK: 37/84 PROVINCES ASSESSED**

4.7%	90.9%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.551 RANK: 56/84 PROVINCES ASSESSED**

79.6%	8.2%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.635 RANK: 21/84 PROVINCES ASSESSED**

56.46	3.07	3.52
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 35 / 84 PROVINCES ASSESSED
SCORE: 0.575

Bohol's score and ranking are due to Medium Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Vulnerable Health Status



Information Access Vulnerability



Health Care Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 57 / 84 PROVINCES ASSESSED
SCORE: 0.228



Tsunami

RANK: 42 / 84 PROVINCES ASSESSED
SCORE: 0.063



Flood

RANK: 47 / 84 PROVINCES ASSESSED
SCORE: 0.165



Liquefaction

RANK: 53 / 84 PROVINCES ASSESSED
SCORE: 0.149



Landslide

RANK: 35 / 84 PROVINCES ASSESSED
SCORE: 0.250



Volcano

RANK: 44 / 84 PROVINCES ASSESSED
SCORE: 0.102



Drought

RANK: 32 / 84 PROVINCES ASSESSED
SCORE: 0.256

(HAZARD-SPECIFIC RISK CONTINUED)



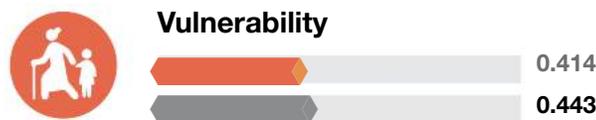
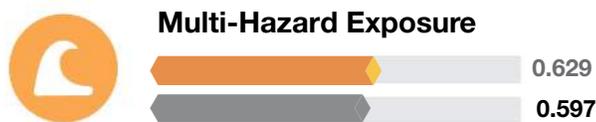
MULTI-HAZARD RISK (MHR)

48 / 84
RANK WITHIN PROVINCES
Score: 0.493

Bohol's score and ranking are due to Medium Multi-hazard exposure combined with Low Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



BOHOL RECOMMENDATIONS

1

Vulnerable Health Status

- Bohol is ranked the 7th highest in the Philippines for infant mortality (14.01 deaths per 1,000 live births). Focus efforts on providing access to prenatal and postnatal care for all mothers especially in rural communities. With the province of Bohol comprising several islands, there is a need to ensure provision of services for populations in remote areas.
- Investments in health care capacity are also needed in Bohol. Partner with stakeholders and organizations to expand upon existing health care funding and capacities.

2

Information Access Vulnerability

- In Bohol many homes lack access to radios, television and internet. Public dissemination of information must take into consideration alternative means of getting messages across. Expand the use of stationary and emergency vehicle sirens, also ensuring the public is informed on what alarm systems are communicating and how to act. Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

3

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Economic Capacity

- Bohol ranked 58th out of the 84 territories in economic capacity. Continue to encourage programs that diversify the economy in Bohol to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- Expand partnerships to increase funding and capacity within Bohol. Focus on health care capacity by investing in infrastructure and providing trainings for community members. Reducing health burdens of the population may help increase labor force participation rates and the amount of available social welfare funds.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

BUKIDNON

NDPBA PROVINCE PROFILE

THE PHILIPPINES

BUKIDNON

CAPITAL: CITY OF MALAYBALAY

Area: 10,499 km²

Bukidnon is a large, landlocked province of elevated plateaus in the center of Northern Mindanao Region. It is an important regional food producer and contains most major watersheds of the entire island of Mindanao. With the mountainous topography of the province, the higher elevations result in a cooler and wetter climate throughout the year. The land area of Bukidnon makes it the largest province in the region and the 8th largest in the country. In Bukidnon regulated mining operations include limestone, chromite, feldspar, copper, silica quartz and gold. The province is primarily agriculturally based being a major producer of ice, corn, sugar and coffee among others. Bukidnon is outside the typhoon belt and mostly exposed due to seismic hazards.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium
Score: 0.502 • Rank: 42/84



RESILIENCE (R) - Low
Score: 0.498 • Rank: 67/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.504 • Rank: 66/84



VULNERABILITY (V) - High
Score: 0.478 • Rank: 26/84



COPING CAPACITY (CC) - Very Low
Score: 0.475 • Rank: 70/84



Population (2018)
1,531,248



Population in Poverty
22.2%



Literate population
96.5%



Access to improved water
87.5%



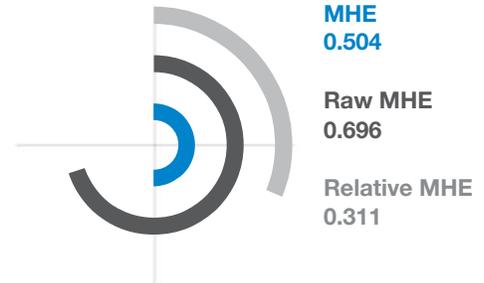
Average life expectancy
67.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 66 / 84 PROVINCES
SCORE: 0.504



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

1,531,248
\$14.5 Billion



Tsunami

-

-
-



Flood

14%

210,118
\$2.2 Billion



Liquefaction

15%

227,812
\$1.7 Billion



Landslide

20%

307,518
\$2.4 Billion



Volcano

12%

184,938
\$1.7 Billion



Drought

10%

148,821
\$1.2 Billion



Wildfire

19%

289,279
\$2.6 Billion



Storm Surge

-

-

-



Typhoon Winds

4%

65,978
\$454.8 Million



VULNERABILITY (V)

RANK: 26 / 84 PROVINCES ASSESSED
SCORE: 0.478

Vulnerability in Bukidnon is primarily driven by Gender Inequality and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.285** **RANK: 77/84 PROVINCES ASSESSED**

1.46 Livestock density
0 Barren land (per 10k hectares)
1.64% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.46** **RANK: 36/84 PROVINCES ASSESSED**

3.4% Malnutrition among children (0 to 5 years old)
4.35 Infant mortality rate (per 1k live births)
54.33 Maternal mortality rate (per 100k live births)
67.58 Life expectancy
492 Disability (per 100k persons)

15.3 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.9 Intestinal disease mortality rate (per 100k persons)
2.8 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.525** **RANK: 24/84 PROVINCES ASSESSED**

87.5% Households with improved safe water source
82.6% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.532** **RANK: 30/84 PROVINCES ASSESSED**

96.46% Literacy rate (age 10 and older)
123.55% Gross primary school enrollment rate
2.61% Internet Access
50.60% Households with radio
54.10% Households with television



Economic Constraints



SCORE: 0.545 **RANK: 23/84** PROVINCES ASSESSED

0.67

Economic
dependency
ratio

22.18%

Poverty
incidence



Gender Inequality



SCORE: 0.618 **RANK: 10/84** PROVINCES ASSESSED

1.16

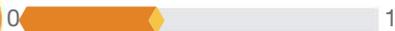
Female to male
secondary school
enrollment Rate

0.46

Labor force
participation ratio



Population Pressures



SCORE: 0.379 **RANK: 54/84** PROVINCES ASSESSED

1.64

Population
growth rate
(2010-2015)

4.79

Average annual
urban population
growth rate

1.6%

Informal settlers



COPING CAPACITY (CC)

RANK: 70 / 84 PROVINCES ASSESSED
SCORE: 0.475

Bukidnon exhibits weaker Coping Capacity in the areas of Transportation Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.5 **RANK: 44/84 PROVINCES ASSESSED**

0.87

Purchasing power of the peso

64.12%

Labor force participation rate

1845.17

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.581 **RANK: 61/84 PROVINCES ASSESSED**

83.7%

Voter participation

10.65

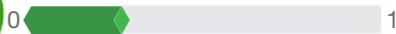
Organized violence (per 100k persons)

16.00%

Garbage pickup



Environmental Capacity



SCORE: 0.263 **RANK: 64/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

10.3%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.413** **RANK: 72/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.378** **RANK: 66/84** PROVINCES ASSESSED

9.34	1.82	52.58%	8.55
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.289** **RANK: 75/84** PROVINCES ASSESSED

0.89	41.95
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.591** **RANK: 55/84** PROVINCES ASSESSED

1.5%	90.3%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.403** **RANK: 68/84** PROVINCES ASSESSED

63.8%	7.4%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.403** **RANK: 52/84** PROVINCES ASSESSED

12.31	1.79	2.34
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 67 / 84 PROVINCES ASSESSED
SCORE: 0.498

Bukidnon's score and ranking are due to High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Economic Constraints



Transportation Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 3 / 84 PROVINCES ASSESSED
SCORE: 0.457



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 57 / 84 PROVINCES ASSESSED
SCORE: 0.124



Liquefaction

RANK: 55 / 84 PROVINCES ASSESSED
SCORE: 0.138



Landslide

RANK: 3 / 84 PROVINCES ASSESSED
SCORE: 0.403



Volcano

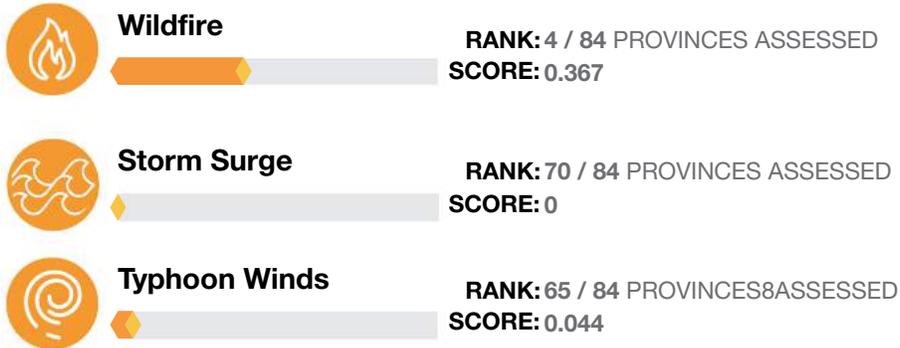
RANK: 2 / 84 PROVINCES ASSESSED
SCORE: 0.42



Drought

RANK: 38 / 84 PROVINCES ASSESSED
SCORE: 0.218

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

42 / 84
 RANK WITHIN PROVINCES
 Score: 0.502

Bukidnon’s score and ranking are due to Low Multi-hazard exposure combined with High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
 COUNTRY SCORE



BUKIDNON RECOMMENDATIONS

1

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Economic constraints also greatly influence vulnerabilities in Bukidnon. Expand gainful employment opportunities for women to increase the size of the working population and decrease poverty rates.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Economic Constraints

- In Bukidnon, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Gender inequality is another major driver of vulnerability in Bukidnon. Empower women to join the workforce and promote equal opportunity job growth. This will increase the size of the working population and decrease poverty rates. Invest in small and local businesses, especially in rural and remote areas.

3

Transportation Capacity

- Transportation capacity in Bukidnon is ranked 75th out the 84 territories in the Philippines. The average distance between ports and populated areas is 41.92 kilometers. Since Bukidnon is landlocked, roads and airports will be the primary means of bringing people and resources into the province. With the limited airports in the province, focus should be on expanding and upgrading the existing infrastructure through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

BULACAN

NDPBA PROVINCE PROFILE

THE PHILIPPINES

BULACAN

CAPITAL: CITY OF MALOLOS

Area: 2,784 km²

Bulacan is just north of Manila, on the northeastern shore of Manila Bay. The topography of Bulacan ranges from flat to rugged terrain owing to the mountainous and hilly landscapes to the east and lowlands to the west. The province is heavily populated and is one of the fastest growing provinces in the region. Bulacan is an industrialized province with good infrastructure, often known as the “gateway to northern Luzon” because of its Expressway and Manila North Road. The population is highly exposed to seismic and typhoon hazards. Flood hazards are also significant and in 2018 between July and August several storms and depressions resulted in flooding along with other impacts to Bulacan among other provinces.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium
Score: 0.512 • Rank: 35/84



RESILIENCE (R) - Very High
Score: 0.623 • Rank: 14/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.783 • Rank: 14/84



VULNERABILITY (V) - Very Low
Score: 0.302 • Rank: 82/84



COPING CAPACITY (CC) - Medium
Score: 0.548 • Rank: 49/84



Population (2018)
3,049,664



Population in Poverty
3.5%



Literate population
99.6%



Access to improved water
91.2%



Average life expectancy
70.7 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 14 / 84 PROVINCES
SCORE: 0.783



MHE
0.783

Raw MHE
 0.856

Relative MHE
 0.709

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

3,046,986
\$13.1 Billion



Tsunami

<1%

3,864
\$5.2 Million



Flood

76%

2,315,664
\$10.5 Billion



Liquefaction

49%

1,505,029
\$7.4 Billion



Landslide

1%

40,519
\$27.2 Million



Volcano

<1%

9,146
\$39.2 Million



Drought

<1%

8,088
\$970,487



Wildfire

15%

459,719
\$2.9 Billion



Storm Surge

4%

133,976
\$2 Billion



Typhoon Winds

100%

3,049,630
\$13.1 Billion



VULNERABILITY (V)

RANK: 82 / 84 PROVINCES ASSESSED
SCORE: 0.302

Vulnerability in Bulacan is primarily driven by Environmental Stress and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



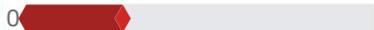
Environmental Stress

0  1 **SCORE: 0.509** **RANK: 35/84 PROVINCES ASSESSED**

10.3 **0** **-0.18%**
 Livestock density Barren land (per 10k hectares) Forest cover change



Vulnerable Health Status

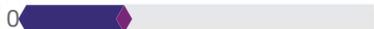
0  1 **SCORE: 0.281** **RANK: 77/84 PROVINCES ASSESSED**

9.0% **2.77** **24.1** **70.69** **104**
 Malnutrition among children (0 to 5 years old) Infant mortality rate (per 1k live births) Maternal mortality rate (per 100k live births) Life expectancy Disability (per 100k persons)

18.2 **0.5** **3.5** **0.7**
 Tuberculosis mortality rate (per 100k persons) HIV mortality rate (per 100k persons) Intestinal disease mortality rate (per 100k persons) Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



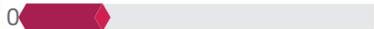
Clean Water Vulnerability

0  1 **SCORE: 0.285** **RANK: 66/84 PROVINCES ASSESSED**

91.2% **95.4%**
 Households with improved safe water source Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.222** **RANK: 80/84 PROVINCES ASSESSED**

99.58% **106.28%** **11.99%** **73.76%** **92.06%**
 Literacy rate (age 10 and older) Gross primary school enrollment rate Internet Access Households with radio Households with television



Economic Constraints

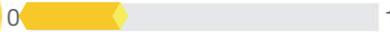
0  1 **SCORE: 0.108** **RANK: 80/84** PROVINCES ASSESSED

0.51
Economic
dependency
ratio

3.45%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.274** **RANK: 74/84** PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.59
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.437** **RANK: 30/84** PROVINCES ASSESSED

2.28
Population
growth rate
(2010-2015)

5.48
Average annual
urban population
growth rate

1.4%
Informal settlers



COPING CAPACITY (CC)

RANK: 49 / 84 PROVINCES ASSESSED
SCORE: 0.548

Bulacan exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.482** **RANK: 52/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

64.60%

Labor force participation rate

1048.36

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.559** **RANK: 66/84 PROVINCES ASSESSED**

83.6%

Voter participation

22.69

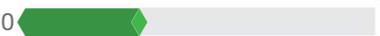
Organized violence (per 100k persons)

66.53%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.332** **RANK: 50/84 PROVINCES ASSESSED**

1.36

Protected areas (per 1k ha)

10.4%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.673** **RANK: 15/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.613** **RANK: 18/84** PROVINCES ASSESSED

8.49	3	66.05%	2.47
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.674** **RANK: 16/84** PROVINCES ASSESSED

2.44	19.03
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.888** **RANK: 5/84** PROVINCES ASSESSED

9.0%	99.5%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.96** **RANK: 4/84** PROVINCES ASSESSED

95.7%	67.3%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.233** **RANK: 74/84** PROVINCES ASSESSED

8.46	0.87	1.48
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 14 / 84 PROVINCES ASSESSED
SCORE: 0.623

Bulacan’s score and ranking are due to Very Low Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Population Pressures



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 12 / 84 PROVINCES ASSESSED
SCORE: 0.360



Tsunami

RANK: 34 / 84 PROVINCES ASSESSED
SCORE: 0.089



Flood

RANK: 8 / 84 PROVINCES ASSESSED
SCORE: 0.325



Liquefaction

RANK: 20 / 84 PROVINCES ASSESSED
SCORE: 0.254



Landslide

RANK: 80 / 84 PROVINCES ASSESSED
SCORE: 0.061



Volcano

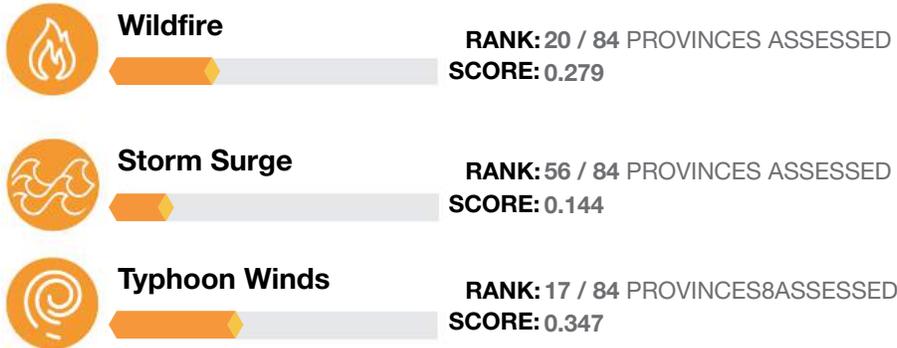
RANK: 37 / 84 PROVINCES ASSESSED
SCORE: 0.118



Drought

RANK: 56 / 84 PROVINCES ASSESSED
SCORE: 0.064

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

35 / 84
 RANK WITHIN PROVINCES
 Score: 0.512

Bulacan’s score and ranking are due to Very High Multi-hazard exposure combined with Very Low Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



BULACAN RECOMMENDATIONS

1

Environmental Stress

- Bulacan is ranked 3rd highest in the Philippines for livestock density. Work with farmers and provide them with the necessary tools and knowledge to be able to rear livestock sustainably.
- In Bulacan, nearly 75% of the population is exposed to flooding hazards. Promote greening and reforestation projects, as well as sustainable agricultural practices to help mitigate the impacts of flooding.

2

Population Pressures

- Continue to monitor the growth of the population and plan resource allocation appropriately. Work with diverse partners to help stimulate the economy to support increased public demands. Ensure equitable distribution of resources and services.
- Environmental stress is already leading to vulnerabilities in Bulacan. Enforce building codes and environmental protection laws to ensure expansion is sustainable. Also, focus efforts on bringing in funds and innovations for enhancing the built environment.

3

Emergency Services Capacity

- Population pressures in Bulacan are increasing the need to expand emergency service capacity. As the population grows, there is an increased demand on the already limited resources and space in evacuation shelters. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Bulacan ranked 52nd out of the 84 territories in economic capacity. Local government annual regular income in Bulacan is 1,048.4 pesos per capita, the 14th lowest in the Philippines. Continue to encourage programs that diversify the economy in Bulacan to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- As the population grows, there will be increases in the demands for emergency services and public programs. Work with stakeholders and partners to expand emergency service capacities by training community members and generating funds to support response activities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

CAGAYAN

NDPBA PROVINCE PROFILE

THE PHILIPPINES

CAGAYAN

CAPITAL: TUGUEGARAO CITY

Area: 9,398 km²

Cagayan is at the extreme northeast tip of Luzon and includes the Babuyan Group of Islands, which sit between Luzon and Batanes Province. They are seismically active exposing the population to both volcanic and earthquake hazards. Sitting well within the “cyclone belt” the province also contains the eponymous Cagayan River, the largest in the Philippines, which is prone to extensive seasonal flooding during the summer months. Cagayan is a major agricultural and livestock producer with major products including grains and legumes. The province also benefits from other natural resources from the dense forests, marine ecosystems and mineral deposits. The population is mainly “Ilocanos” with natives of Cagayan making up the next largest grouping.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.577 • Rank: 7/84



RESILIENCE (R) - Medium
Score: 0.571 • Rank: 40/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.871 • Rank: 3/84



VULNERABILITY (V) - Low
Score: 0.41 • Rank: 53/84



COPING CAPACITY (CC) - Medium
Score: 0.551 • Rank: 46/84



Population (2018)
1,215,694



Population in Poverty
12.6%



Literate population
98.5%



Access to improved water
87.0%



Average life expectancy
69.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 3 / 84 PROVINCES
SCORE: 0.871



MHE
0.871

Raw MHE
 0.783

Relative MHE
 0.958

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

95%

1,157,750
\$8 Billion



Tsunami

3%

30,602
\$163.1 Million



Flood

63%

761,769
\$6.4 Billion



Liquefaction

76%

920,953
\$7.2 Billion



Landslide

5%

57,810
\$156 Million



Volcano

1%

14,030
\$49.4 Million



Drought

98%

1,189,166
\$8.2 Billion



Wildfire

5%

64,746
\$499.1 Million



Storm Surge

11%

133,166
\$617.7 Million



Typhoon Winds

100%

1,214,848
\$8.2 Billion



VULNERABILITY (V)

RANK: 53 / 84 PROVINCES ASSESSED
SCORE: 0.41

Vulnerability in Cagayan is primarily driven by Environmental Stress and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



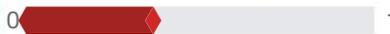
Environmental Stress

0  1 **SCORE: 0.611** **RANK: 15/84 PROVINCES ASSESSED**

1.57 Livestock density
65.83 Barren land (per 10k hectares)
-1.32% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.37** **RANK: 65/84 PROVINCES ASSESSED**

9.6% Malnutrition among children (0 to 5 years old)
2.08 Infant mortality rate (per 1k live births)
62.53 Maternal mortality rate (per 100k live births)
69.58 Life expectancy
239 Disability (per 100k persons)

20.2 Tuberculosis mortality rate (per 100k persons)
0.1 HIV mortality rate (per 100k persons)
7.1 Intestinal disease mortality rate (per 100k persons)
0.6 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.399** **RANK: 45/84 PROVINCES ASSESSED**

87.0% Households with improved safe water source
92.4% Households with sanitary toilet facility



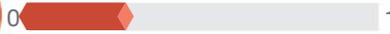
Information Access Vulnerability

0  1 **SCORE: 0.423** **RANK: 52/84 PROVINCES ASSESSED**

98.48% Literacy rate (age 10 and older)
117.20% Gross primary school enrollment rate
2.95% Internet Access
63.34% Households with radio
70.05% Households with television



Economic Constraints

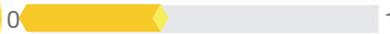
0  1 **SCORE: 0.289** **RANK: 59/84** PROVINCES ASSESSED

0.56
Economic
dependency
ratio

12.56%
Poverty
incidence



Gender Inequality

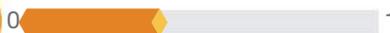
0  1 **SCORE: 0.391** **RANK: 54/84** PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.5
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.388** **RANK: 49/84** PROVINCES ASSESSED

1.23
Population
growth rate
(2010-2015)

14.04
Average annual
urban population
growth rate

1.2%
Informal settlers



COPING CAPACITY (CC)

RANK: 46 / 84 PROVINCES ASSESSED
SCORE: 0.551

Cagayan exhibits weaker Coping Capacity in the areas of Transportation Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.552 **RANK: 32/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

65.99%

Labor force participation rate

1612.4

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.584 **RANK: 59/84 PROVINCES ASSESSED**

83.2%

Voter participation

10.2

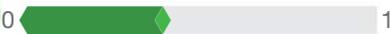
Organized violence (per 100k persons)

17.27%

Garbage pickup



Environmental Capacity



SCORE: 0.395 **RANK: 39/84 PROVINCES ASSESSED**

7.04

Protected areas (per 1k ha)

7.2%

Forest reserves



Infrastructure Capacity



SCORE: 0.57 RANK: 37/84 PROVINCES ASSESSED



Health Care Capacity SCORE: 0.472 RANK: 49/84 PROVINCES ASSESSED

11.29 Hospital beds (per 10k people)	3.6 Physicians per 10,000 people	53.31% Vaccination coverage	8.8 Average distance to nearest hospital (km)
---	---	--	--



Transportation Capacity SCORE: 0.425 RANK: 55/84 PROVINCES ASSESSED

0.72 Road density (km per sq. km)	24.84 Average distance to nearest port (km)
--	--



Communications Capacity SCORE: 0.75 RANK: 31/84 PROVINCES ASSESSED

2.5% Households with a landline	98.9% Mobile coverage
---	---------------------------------



Energy Capacity SCORE: 0.722 RANK: 24/84 PROVINCES ASSESSED

82.7% Households with electricity	25.3% Households with gas
---	-------------------------------------



Emergency Services Capacity SCORE: 0.48 RANK: 36/84 PROVINCES ASSESSED

16.95 Evacuation centers (per 100k persons)	2.36 Fire Stations (per 100k persons)	2.68 Fire Trucks (per 100k persons)
--	--	--



RESILIENCE (R)

RANK: 40 / 84 PROVINCES ASSESSED
SCORE: 0.571

Cagayan’s score and ranking are due to Low Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Information Access Vulnerability



Transportation Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 22 / 84 PROVINCES ASSESSED
SCORE: 0.319



Tsunami

RANK: 11 / 84 PROVINCES ASSESSED
SCORE: 0.196



Flood

RANK: 16 / 84 PROVINCES ASSESSED
SCORE: 0.286



Liquefaction

RANK: 6 / 84 PROVINCES ASSESSED
SCORE: 0.338



Landslide

RANK: 69 / 84 PROVINCES ASSESSED
SCORE: 0.137



Volcano

RANK: 21 / 84 PROVINCES ASSESSED
SCORE: 0.149



Drought

RANK: 6 / 84 PROVINCES ASSESSED
SCORE: 0.416

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

7 / 84
RANK WITHIN PROVINCES
Score: 0.577



Cagayan’s score and ranking are due to Very High Multi-hazard exposure combined with Low Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



CAGAYAN RECOMMENDATIONS

1

Environmental Stress

- Ranked 3rd in the Philippines for multi-hazard exposure, strengthening resilience in Cagayan needs to be a priority. A healthy environment will ensure continued resource availability and mitigate impacts from hazards. Focus efforts on increasing forest cover, decreasing barren land and practicing of sustainable agriculture.

2

Information Access Vulnerability

- In Cagayan many homes lack access to radios, television and internet. Public dissemination of information must take into consideration alternative means of getting messages across. Expand the use of stationary and emergency vehicle sirens, also ensuring the public is informed on what alarm systems are communicating and how to act. Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

3

Transportation Capacity

- Although transportation capacity in Cagayan is ranked relatively high compared to other territories in the Philippines, multi-hazard risks and exposures in the province are high. Cagayan is ranked as the 7th highest territory for multi-hazard risk and 3rd highest for multi-hazard exposure. Focus efforts on seaport, airport and road enhancement projects through private-public partnerships. Advocate strongly for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

CAMARINES NORTE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

CAMARINES NORTE

CAPITAL: DAET

Area: 2,278 km²

Camarines Norte located in the Bicol region and is the northernmost province. Camarines Norte borders Quezon province to west, the Philippines Sea to the north and Camarines Sur to the south. The topography of Camarines Norte ranges from mountainous to low laying plains. The coastline is flat with fertile lands, while the interior contains rolling hills and mountain landscapes. The population of Camarines Norte grew in a slower rate of 1.38% between 2010 and 2015 compared to the previous average annual rate of 1.44% between 2000 and 2010. Nearly the entire population live within earthquake and typhoon hazard zones. In 2020, Typhoon Ambo impacted Camarines Norte among other provinces and resulted in 3.5 million pesos of damage to the agricultural sector alone.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.515 • Rank: 32/84



RESILIENCE (R) - Low
Score: 0.528 • Rank: 61/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.603 • Rank: 44/84



VULNERABILITY (V) - High
Score: 0.496 • Rank: 19/84



COPING CAPACITY (CC) - Medium
Score: 0.552 • Rank: 45/84



Population (2018)
593,544



Population in Poverty
22.4%



Literate population
99.3%



Access to improved water
80.6%



Average life expectancy
67.8 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 44 / 84 PROVINCES
SCORE: 0.603



MHE
0.603

Raw MHE
0.559

Relative MHE
0.646

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

93%

551,050
\$2.6 Billion



Tsunami

1%

7,825
\$16.4 Million



Flood

58%

345,685
\$2.2 Billion



Liquefaction

30%

176,109
\$1.6 Billion



Landslide

8%

46,688
\$85.8 Million



Volcano

<1%

1,424
\$7.2 Million



Drought

-

-
-



Wildfire

<1%

2,847
\$7.3 Million



Storm Surge

23%

136,591
\$422.3 Million



Typhoon Winds

100%

591,957
\$2.7 Billion



VULNERABILITY (V)

RANK: 19 / 84 PROVINCES ASSESSED
SCORE: 0.496

Vulnerability in Camarines Norte is primarily driven by Economic Constraints and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.402** **RANK: 56/84** PROVINCES ASSESSED

0.74 Livestock density
28.91 Barren land (per 10k hectares)
2.68% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.563** **RANK: 12/84** PROVINCES ASSESSED

9.6% Malnutrition among children (0 to 5 years old)
7.81 Infant mortality rate (per 1k live births)
160.46 Maternal mortality rate (per 100k live births)
67.84 Life expectancy
463 Disability (per 100k persons)

42.4 Tuberculosis mortality rate (per 100k persons)
0.2 HIV mortality rate (per 100k persons)
5.4 Intestinal disease mortality rate (per 100k persons)
0.3 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



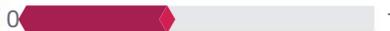
Clean Water Vulnerability

0  1 **SCORE: 0.541** **RANK: 20/84** PROVINCES ASSESSED

80.6% Households with improved safe water source
85.7% Households with sanitary toilet facility



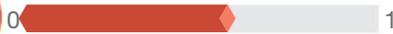
Information Access Vulnerability

0  1 **SCORE: 0.411** **RANK: 54/84** PROVINCES ASSESSED

99.29% Literacy rate (age 10 and older)
120.52% Gross primary school enrollment rate
3.05% Internet Access
59.85% Households with radio
62.28% Households with television



Economic Constraints



SCORE: 0.587

RANK: 18/84 PROVINCES ASSESSED

0.69

Economic
dependency
ratio

22.41%

Poverty
incidence



Gender Inequality



SCORE: 0.53

RANK: 23/84 PROVINCES ASSESSED

1.09

Female to male
secondary school
enrollment Rate

0.42

Labor force
participation ratio



Population Pressures



SCORE: 0.435

RANK: 31/84 PROVINCES ASSESSED

1.38

Population
growth rate
(2010-2015)

10.06

Average annual
urban population
growth rate

2.0%

Informal settlers



COPING CAPACITY (CC)

RANK: 45 / 84 PROVINCES ASSESSED
SCORE: 0.552

Camarines Norte exhibits weaker Coping Capacity in the areas of Economic Capacity and Transportation Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.501 **RANK: 43/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

60.32%

Labor force participation rate

1793.15

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.629 **RANK: 45/84 PROVINCES ASSESSED**

84.6%

Voter participation

10.86

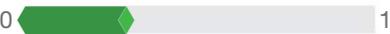
Organized violence (per 100k persons)

22.78%

Garbage pickup



Environmental Capacity



SCORE: 0.294 **RANK: 59/84 PROVINCES ASSESSED**

13.39

Protected areas (per 1k ha)

1.1%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.613** **RANK: 24/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.576** **RANK: 22/84** PROVINCES ASSESSED

6.93	1.85	78.57%	5.05
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.544** **RANK: 34/84** PROVINCES ASSESSED

0.79	14.03
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.727** **RANK: 34/84** PROVINCES ASSESSED

2.7%	96.5%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.661** **RANK: 37/84** PROVINCES ASSESSED

79.6%	19.3%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.557** **RANK: 25/84** PROVINCES ASSESSED

89.94	1.67	3.17
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 61 / 84 PROVINCES ASSESSED
SCORE: 0.528

Camarines Norte's score and ranking are due to High Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Vulnerable Health Status



Economic Capacity



Transportation Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 36 / 84 PROVINCES ASSESSED
SCORE: 0.278



Tsunami

RANK: 15 / 84 PROVINCES ASSESSED
SCORE: 0.147



Flood

RANK: 21 / 84 PROVINCES ASSESSED
SCORE: 0.258



Liquefaction

RANK: 39 / 84 PROVINCES ASSESSED
SCORE: 0.196



Landslide

RANK: 62 / 84 PROVINCES ASSESSED
SCORE: 0.160



Volcano

RANK: 43 / 84 PROVINCES ASSESSED
SCORE: 0.105



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

32 / 84
RANK WITHIN PROVINCES
Score: 0.515



Camarines Norte’s score and ranking are due to Medium Multi-hazard exposure combined with High Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



CAMARINES NORTE RECOMMENDATIONS

1

Economic Constraints

- In Camarines Norte, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Focus efforts on promoting industries that create gainful work, to prevent outmigration of the working age population. Invest in small and local businesses, especially in rural and remote areas.

2

Vulnerable Health Status

- Continue efforts to increase the health and well-being of the population in Camarines Norte. In particular, focus on decreasing maternal mortality rates. Camarines Norte is ranked as the 6th highest for maternal mortality in Philippines, with a rate of 161 deaths per 100,000 live births. Invest in health care infrastructure and trained staff to provide prenatal and postnatal care for mothers, especially in rural communities.
- Expand partnerships to increase economic development and resources in Camarines Norte that can be used for public health interventions. Ensure health care is financially and physically accessible, as well as equipped to be able to accommodate patients with various health conditions.

3

Economic Capacity

- In Camarines Norte, the labor force participation rate is 60.3%, which highlights the need to expand employment opportunities. The province is also vulnerable due to the high poverty rates and the size of the working population. Expand partnerships to bring in funds and capacity building projects. Focus those efforts on public assistance programs to reduce the number of working poor individuals and invest in small local businesses.
- Continue to encourage programs that diversify the economy in Camarines Norte to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.

4

Transportation Capacity

- With economic resources and transportation capacity being limited in Camarines Norte, focus should be on expanding private-public partnerships to support seaport, airport and road enhancement projects. Strongly advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

CAMARINES SUR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

CAMARINES SUR

CAPITAL: PILI

Area: 5,512 km²

Camarines Sur is a province in the Philippines located in the Bicol Region in Luzon. The province borders Camarines Norte and Quezon to the northwest, and Albay to the south. To the east lies the island province of Catanduanes across the Maqueda Channel. It is the largest of the six provinces in the Bicol region by population and land area. The landscape is a plain in the center of the province with mountains surrounding the plane. The economy is largely agriculturally based with rice, corn, fish, livestock, coconut, and sugar being the main exports



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.555 • Rank: 16/84



RESILIENCE (R) - Low
Score: 0.549 • Rank: 52/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.762 • Rank: 15/84



VULNERABILITY (V) - Medium
Score: 0.446 • Rank: 40/84



COPING CAPACITY (CC) - Low
Score: 0.544 • Rank: 52/84



Population (2018)
2,039,218



Population in Poverty
20.6%



Literate population
99.2%



Access to improved water
96.8%



Average life expectancy
68.4 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 15 / 84 PROVINCES
SCORE: 0.762



MHE
0.762

Raw MHE
0.798

Relative MHE
0.726

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

94%

1,926,234
\$9.4 Billion



Tsunami

6%

124,546
\$204 Million



Flood

<1%

1,199
\$2.7 Million



Liquefaction

32%

654,852
\$4.5 Billion



Landslide

5%

106,053
\$281.6 Million



Volcano

15%

304,086
\$1.4 Billion



Drought

77%

1,562,836
\$8.4 Billion



Wildfire

12%

239,563
\$3 Billion



Storm Surge

9%

188,112
\$497.7 Million



Typhoon Winds

100%

2,038,119
\$9.7 Billion



VULNERABILITY (V)

RANK: 40 / 84 PROVINCES ASSESSED
SCORE: 0.446

Vulnerability in Camarines Sur is primarily driven by Economic Constraints and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.372** **RANK: 60/84** PROVINCES ASSESSED

1.12 Livestock density
3.64 Barren land (per 10k hectares)
0.78% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.435** **RANK: 44/84** PROVINCES ASSESSED

6.7% Malnutrition among children (0 to 5 years old)
0 Infant mortality rate (per 1k live births)
– Maternal mortality rate (per 100k live births)
68.42 Life expectancy
532 Disability (per 100k persons)

34.3 Tuberculosis mortality rate (per 100k persons)
0.1 HIV mortality rate (per 100k persons)
6 Intestinal disease mortality rate (per 100k persons)
0.7 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



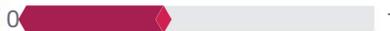
Clean Water Vulnerability

0  1 **SCORE: 0.433** **RANK: 37/84** PROVINCES ASSESSED

96.8% Households with improved safe water source
76.9% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.4** **RANK: 60/84** PROVINCES ASSESSED

99.22% Literacy rate (age 10 and older)
116.08% Gross primary school enrollment rate
4.71% Internet Access
63.89% Households with radio
63.50% Households with television



Economic Constraints

0  1 **SCORE: 0.576** **RANK: 19/84** PROVINCES ASSESSED

0.7
Economic
dependency
ratio

20.62%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.478** **RANK: 36/84** PROVINCES ASSESSED

1.09
Female to male
secondary school
enrollment Rate

0.47
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.427** **RANK: 36/84** PROVINCES ASSESSED

1.32
Population
growth rate
(2010-2015)

10.45
Average annual
urban population
growth rate

1.9%
Informal settlers



COPING CAPACITY (CC)

RANK: 52 / 84 PROVINCES ASSESSED
SCORE: 0.544

Camarines Sur exhibits weaker Coping Capacity in the areas of Economic Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.434 **RANK: 63/84 PROVINCES ASSESSED**

0.9

Purchasing power of the peso

59.20%

Labor force participation rate

965.61

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.672 **RANK: 30/84 PROVINCES ASSESSED**

84.0%

Voter participation

5.6

Organized violence (per 100k persons)

20.60%

Garbage pickup



Environmental Capacity



SCORE: 0.512 **RANK: 20/84 PROVINCES ASSESSED**

24.87

Protected areas (per 1k ha)

9.3%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.535** **RANK: 51/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.477** **RANK: 48/84** PROVINCES ASSESSED

8.23	2.41	58.38%	5.93
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.469** **RANK: 47/84** PROVINCES ASSESSED

0.83	22.55
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.644** **RANK: 51/84** PROVINCES ASSESSED

4.7%	85.3%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.644** **RANK: 38/84** PROVINCES ASSESSED

79.1%	17.5%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.439** **RANK: 45/84** PROVINCES ASSESSED

21.28	1.55	2.8
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 52 / 84 PROVINCES ASSESSED
SCORE: 0.549

Camarines Sur's score and ranking are due to Medium Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Gender Inequality



Economic Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 11 / 84 PROVINCES ASSESSED
SCORE: 0.363



Tsunami

RANK: 8 / 84 PROVINCES ASSESSED
SCORE: 0.245



Flood

RANK: 71 / 84 PROVINCES ASSESSED
SCORE: 0.004



Liquefaction

RANK: 24 / 84 PROVINCES ASSESSED
SCORE: 0.229



Landslide

RANK: 56 / 84 PROVINCES ASSESSED
SCORE: 0.178



Volcano

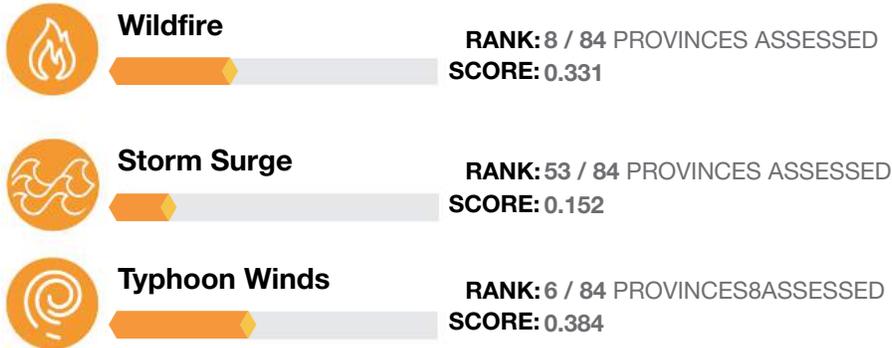
RANK: 3 / 84 PROVINCES ASSESSED
SCORE: 0.414



Drought

RANK: 12 / 84 PROVINCES ASSESSED
SCORE: 0.400

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

16 / 84
 RANK WITHIN PROVINCES
 Score: 0.555



Camarines Sur’s score and ranking are due to Very High Multi-hazard exposure combined with Medium Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE (represented by colored bars)
 COUNTRY SCORE (represented by grey bars)



CAMARINES SUR RECOMMENDATIONS

1

Economic Constraints

- In Camarines Sur, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Focus efforts on promoting industries that create gainful work, to prevent outmigration of the working age population. Invest in small and local businesses, especially in rural and remote areas.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Economic constraints also greatly influence vulnerabilities in Camarines Sur. Expand gainful employment opportunities for women to increase the size of the labor force and decrease poverty rates.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Economic Capacity

- In Camarines Sur, the labor force participation rate is 59.2%, which highlights the need to increase employment opportunities in the province. The local government annual regular income per capita for Camarines Sur ranked 77th out of the 84 territories (965.61 pesos per capita). The province is also vulnerable due to poverty rates and the size of the working population. Expand partnerships to bring in funds and capacity building projects. Focus those efforts on public assistance programs to reduce the number of working poor individuals and invest in small local businesses.
- Continue to encourage programs that diversify the economy in Camarines Sur to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.

4

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Focus efforts on increasing the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

CAMIGUIN

NDPBA PROVINCE PROFILE

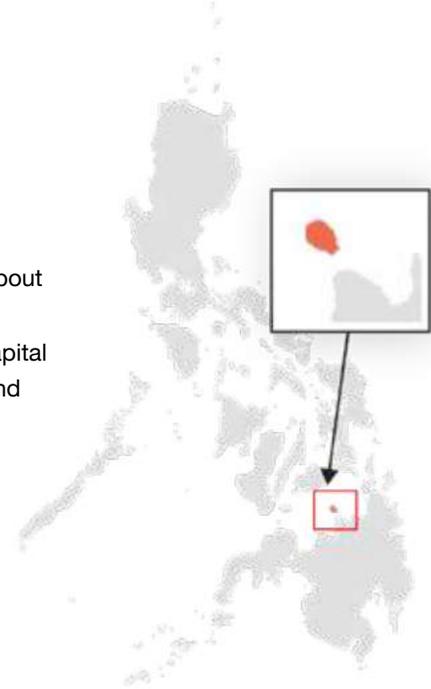
THE PHILIPPINES

CAMIGUIN

CAPITAL: MAMBAJAO

Area: 241 km²

Camiguin is an island province in the Philippines located in the Bohol Sea, about 10 kilometers off the northern coast of Mindanao. It is the second-smallest province in the country in both population and land area after Batanes. Its capital is Mambajao, which is also the province's largest municipality in both area and population. The economy of the island is based on fishing and farming. The province is located with the typhoon belt and contains the active volcano Hibok-hibok.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.358 • Rank: 82/84



RESILIENCE (R) - Very High
Score: 0.639 • Rank: 11/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.351 • Rank: 77/84



VULNERABILITY (V) - Low
Score: 0.372 • Rank: 64/84



COPING CAPACITY (CC) - Very High
Score: 0.649 • Rank: 7/84



Population (2018)
87,950



Population in Poverty
17.3%



Literate population
99.3%



Access to improved water
99.4%



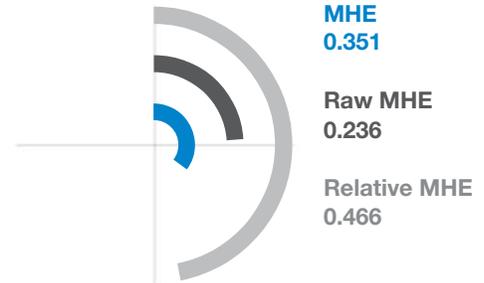
Average life expectancy
68.0 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 77 / 84 PROVINCES
SCORE: 0.351



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

 Earthquake
0%
-
-

 Tsunami
-
-
-

 Flood
19%
16,368
\$183.9 Million

 Liquefaction
35%
30,487
\$84.2 Million

 Landslide
10%
9,032
\$82.3 Million

 Volcano
60%
52,365
\$499.7 Million

 Drought
18%
16,167
\$106.1 Million

 Wildfire
-
-
-

 Storm Surge
23%
20,074
\$175.7 Million

 Typhoon Winds
100%
87,759
\$769.3 Million



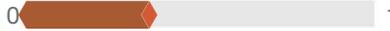
VULNERABILITY (V)

RANK: 64 / 84 PROVINCES ASSESSED
SCORE: 0.372

Vulnerability in Camiguin is primarily driven by Economic Constraints and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.358** **RANK: 64/84** PROVINCES ASSESSED

2.89 Livestock density
20.32 Barren land (per 10k hectares)
9.27% Forest cover change



Vulnerable Health Status

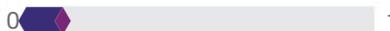
0  1 **SCORE: 0.485** **RANK: 27/84** PROVINCES ASSESSED

0.0% Malnutrition among children (0 to 5 years old)
14.61 Infant mortality rate (per 1k live births)
73.05 Maternal mortality rate (per 100k live births)
67.99 Life expectancy
536 Disability (per 100k persons)

20 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
6.7 Intestinal disease mortality rate (per 100k persons)
2.2 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.106** **RANK: 80/84** PROVINCES ASSESSED

99.4% Households with improved safe water source
94.2% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.428** **RANK: 51/84** PROVINCES ASSESSED

99.26% Literacy rate (age 10 and older)
122.01% Gross primary school enrollment rate
2.94% Internet Access
53.74% Households with radio
62.13% Households with television



Economic Constraints

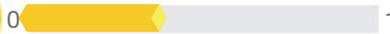
0  1 **SCORE: 0.49** **RANK: 33/84** PROVINCES ASSESSED

0.67
Economic
dependency
ratio

17.34%
Poverty
incidence



Gender Inequality

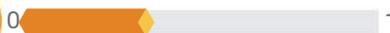
0  1 **SCORE: 0.387** **RANK: 56/84** PROVINCES ASSESSED

0.93
Female to male
secondary school
enrollment Rate

0.51
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.349** **RANK: 63/84** PROVINCES ASSESSED

1.04
Population
growth rate
(2010-2015)

16.94
Average annual
urban population
growth rate

0.7%
Informal settlers



COPING CAPACITY (CC)

RANK: 7 / 84 PROVINCES ASSESSED
SCORE: 0.649

Camiguin exhibits weaker Coping Capacity in the areas of Health Care Capacity and Energy Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.667 **RANK: 15/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

64.34%

Labor force participation rate

4667.39

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.778 **RANK: 2/84 PROVINCES ASSESSED**

86.7%

Voter participation

0

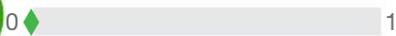
Organized violence (per 100k persons)

16.88%

Garbage pickup



Environmental Capacity



SCORE: 0 **RANK: 77/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

0.0%

Forest reserves



Infrastructure Capacity



SCORE: 0.719 RANK: 4/84 PROVINCES ASSESSED



Health Care Capacity

SCORE: 0.542 RANK: 32/84 PROVINCES ASSESSED

11	2.44	58.65%	3.51
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity

SCORE: 0.746 RANK: 9/84 PROVINCES ASSESSED

1.59	4.78
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity

SCORE: 0.788 RANK: 23/84 PROVINCES ASSESSED

3.9%	98.3%
Households with a landline	Mobile coverage



Energy Capacity

SCORE: 0.567 RANK: 53/84 PROVINCES ASSESSED

80.3%	9.0%
Households with electricity	Households with gas



Emergency Services Capacity

SCORE: 0.952 RANK: 3/84 PROVINCES ASSESSED

122.18	5.55	9.99
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 11 / 84 PROVINCES ASSESSED
SCORE: 0.639

Camiguin’s score and ranking are due to Low Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Vulnerable Health Status



Health Care Capacity



Energy Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 79 / 84 PROVINCES ASSESSED
SCORE: 0.000



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 67 / 84 PROVINCES ASSESSED
SCORE: 0.057



Liquefaction

RANK: 69 / 84 PROVINCES ASSESSED
SCORE: 0.071



Landslide

RANK: 70 / 84 PROVINCES ASSESSED
SCORE: 0.133



Volcano

RANK: 8 / 84 PROVINCES ASSESSED
SCORE: 0.334



Drought

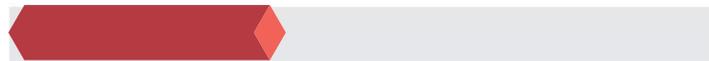
RANK: 50 / 84 PROVINCES ASSESSED
SCORE: 0.133

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

82 / 84
RANK WITHIN PROVINCES
Score: 0.358



Camiguin’s score and ranking are due to Very Low Multi-hazard exposure combined with Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



CAMIGUIN RECOMMENDATIONS

1

Economic Constraints

- Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Focus efforts on promoting industries that create gainful work, to prevent outmigration of the working age population. Enforce policies to ensure equal opportunity employment for all constituents.

2

Vulnerable Health Status

- Camiguin is ranked the 6th highest in the Philippines for infant mortality (14.61 deaths per 1,000 live births). Focus efforts on providing access to prenatal and postnatal care for all mothers especially in rural communities.
- Continue efforts in community outreach, increased access to health care and other public health interventions. Sustain monitoring and control programs for communicable diseases.

3

Health Care Capacity

- Although Camiguin ranked relatively high for health care capacity, high infant mortality rates indicate a need to expand services for mothers (14.61 deaths per 1,000 live births). Additionally, Immunization coverage in Camiguin is 58.7%. Focus efforts on expanding publicly funded services for child and maternal health, including vaccination and nutrition programs. Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.

4

Energy Capacity

- Camiguin ranked 53rd in energy capacity. The findings show that 80% of households have access to electricity and 9% have access to liquid petroleum gas lines. Being a small island province, importing energy sources is more complicated. Focus efforts on increasing household access and reinforcing energy infrastructure. Looking at underground energy cables or backup generators may be alternative projects as nearly the entire population is exposed to typhoon winds.
- Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

CAPIZ

NDPBA PROVINCE PROFILE

THE PHILIPPINES

CAPIZ

CAPITAL: CITY OF ROXAS

Area: 2,595 km²

Capiz is a province in the Philippines located in the central section of Western Visayas region. It is located at the northeastern portion of Panay Island, bordering Aklan to the north, Antique to the west, and Iloilo to the south. The Sibuyan Sea is to the north. The province is known as the “Seafood Capital of the Philippines”. Capiz is one of five provinces that occupy the western Visayas region. The province is also highly exposed to earthquake and typhoon hazards. The province is also vulnerable to infectious diseases and in mid-2019 a state of calamity was declared in Capiz, among other provinces, due to a Dengue Fever outbreak.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.471 • Rank: 64/84



RESILIENCE (R) - Very High
Score: 0.633 • Rank: 13/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.679 • Rank: 26/84



VULNERABILITY (V) - Very Low
Score: 0.318 • Rank: 77/84



COPING CAPACITY (CC) - High
Score: 0.584 • Rank: 26/84



Population (2018)
750,781



Population in Poverty
4.1%



Literate population
98.0%



Access to improved water
97.5%



Average life expectancy
68.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 26 / 84 PROVINCES
SCORE: 0.679



MHE
0.679

Raw MHE
0.617

Relative MHE
0.74

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

94%

708,985
\$3.1 Billion



Tsunami

-

-
-



Flood

78%

586,502
\$2.6 Billion



Liquefaction

52%

391,807
\$1.8 Billion



Landslide

11%

82,950
\$417.5 Million



Volcano

<1%

36
\$169,453



Drought

13%

101,296
\$484.6 Million



Wildfire

2%

11,679
\$41.9 Million



Storm Surge

20%

151,802
\$686 Million



Typhoon Winds

100%

749,976
\$3.3 Billion



VULNERABILITY (V)

RANK: 77 / 84 PROVINCES ASSESSED
SCORE: 0.318

Vulnerability in Capiz is primarily driven by Information Access Vulnerability and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



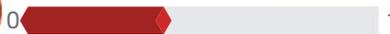
Environmental Stress

0  1 **SCORE: 0.364** **RANK: 61/84 PROVINCES ASSESSED**

1.59 Livestock density
0 Barren land (per 10k hectares)
-1.45% Forest cover change



Vulnerable Health Status

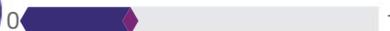
0  1 **SCORE: 0.396** **RANK: 63/84 PROVINCES ASSESSED**

4.5% Malnutrition among children (0 to 5 years old)
9.94 Infant mortality rate (per 1k live births)
50.18 Maternal mortality rate (per 100k live births)
68.59 Life expectancy
359 Disability (per 100k persons)

16.1 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
3.9 Intestinal disease mortality rate (per 100k persons)
1.4 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



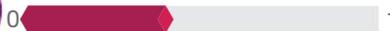
Clean Water Vulnerability

0  1 **SCORE: 0.299** **RANK: 62/84 PROVINCES ASSESSED**

97.5% Households with improved safe water source
88.6% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.402** **RANK: 58/84 PROVINCES ASSESSED**

97.97% Literacy rate (age 10 and older)
117.75% Gross primary school enrollment rate
2.99% Internet Access
72.40% Households with radio
69.87% Households with television



Economic Constraints

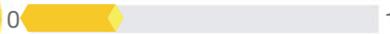
0  1 **SCORE: 0.189** **RANK: 74/84** PROVINCES ASSESSED

0.57
Economic
dependency
ratio

4.09%
Poverty
incidence



Gender Inequality

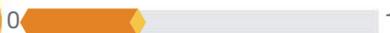
0  1 **SCORE: 0.256** **RANK: 76/84** PROVINCES ASSESSED

1.01
Female to male
secondary school
enrollment Rate

0.52
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.321** **RANK: 70/84** PROVINCES ASSESSED

1.08
Population
growth rate
(2010-2015)

2.42
Average annual
urban population
growth rate

1.9%
Informal settlers



COPING CAPACITY (CC)

RANK: 26 / 84 PROVINCES ASSESSED
SCORE: 0.584

Capiz exhibits weaker Coping Capacity in the areas of Health Care Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.662** **RANK: 16/84 PROVINCES ASSESSED**

0.93

Purchasing power of the peso

68.39%

Labor force participation rate

1453.68

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.679** **RANK: 28/84 PROVINCES ASSESSED**

83.7%

Voter participation

2.93

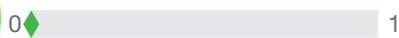
Organized violence (per 100k persons)

16.39%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0** **RANK: 77/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

0.0%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.605** **RANK: 28/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.481** **RANK: 43/84** PROVINCES ASSESSED

8.48	2.62	56.10%	5.58
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.69** **RANK: 13/84** PROVINCES ASSESSED

1.56	10.2
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.792** **RANK: 20/84** PROVINCES ASSESSED

3.6%	99.4%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.542** **RANK: 58/84** PROVINCES ASSESSED

81.6%	6.7%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.518** **RANK: 32/84** PROVINCES ASSESSED

49.56	1.93	2.7
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 13 / 84 PROVINCES ASSESSED
SCORE: 0.633

Capiz's score and ranking are due to Very Low Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Information Access Vulnerability



Vulnerable Health Status



Health Care Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 59 / 84 PROVINCES ASSESSED
SCORE: 0.226



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 28 / 84 PROVINCES ASSESSED
SCORE: 0.232



Liquefaction

RANK: 43 / 84 PROVINCES ASSESSED
SCORE: 0.183



Landslide

RANK: 55 / 84 PROVINCES ASSESSED
SCORE: 0.188



Volcano

RANK: 65 / 84 PROVINCES ASSESSED
SCORE: 0.028



Drought

RANK: 45 / 84 PROVINCES ASSESSED
SCORE: 0.158

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

64 / 84

RANK WITHIN PROVINCES
Score: 0.471



Capiz's score and ranking are due to High Multi-hazard exposure combined with Very Low Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



CAPIZ RECOMMENDATIONS

1

Information Access Vulnerability

- In Capiz many homes lack access to radios, television and internet. Public dissemination of information must take into consideration alternative means of getting messages across. Expand the use of stationary and emergency vehicle sirens, also ensuring the public is informed on what alarm systems are communicating and how to act. Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

2

Vulnerable Health Status

- In Capiz, vulnerable health status is a major driver of vulnerability. Focus efforts on increasing the health of the population through community outreach, increased access to health care and other public health interventions. Continue monitoring for and providing care for those suffering from communicable diseases.
- Investments in health care capacity are also needed in Capiz. Partner with stakeholders and organizations to expand upon existing health care funding and capacities.

3

Health Care Capacity

- Although for health care capacity Capiz ranks relatively high compared to other territories in the Philippines, health status is a major driver of vulnerability. Work to reduce infectious disease mortality rates through increased treatment and screening resources. Continue to work with local and international partners to invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

CATANDUANES

NDPBA PROVINCE PROFILE

THE PHILIPPINES

CATANDUANES

CAPITAL: VIRAC

Area: 1,492 km²

Catanduanes is an island province located in the Bicol Region of Luzon in the Philippines. The province lies to the east of Camarines Sur across Maqueda Channel. The province comprises Catanduanes Island, the Panay Island, Lete Island, Palumbanes group of islands a few other surrounding islets and rocks. The province is also home to various mollusk fossil sites, notably for the second oldest ammonite site in Philippine history. The sites also possess certain species of ammonites that can't be found anywhere else in Southeast Asia. The province contains almost 400 kilometers of jagged coastline and bays. The economy is based largely on agriculture, tourism, and fishing. Catanduanes is also located within the typhoon belt and recently was threatened by Typhoon Ambo.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.475 • Rank: 61/84



RESILIENCE (R) - High
Score: 0.581 • Rank: 31/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.586 • Rank: 48/84



VULNERABILITY (V) - High
Score: 0.466 • Rank: 33/84



COPING CAPACITY (CC) - Very High
Score: 0.629 • Rank: 12/84



Population (2018)
250,142



Population in Poverty
14.4%



Literate population
98.8%



Access to improved water
74.0%



Average life expectancy
67.1 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 48 / 84 PROVINCES
SCORE: 0.586



MHE
0.586

Raw MHE
0.408

Relative MHE
0.764

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

93%

232,341

\$851.6 Million



Tsunami

39%

98,179

\$302.7 Million



Flood

50%

124,829

\$513.9 Million



Liquefaction

22%

56,173

\$196.1 Million



Landslide

31%

77,964

\$238.2 Million



Volcano

<1%

682

\$2.5 Million



Drought

17%

43,083

\$105.4 Million



Wildfire

-

-

-



Storm Surge

37%

91,321

\$308.5 Million



Typhoon Winds

100%

250,142

\$904.7 Million



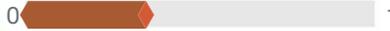
VULNERABILITY (V)

RANK: 33 / 84 PROVINCES ASSESSED
SCORE: 0.466

Vulnerability in Catanduanes is primarily driven by Vulnerable Health Status and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.344** **RANK: 68/84** PROVINCES ASSESSED

0.8 Livestock density
13.7 Barren land (per 10k hectares)
3.62% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.586** **RANK: 8/84** PROVINCES ASSESSED

11.2% Malnutrition among children (0 to 5 years old)
17.79 Infant mortality rate (per 1k live births)
172.18 Maternal mortality rate (per 100k live births)
67.14 Life expectancy
392 Disability (per 100k persons)

35.2 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
9.7 Intestinal disease mortality rate (per 100k persons)
0.7 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.576** **RANK: 18/84** PROVINCES ASSESSED

74.0% Households with improved safe water source
85.5% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.467** **RANK: 44/84** PROVINCES ASSESSED

98.79% Literacy rate (age 10 and older)
117.69% Gross primary school enrollment rate
4.58% Internet Access
48.83% Households with radio
62.35% Households with television



Economic Constraints



SCORE: 0.521

RANK: 25/84 PROVINCES ASSESSED

0.72

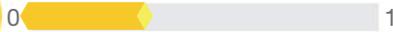
Economic
dependency
ratio

14.39%

Poverty
incidence



Gender Inequality



SCORE: 0.341

RANK: 63/84 PROVINCES ASSESSED

1.05

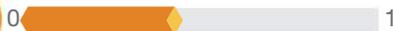
Female to male
secondary school
enrollment Rate

0.51

Labor force
participation ratio



Population Pressures



SCORE: 0.428

RANK: 35/84 PROVINCES ASSESSED

1.11

Population
growth rate
(2010-2015)

21.49

Average annual
urban population
growth rate

1.3%

Informal settlers



COPING CAPACITY (CC)

RANK: 12 / 84 PROVINCES ASSESSED
SCORE: 0.629

Catanduanes exhibits weaker Coping Capacity in the areas of Transportation Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.672** **RANK: 13/84 PROVINCES ASSESSED**

0.91

Purchasing power of the peso

65.93%

Labor force participation rate

2880.25

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.757** **RANK: 8/84 PROVINCES ASSESSED**

87.7%

Voter participation

4.1

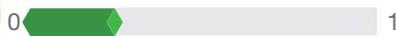
Organized violence (per 100k persons)

18.56%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.246** **RANK: 65/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

8.6%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.585 RANK: 31/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.625 RANK: 13/84 PROVINCES ASSESSED

10.1	2.93	71.17%	4.01
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.515 RANK: 38/84 PROVINCES ASSESSED

0.81	17.49
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.583 RANK: 56/84 PROVINCES ASSESSED

0.6%	97.1%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.667 RANK: 35/84 PROVINCES ASSESSED

80.3%	19.3%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.532 RANK: 30/84 PROVINCES ASSESSED

2.3	3.76	4.51
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 31 / 84 PROVINCES ASSESSED
SCORE: 0.581

Catanduanes's score and ranking are due to High Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Vulnerable Health Status



Clean Water Access Vulnerability



Transportation Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 61 / 84 PROVINCES ASSESSED
SCORE: 0.216



Tsunami

RANK: 4 / 84 PROVINCES ASSESSED
SCORE: 0.395



Flood

RANK: 50 / 84 PROVINCES ASSESSED
SCORE: 0.157



Liquefaction

RANK: 63 / 84 PROVINCES ASSESSED
SCORE: 0.09



Landslide

RANK: 37 / 84 PROVINCES ASSESSED
SCORE: 0.243



Volcano

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0.075



Drought

RANK: 46 / 84 PROVINCES ASSESSED
SCORE: 0.157

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

61 / 84

RANK WITHIN PROVINCES
Score: 0.475



Catanduanes’s score and ranking are due to Medium Multi-hazard exposure combined with High Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



CATANDUANES RECOMMENDATIONS

1

Vulnerable Health Status

- Catanduanes is ranked highest for maternal and child health vulnerability. Invest in expanded resources for mothers and young children, including nutritious meals and health care access.
- Continue to screen the population for infectious diseases and put in place safety measures to reduce the spread of infectious agents. Expand community engagement and promote healthy lifestyles and actions.

2

Clean Water Access Vulnerability

- In Catanduanes, about 74% of households have access to improved water sources. With vulnerable health status also being a major driver of risk in Catanduanes, investments in clean water infrastructure should be a priority to reduce health risks.
- The results show that the population of Catanduanes is exposed to both drought and flooding hazards. Invest in improved water and sanitation infrastructure to reduce the spread of waterborne illnesses and increase access to water, especially in remote and rural communities.

3

Transportation Capacity

- Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Emergency Services Capacity

- In Catanduanes, there are 2.3 evacuation centers per 100,000 persons, which is the 9th lowest in the Philippines. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

CAVITE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

CAVITE

CAPITAL: CITY OF TRECE MARTIRES

Area: 1,526 km²

Cavite is a province in the Philippines located in the Calabarzon region in Luzon. Located on the southern shores of Manila Bay and southwest of Metro Manila, it is one of the most industrialized and fastest-growing provinces in the Philippines. It is surrounded by Laguna province to the east, Metro Manila to the northeast, and Batangas province to the south. To the west lies the West Philippine Sea and located within the greater Manila area. The economy is largely based on agriculture and tourism. Cavite is highly exposed to earthquakes and typhoons. In 2019, the province was impacted by Typhoon Kammuri, which resulted in a state of calamity declaration for Cavite.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.519 • Rank: 29/84



RESILIENCE (R) - Very High
Score: 0.615 • Rank: 15/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.789 • Rank: 12/84



VULNERABILITY (V) - Very Low
Score: 0.307 • Rank: 81/84



COPING CAPACITY (CC) - Low
Score: 0.537 • Rank: 56/84



Population (2018)
3,589,915



Population in Poverty
3.7%



Literate population
99.7%



Access to improved water
96.8%



Average life expectancy
70.7 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 12 / 84 PROVINCES
SCORE: 0.789



MHE
0.789

Raw MHE
0.852

Relative MHE
0.725

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

96%

3,448,145
\$10.3 Billion



Tsunami

1%

51,671
\$32.2 Million



Flood

44%

1,583,688
\$6.3 Billion



Liquefaction

32%

1,160,444
\$4.7 Billion



Landslide

2%

79,389
\$101.1 Million



Volcano

<1%

25,798
\$57.8 Million



Drought

-

-
-



Wildfire

56%

2,004,635
\$6.8 Billion



Storm Surge

17%

618,628
\$1.7 Billion



Typhoon Winds

100%

3,588,574
\$10.5 Billion



VULNERABILITY (V)

RANK: 81 / 84 PROVINCES ASSESSED
SCORE: 0.307

Vulnerability in Cavite is primarily driven by Population Pressures and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



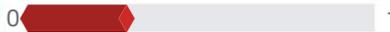
Environmental Stress

0  1 **SCORE: 0.473** **RANK: 41/84 PROVINCES ASSESSED**

7.53 Livestock density
12.08 Barren land (per 10k hectares)
6.85% Forest cover change



Vulnerable Health Status

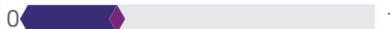
0  1 **SCORE: 0.288** **RANK: 76/84 PROVINCES ASSESSED**

6.9% Malnutrition among children (0 to 5 years old)
6.09 Infant mortality rate (per 1k live births)
24.67 Maternal mortality rate (per 100k live births)
70.69 Life expectancy
51 Disability (per 100k persons)

21.1 Tuberculosis mortality rate (per 100k persons)
0.4 HIV mortality rate (per 100k persons)
5.3 Intestinal disease mortality rate (per 100k persons)
1.1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



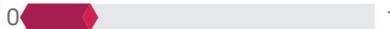
Clean Water Vulnerability

0  1 **SCORE: 0.26** **RANK: 69/84 PROVINCES ASSESSED**

96.8% Households with improved safe water source
92.3% Households with sanitary toilet facility



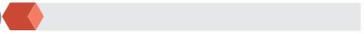
Information Access Vulnerability

0  1 **SCORE: 0.182** **RANK: 84/84 PROVINCES ASSESSED**

99.66% Literacy rate (age 10 and older)
101.22% Gross primary school enrollment rate
16.71% Internet Access
74.86% Households with radio
92.44% Households with television



Economic Constraints

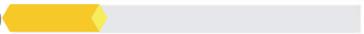
0  1 **SCORE: 0.075** **RANK: 82/84** PROVINCES ASSESSED

0.49
Economic
dependency
ratio

3.71%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.261** **RANK: 75/84** PROVINCES ASSESSED

1.07
Female to male
secondary school
enrollment Rate

0.61
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.609** **RANK: 5/84** PROVINCES ASSESSED

3.37
Population
growth rate
(2010-2015)

6.3
Average annual
urban population
growth rate

2.1%
Informal settlers



COPING CAPACITY (CC)

RANK: 56 / 84 PROVINCES ASSESSED
SCORE: 0.537

Cavite exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.471** **RANK: 55/84 PROVINCES ASSESSED**

0.9

Purchasing power of the peso

64.33%

Labor force participation rate

809.91

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.624** **RANK: 47/84 PROVINCES ASSESSED**

75.4%

Voter participation

5.07

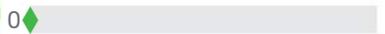
Organized violence (per 100k persons)

82.36%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0** **RANK: 77/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

0.0%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.696** **RANK: 9/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.542** **RANK: 33/84** PROVINCES ASSESSED

7.62	2.12	60.69%	1.98
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.792** **RANK: 4/84** PROVINCES ASSESSED

7.12	24.18
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.944** **RANK: 2/84** PROVINCES ASSESSED

14.9%	99.9%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.974** **RANK: 3/84** PROVINCES ASSESSED

96.0%	73.7%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.227** **RANK: 75/84** PROVINCES ASSESSED

12.37	0.69	1.59
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 15 / 84 PROVINCES ASSESSED
SCORE: 0.615

Cavite's score and ranking are due to Very Low Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Population Pressures



Environmental Stress



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 16 / 84 PROVINCES ASSESSED
SCORE: 0.344



Tsunami

RANK: 17 / 84 PROVINCES ASSESSED
SCORE: 0.143



Flood

RANK: 24 / 84 PROVINCES ASSESSED
SCORE: 0.245



Liquefaction

RANK: 35 / 84 PROVINCES ASSESSED
SCORE: 0.21



Landslide

RANK: 76 / 84 PROVINCES ASSESSED
SCORE: 0.102



Volcano

RANK: 27 / 84 PROVINCES ASSESSED
SCORE: 0.137



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

29 / 84
RANK WITHIN PROVINCES
Score: 0.519



Cavite’s score and ranking are due to Very High Multi-hazard exposure combined with Very Low Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



CAVITE RECOMMENDATIONS

1

Population Pressures

- Cavite is ranked the 5th highest in the Philippines for population pressures. Between 2010 and 2015 the population growth rate was 3.37, which makes Cavite the second fastest growing province in the Philippines. Continue to monitor the growth of the population and adjust the allocation of resources to match the changing population dynamics. Enforce building codes and environmental protection laws to ensure expansion is sustainable.
- Work with diverse partners to help stimulate the economy to support increased public demands as the population grows. Ensure equitable distribution of resources and services for rural and urban areas.

2

Environmental Stress

- Cavite is ranked 5th highest the Philippines for livestock density. Work with farmers and provide them with the necessary tools and knowledge to be able to rear livestock sustainably.
- Population pressures are another major driver of vulnerability in Cavite. Promoting sustainable agriculture and protection of natural areas will ensure resources can keep up with increased demands as the population grows.

3

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Cavite's annual regular income per capita is 809.9 pesos, which is the 5th lowest in the Philippines. Continue to encourage programs that diversify the economy in Cavite to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- As the population grows, there will be increases in the demands for emergency services and public programs. Work with stakeholders and partners to expand emergency service capacities by training community members and generating funds to support response activities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

CEBU

NDPBA PROVINCE PROFILE

THE PHILIPPINES

CEBU

CAPITAL: CITY OF CEBU

Area: 5,342 km²

Cebu is a province of the Philippines located in the Central Visayas region and consists of a main island and 167 surrounding islands and islets. Its capital is Cebu City, the oldest city and first capital of the Philippines. The Cebu Metropolitan Area is the second largest metropolitan area in the Philippines with Cebu City as the main center of commerce, trade, education and industry in the Visayas. It is a global hub for business processing services, tourism, shipping, furniture-making, and heavy industry. The province lays within the typhoon belt. Infectious diseases have also been taking a toll on the province and in the midst of the COVID-19 pandemic, Cebu is one of the provinces that has also experienced and outbreak of Polio.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.586 • Rank: 5/84



RESILIENCE (R) - Low
Score: 0.542 • Rank: 56/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.841 • Rank: 4/84



VULNERABILITY (V) - High
Score: 0.486 • Rank: 23/84



COPING CAPACITY (CC) - High
Score: 0.570 • Rank: 33/84



Population (2018)
4,756,594



Population in Poverty
11.1%



Literate population
98.6%



Access to improved water
63.7%



Average life expectancy
69.4 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 4 / 84 PROVINCES
SCORE: 0.841



MHE
0.841

Raw MHE
0.919

Relative MHE
0.764

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

75%

3,549,031
\$13 Billion



Tsunami

<1%

15,164
\$1.4 Million



Flood

45%

2,153,283
\$8.1 Billion



Liquefaction

51%

2,446,066
\$9.3 Billion



Landslide

15%

727,975
\$2.1 Billion



Volcano

<1%

13,556
\$44.7 Million



Drought

62%

2,933,732
\$11.8 Billion



Wildfire

1%

60,173
\$117.3 Million



Storm Surge

20%

943,163
\$1.6 Billion



Typhoon Winds

100%

4,754,466
\$15.3 Billion



VULNERABILITY (V)

RANK: 23 / 84 PROVINCES ASSESSED
SCORE: 0.486

Vulnerability in Cebu is primarily driven by Clean Water Access Vulnerability and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.646** **RANK: 9/84 PROVINCES ASSESSED**

7.26 Livestock density
33.7 Barren land (per 10k hectares)
1.68% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.452** **RANK: 38/84 PROVINCES ASSESSED**

7.1% Malnutrition among children (0 to 5 years old)
3.83 Infant mortality rate (per 1k live births)
31.25 Maternal mortality rate (per 100k live births)
69.4 Life expectancy
368 Disability (per 100k persons)

17.3 Tuberculosis mortality rate (per 100k persons)
0.3 HIV mortality rate (per 100k persons)
7.2 Intestinal disease mortality rate (per 100k persons)
6.1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



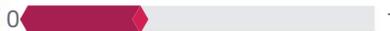
Clean Water Vulnerability

0  1 **SCORE: 0.808** **RANK: 6/84 PROVINCES ASSESSED**

63.7% Households with improved safe water source
52.7% Households with sanitary toilet facility



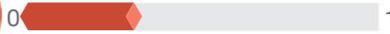
Information Access Vulnerability

0  1 **SCORE: 0.328** **RANK: 72/84 PROVINCES ASSESSED**

98.55% Literacy rate (age 10 and older)
115.24% Gross primary school enrollment rate
10.80% Internet Access
64.65% Households with radio
71.19% Households with television



Economic Constraints

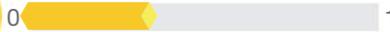
0  1 **SCORE: 0.309** **RANK: 55/84** PROVINCES ASSESSED

0.59
Economic
dependency
ratio

11.11%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.354** **RANK: 59/84** PROVINCES ASSESSED

1.07
Female to male
secondary school
enrollment Rate

0.53
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.506** **RANK: 15/84** PROVINCES ASSESSED

2.02
Population
growth rate
(2010-2015)

3.63
Average annual
urban population
growth rate

2.8%
Informal settlers



COPING CAPACITY (CC)

RANK: 33 / 84 PROVINCES ASSESSED
SCORE: 0.570

Cebu exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0 1 **SCORE: 0.339** **RANK: 79/84 PROVINCES ASSESSED**

0.86

Purchasing power of the peso

63.54%

Labor force participation rate

649.33

Local government annual regular income per capita (Philippine Peso)



Governance

0 1 **SCORE: 0.706** **RANK: 21/84 PROVINCES ASSESSED**

85.0%

Voter participation

10.38

Organized violence (per 100k persons)

46.54%

Garbage pickup



Environmental Capacity

0 1 **SCORE: 0.567** **RANK: 12/84 PROVINCES ASSESSED**

27

Protected areas (per 1k ha)

15.2%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.665 RANK: 17/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.588 RANK: 20/84 PROVINCES ASSESSED

10.59	3.04	65.88%	4.77
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.755 RANK: 8/84 PROVINCES ASSESSED

2.65	12.12
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.885 RANK: 6/84 PROVINCES ASSESSED

12.4%	96.7%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.765 RANK: 21/84 PROVINCES ASSESSED

86.9%	26.7%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.329 RANK: 67/84 PROVINCES ASSESSED

15.01	1.16	1.89
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 56 / 84 PROVINCES ASSESSED
SCORE: 0.542

Cebu's score and ranking are due to High Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Clean Water
Access
Vulnerability



Environmental
Stress



Emergency
Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 14 / 84 PROVINCES ASSESSED
SCORE: 0.354



Tsunami

RANK: 29 / 84 PROVINCES ASSESSED
SCORE: 0.106



Flood

RANK: 11 / 84 PROVINCES ASSESSED
SCORE: 0.310



Liquefaction

RANK: 5 / 84 PROVINCES ASSESSED
SCORE: 0.343



Landslide

RANK: 5 / 84 PROVINCES ASSESSED
SCORE: 0.370



Volcano

RANK: 22 / 84 PROVINCES ASSESSED
SCORE: 0.149



Drought

RANK: 16 / 84 PROVINCES ASSESSED
SCORE: 0.387

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

5 / 84
RANK WITHIN PROVINCES
Score: 0.586



Cebu's score and ranking are due to Very High Multi-hazard exposure combined with High Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



CEBU RECOMMENDATIONS

1

Clean Water Access Vulnerability

- In Cebu, only 63% of households have access to improved water sources, which is the 6th lowest in the Philippines. Focus on increasing clean water infrastructure especially in rural and remote areas to reduce health risks.
- Cebu is ranked 4th highest in the Philippines for multi-hazard exposure. The province is also vulnerable to environmental stresses, which can exacerbate hazard impacts. Invest in improved drinking water and sanitation infrastructure to increase resilience and reduce hazard risks.

2

Environmental Stress

- Cebu is ranked 4th highest for multi-hazard exposure and 5th highest in multi-hazard risk. Expand efforts to improve environmental conditions through increased reforestation and greening projects. Focus efforts on watersheds and other critical ecosystems that support the population. Ensure development and tourism in Cebu continues in an eco-conscious manner.

3

Emergency Services Capacity

- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Cebu ranked 79th out of the 84 territories in economic capacity. Local government annual regular income in Cebu is 649.3 pesos per capita, which is the 2nd lowest in the Philippines. Continue to encourage programs that diversify the economy in Cebu to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- Findings show that Cebu has the 5th highest multi-hazard risk score in the Philippines. Work with partners to increase funds and build capacity, focus areas should include disaster financing, emergency services and access to clean water.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

CITY OF ISABELA

NDPBA PROVINCE PROFILE

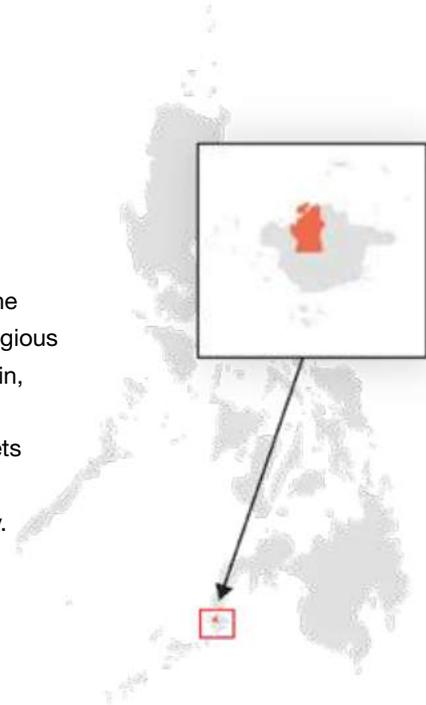
THE PHILIPPINES

CITY OF ISABELA

CAPITAL:

Area: 224 km²

The City of Isabela is located on the northern tip of Basilan off the coast of the Zamboanga Peninsula. The city is considered a melting pot of ethnic and religious groups. Independent from the province of Basilan for which it is located within, Isabela City is a center of many industries. The location and enhanced sea transportation have economically benefited the city through access to markets and increased imports. The City of Isabela produces agricultural and fishery products that are easily exported through trade with nearby Zamboanga City. Laying outside the typhoon belt, Isabela City is primarily exposed to seismic hazards.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.388 • Rank: 79/84



RESILIENCE (R) - Very Low
Score: 0.46 • Rank: 74/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.084 • Rank: 83/84



VULNERABILITY (V) - Very High
Score: 0.535 • Rank: 11/84



COPING CAPACITY (CC) - Very Low
Score: 0.454 • Rank: 72/84



Population (2018)
100,965



Population in Poverty
40.6%



Literate population
93.9%



Access to improved water
92.9%



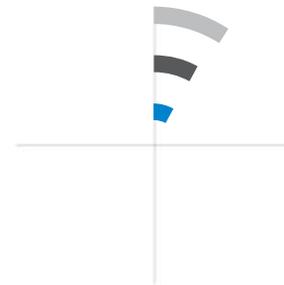
Average life expectancy
64.8 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 83 / 84 PROVINCES
SCORE: 0.084



MHE
0.084

Raw MHE
0.079

Relative MHE
0.09

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

78%

79,239

\$430 Million



Tsunami

-

-

-



Flood

-

-

-



Liquefaction

5%

5,167

\$64.5 Million



Landslide

<1%

334

\$11.5 Million



Volcano

-

-

-



Drought

-

-

-



Wildfire

-

-

-



Storm Surge

13%

13,243

\$260.4 Million



Typhoon Winds

-

-

-



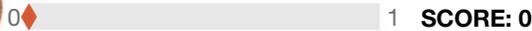
VULNERABILITY (V)

RANK: 11 / 84 PROVINCES ASSESSED
SCORE: 0.535

Vulnerability in City of Isabela is primarily driven by Population Pressures and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress



RANK: 84/84 PROVINCES ASSESSED

0.44 Livestock density	– Barren land (per 10k hectares)	– Forest cover change
----------------------------------	-------------------------------------	--------------------------



Vulnerable Health Status



RANK: 11/84 PROVINCES ASSESSED

– Malnutrition among children (0 to 5 years old)	7.89 Infant mortality rate (per 1k live births)	232.02 Maternal mortality rate (per 100k live births)	64.76 Life expectancy	250 Disability (per 100k persons)
13.7 Tuberculosis mortality rate (per 100k persons)	0 HIV mortality rate (per 100k persons)	3.4 Intestinal disease mortality rate (per 100k persons)	3.4 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)	



Clean Water Vulnerability



RANK: 16/84 PROVINCES ASSESSED

92.9% Households with improved safe water source	63.7% Households with sanitary toilet facility
--	--



Information Access Vulnerability



RANK: 38/84 PROVINCES ASSESSED

93.87% Literacy rate (age 10 and older)	122.29% Gross primary school enrollment rate	2.40% Internet Access	59.03% Households with radio	72.80% Households with television
---	--	---------------------------------	--	---



Economic Constraints

0  1 **SCORE: 0.719** **RANK: 8/84** PROVINCES ASSESSED

0.62
Economic
dependency
ratio

40.63%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.583** **RANK: 14/84** PROVINCES ASSESSED

1.12
Female to male
secondary school
enrollment Rate

0.43
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.791** **RANK: 2/84** PROVINCES ASSESSED

2.74
Population
growth rate
(2010-2015)

14.63
Average annual
urban population
growth rate

4.3%
Informal settlers



COPING CAPACITY (CC)

RANK: 72 / 84 PROVINCES ASSESSED
SCORE: 0.454

City of Isabela exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Transportation Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.537 **RANK: 33/84 PROVINCES ASSESSED**

- Purchasing power of the peso
- 55.62%** Labor force participation rate
- 4010.53** Local government annual regular income per capita (Philippine Peso)



Governance

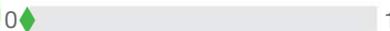


SCORE: 0.429 **RANK: 77/84 PROVINCES ASSESSED**

- 80.8%** Voter participation
- 23.77** Organized violence (per 100k persons)
- 34.52%** Garbage pickup



Environmental Capacity



SCORE: - **RANK: /84 PROVINCES ASSESSED**

- Protected areas (per 1k ha)
- Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.396 RANK: 77/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.408 RANK: 63/84 PROVINCES ASSESSED

0.92 **2.69** **71.42%** **8.34**
 Hospital beds (per 10k people) Physicians per 10,000 people Vaccination coverage Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.184 RANK: 82/84 PROVINCES ASSESSED

0.96 **53.97**
 Road density (km per sq. km) Average distance to nearest port (km)



Communications Capacity SCORE: 0.457 RANK: 70/84 PROVINCES ASSESSED

2.5% **75.6%**
 Households with a landline Mobile coverage



Energy Capacity SCORE: 0.572 RANK: 51/84 PROVINCES ASSESSED

82.8% **7.9%**
 Households with electricity Households with gas



Emergency Services Capacity SCORE: 0.052 RANK: 83/84 PROVINCES ASSESSED

0 **0.84** **0.84**
 Evacuation centers (per 100k persons) Fire Stations (per 100k persons) Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.46

City of Isabela's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Population Pressures



Economic Constraints



Emergency Services Capacity



Transportation Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 75 / 84 PROVINCES ASSESSED
SCORE: 0.122



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 76 / 84 PROVINCES ASSESSED
SCORE: 0.045



Landslide

RANK: 81 / 84 PROVINCES ASSESSED
SCORE: 0.050



Volcano

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

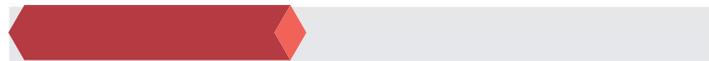
(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

79 / 84

RANK WITHIN PROVINCES
Score: 0.388



City of Isabela’s score and ranking are due to Very Low Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



CITY OF ISABELA RECOMMENDATIONS

1

Population Pressures

- The City of Isabela is ranked the 2nd highest in the Philippines for population pressures. More than 4% of the population are considered informal settlers, which ranks as the 2nd highest in the country. Continue to monitor the growth of the population and adjust the allocation of resources to match the changing population dynamics.
- Enforce building codes and environmental protection laws to ensure expansion is sustainable.
- Work with diverse partners to help stimulate the economy to support increased demands for the growing population. Ensure equitable distribution of resources and services for rural and urban areas.

2

Economic Constraints

- The city is ranked 5th highest in poverty rate, which represents 40% of the population. Focus efforts on stimulating the economy to promote the creation of gainful work. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Invest in small and local businesses, especially in rural and remote areas. Promote the growth of industries that create gainful work, to prevent outmigration of the working age population.

3

Emergency Services Capacity

- The City of Isabela is ranked 83rd out of the 84 territories for emergency services capacity. There are no local government run evacuation shelters and 0.84 fire stations per 100,000 persons. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Focus efforts on establishing evacuation centers, as well as increasing the number of fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Transportation Capacity

- The City of Isabela is ranked 82nd out of 84 territories for transportation capacity. The average distance between ports and populated places is 53.97 kilometers, the second highest in the country. Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holopono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

COMPOSTELA VALLEY

NDPBA PROVINCE PROFILE

THE PHILIPPINES

COMPOSTELA VALLEY

CAPITAL: NABUNTURAN

Area: 4,560 km²

Compostela Valley now renamed to Davao de Oro as of December 2019, is a province in the Philippines located in the Davao Region in Mindanao. It was previously a part of the of the province of Davao del Norte until 1998 when it separated. It borders Davao del Norte to the west, Agusan del Sur to the north, and Davao Oriental to the east. To the southwest lies the Davao Gulf. The province is the second richest province in the Philippines due to its vast gold and silver mines across the province. The main agricultural products also located in the province are rice, coconut, cacao, coffee, papaya, mango, pineapple, durian, and banana.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium
Score: 0.489 • Rank: 49/84



RESILIENCE (R) - Medium
Score: 0.558 • Rank: 47/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.584 • Rank: 49/84



VULNERABILITY (V) - Low
Score: 0.402 • Rank: 54/84



COPING CAPACITY (CC) - Low
Score: 0.519 • Rank: 62/84



Population (2018)
782,696



Population in Poverty
18.5%



Literate population
98.2%



Access to improved water
100.0%



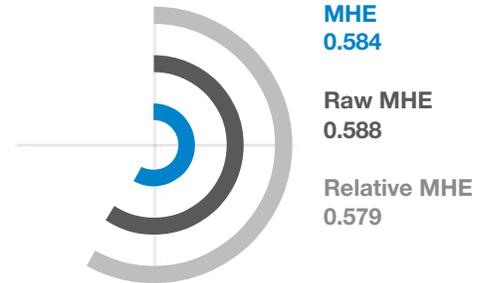
Average life expectancy
68.0 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 49 / 84 PROVINCES
SCORE: 0.584



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

 Earthquake
94%
738,374
\$3.3 Billion

 Tsunami
<1%
583
-

 Flood
32%
249,403
\$1.4 Billion

 Liquefaction
<1%
1,152
\$8.1 Million

 Landslide
24%
183,984
\$536.2 Million

 Volcano
9%
68,078
\$118.5 Million

 Drought
95%
746,735
\$3.3 Billion

 Wildfire
<1%
3,350
\$42.9 Million

 Storm Surge
6%
44,719
\$121.5 Million

 Typhoon Winds
45%
350,122
\$1.7 Billion



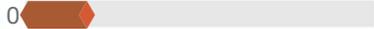
VULNERABILITY (V)

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0.402

Vulnerability in Compostela Valley is primarily driven by Gender Inequality and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.364** **RANK: 62/84 PROVINCES ASSESSED**

0.82 Livestock density
8.5 Barren land (per 10k hectares)
1.75% Forest cover change



Vulnerable Health Status

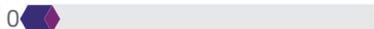
0  1 **SCORE: 0.484** **RANK: 28/84 PROVINCES ASSESSED**

3.2% Malnutrition among children (0 to 5 years old)
6.26 Infant mortality rate (per 1k live births)
156.55 Maternal mortality rate (per 100k live births)
68.01 Life expectancy
308 Disability (per 100k persons)

27.2 Tuberculosis mortality rate (per 100k persons)
0.3 HIV mortality rate (per 100k persons)
3.2 Intestinal disease mortality rate (per 100k persons)
3.8 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.07** **RANK: 81/84 PROVINCES ASSESSED**

100.0% Households with improved safe water source
93.4% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.54** **RANK: 26/84 PROVINCES ASSESSED**

98.16% Literacy rate (age 10 and older)
114.34% Gross primary school enrollment rate
1.16% Internet Access
57.29% Households with radio
54.21% Households with television



Economic Constraints

0  1 **SCORE: 0.424** **RANK: 40/84** PROVINCES ASSESSED

0.61
Economic
dependency
ratio

18.51%
Poverty
incidence



Gender Inequality

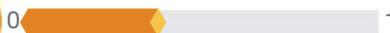
0  1 **SCORE: 0.554** **RANK: 20/84** PROVINCES ASSESSED

1.07
Female to male
secondary school
enrollment Rate

0.36
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.38** **RANK: 53/84** PROVINCES ASSESSED

1.32
Population
growth rate
(2010-2015)

3.31
Average annual
urban population
growth rate

2.2%
Informal settlers



COPING CAPACITY (CC)

RANK: 62 / 84 PROVINCES ASSESSED
SCORE: 0.519

Compostela Valley exhibits weaker Coping Capacity in the areas of Health Care Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.561 **RANK: 28/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

64.80%

Labor force participation rate

1928.12

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.631 **RANK: 44/84 PROVINCES ASSESSED**

87.4%

Voter participation

15.8

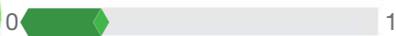
Organized violence (per 100k persons)

24.00%

Garbage pickup



Environmental Capacity



SCORE: 0.212 **RANK: 69/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

6.1%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.465** **RANK: 64/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.482** **RANK: 42/84** PROVINCES ASSESSED

6.35 Hospital beds (per 10k people)	1.16 Physicians per 10,000 people	57.40% Vaccination coverage	1.09 Average distance to nearest hospital (km)
--	--	--	---



Transportation Capacity **SCORE: 0.51** **RANK: 40/84** PROVINCES ASSESSED

0.73 Road density (km per sq. km)	16.33 Average distance to nearest port (km)
--	--



Communications Capacity **SCORE: 0.54** **RANK: 62/84** PROVINCES ASSESSED

0.8% Households with a landline	92% Mobile coverage
---	-------------------------------



Energy Capacity **SCORE: 0.507** **RANK: 63/84** PROVINCES ASSESSED

71.3% Households with electricity	10.1% Households with gas
---	-------------------------------------



Emergency Services Capacity **SCORE: 0.433** **RANK: 46/84** PROVINCES ASSESSED

25.16 Evacuation centers (per 100k persons)	1.46 Fire Stations (per 100k persons)	2.66 Fire Trucks (per 100k persons)
--	--	--



RESILIENCE (R)

RANK: 47 / 84 PROVINCES ASSESSED
SCORE: 0.558

Compostela Valley's score and ranking are due to Low Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Information Access Vulnerability



Health Care Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 40 / 84 PROVINCES ASSESSED
SCORE: 0.274



Tsunami

RANK: 44 / 84 PROVINCES ASSESSED
SCORE: 0.057



Flood

RANK: 51 / 84 PROVINCES ASSESSED
SCORE: 0.153



Liquefaction

RANK: 79 / 84 PROVINCES ASSESSED
SCORE: 0.012



Landslide

RANK: 17 / 84 PROVINCES ASSESSED
SCORE: 0.278



Volcano

RANK: 11 / 84 PROVINCES ASSESSED
SCORE: 0.251



Drought

RANK: 10 / 84 PROVINCES ASSESSED
SCORE: 0.407

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

49 / 84

RANK WITHIN PROVINCES
Score: 0.489



Compostela Valley's score and ranking are due to Medium Multi-hazard exposure combined with Low Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE (orange bar)
COUNTRY SCORE (grey bar)



COMPOSTELA VALLEY RECOMMENDATIONS

1

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Compostela Valley is ranked 7th highest for inequalities in gender-based labor force participation. Focus efforts on enforcing equal employment opportunities and expanding gainful work to encourage participation.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Information Access Vulnerability

- In Compostela Valley many homes lack access to radios, television and internet. Only 1.16% of households report having access to internet from their homes. Public dissemination of information must take into consideration alternative means of getting messages across. Expand the use of stationary and emergency vehicle sirens, also ensuring the public is informed on what alarm systems are communicating and how to act. Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider educational and resource needs.

3

Health Care Capacity

- Compostela Valley ranks 70th out of 84 territories for health care capacity. There are 0.92 hospital beds per 10,000 persons, which is the 3rd lowest in the Philippines. Continue to work with local and international partners to increase health care capacity. Invest in more hospital beds, as well as new and improved infrastructure. Increase resources at hospitals including medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- The population of Compostela Valley is vulnerable due to limited access to information at the household level. Working with the local fire departments, increasing the number of stations and fire trucks could also be leveraged for early warning signaling.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

COTABATO

NDPBA PROVINCE PROFILE

THE PHILIPPINES

COTABATO

CAPITAL: CITY OF KIDAPAWAN

Area: 9,317 km²

Cotabato is a landlocked province in the Philippines located in the Soccsksargen region in Mindanao. It is bounded on the north by the provinces of Lanao del Sur and Bukidnon, on the east by Davao City and Davao del Norte, on the west by Maguindanao and on the southeast by Sultan Kudarat and Davao del Sur. The economy is largely agricultural with it being the top producer of tropical fruits, vegetables, sugarcane, coconut, coffee, freshwater fish, and livestock. Seismic hazards expose the entire population in the province.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium

Score: 0.513 • Rank: 34/84



RESILIENCE (R) - Very Low

Score: 0.484 • Rank: 70/84



MULTI-HAZARD EXPOSURE (MHE) - Low

Score: 0.506 • Rank: 64/84



VULNERABILITY (V) - High

Score: 0.47 • Rank: 31/84



COPING CAPACITY (CC) - Very Low

Score: 0.437 • Rank: 76/84



Population (2018)

1,414,102



Population in Poverty

23.5%



Literate population

95.6%



Access to improved water

95.3%



Average life expectancy

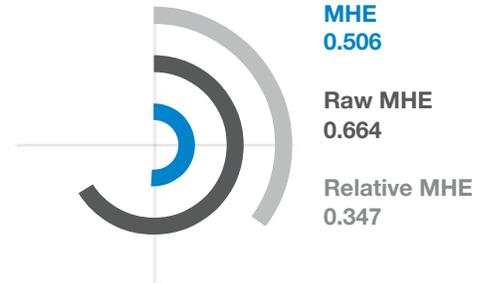
68.5 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 64 / 84 PROVINCES
SCORE: 0.506



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Earthquake
100%
 1,414,102
 \$9.5 Billion

Tsunami
 -
 -
 -

Flood
26%
 363,291
 \$3 Billion

Liquefaction
39%
 549,670
 \$4.9 Billion

Landslide
9%
 128,215
 \$544.2 Million

Volcano
<1%
 5,404
 \$37.9 Million

Drought
16%
 224,803
 \$1.4 Billion

Wildfire
8%
 107,020
 \$775.3 Million

Storm Surge
 -
 -
 -

Typhoon Winds
 -
 -
 -



VULNERABILITY (V)

RANK: 31 / 84 PROVINCES ASSESSED
SCORE: 0.47

Vulnerability in Cotabato is primarily driven by Information Access Vulnerability and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0 1 **SCORE: 0.362** **RANK: 63/84** PROVINCES ASSESSED

1.31 Livestock density
0.96 Barren land (per 10k hectares)
-0.41% Forest cover change



Vulnerable Health Status

0 1 **SCORE: 0.401** **RANK: 59/84** PROVINCES ASSESSED

7.3% Malnutrition among children (0 to 5 years old)
4.85 Infant mortality rate (per 1k live births)
44.45 Maternal mortality rate (per 100k live births)
68.47 Life expectancy
358 Disability (per 100k persons)

16.5 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.1 Intestinal disease mortality rate (per 100k persons)
1.6 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0 1 **SCORE: 0.43** **RANK: 39/84** PROVINCES ASSESSED

95.3% Households with improved safe water source
81.8% Households with sanitary toilet facility



Information Access Vulnerability

0 1 **SCORE: 0.544** **RANK: 25/84** PROVINCES ASSESSED

95.55% Literacy rate (age 10 and older)
120.49% Gross primary school enrollment rate
1.59% Internet Access
63.74% Households with radio
48.64% Households with television



Economic Constraints



SCORE: 0.516 **RANK: 26/84** PROVINCES ASSESSED

0.63

Economic
dependency
ratio

23.49%

Poverty
incidence



Gender Inequality



SCORE: 0.518 **RANK: 28/84** PROVINCES ASSESSED

1.09

Female to male
secondary school
enrollment Rate

0.43

Labor force
participation ratio



Population Pressures



SCORE: 0.515 **RANK: 14/84** PROVINCES ASSESSED

2.27

Population
growth rate
(2010-2015)

7.47

Average annual
urban population
growth rate

2.2%

Informal settlers



COPING CAPACITY (CC)

RANK: 76 / 84 PROVINCES ASSESSED
SCORE: 0.437

Cotabato exhibits weaker Coping Capacity in the areas of Energy Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.43 **RANK: 64/84 PROVINCES ASSESSED**

0.86

Purchasing power of the peso

62.09%

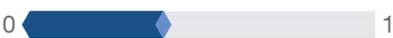
Labor force participation rate

1524.92

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.39 **RANK: 81/84 PROVINCES ASSESSED**

82.0%

Voter participation

19.92

Organized violence (per 100k persons)

9.88%

Garbage pickup



Environmental Capacity



SCORE: 0.555 **RANK: 15/84 PROVINCES ASSESSED**

35.07

Protected areas (per 1k ha)

11.0%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.452 RANK: 65/84 PROVINCES ASSESSED**



Health Care Capacity **SCORE: 0.714 RANK: 3/84 PROVINCES ASSESSED**

15.15	3.66	77.52%	4.56
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.403 RANK: 63/84 PROVINCES ASSESSED**

1.04	32.94
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.658 RANK: 47/84 PROVINCES ASSESSED**

1.1%	98.3%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.336 RANK: 77/84 PROVINCES ASSESSED**

58.5%	6.3%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.382 RANK: 56/84 PROVINCES ASSESSED**

22.15	1.18	2.43
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 70 / 84 PROVINCES ASSESSED
SCORE: 0.484

Cotabato's score and ranking are due to High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Information Access Vulnerability



Gender Inequality



Energy Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 4 / 84 PROVINCES ASSESSED
SCORE: 0.423



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 40 / 84 PROVINCES ASSESSED
SCORE: 0.187



Liquefaction

RANK: 13 / 84 PROVINCES ASSESSED
SCORE: 0.279



Landslide

RANK: 26 / 84 PROVINCES ASSESSED
SCORE: 0.258



Volcano

RANK: 20 / 84 PROVINCES ASSESSED
SCORE: 0.157



Drought

RANK: 33 / 84 PROVINCES ASSESSED
SCORE: 0.247

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

34 / 84

RANK WITHIN PROVINCES
Score: 0.513



Cotabato’s score and ranking are due to Low Multi-hazard exposure combined with High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



COTABATO RECOMMENDATIONS

1

Information Access Vulnerability

- Findings show that in Cotabato access to information is a major driver of vulnerability. Investments in education and distribution of household communication devices will enhance public dissemination of information, as well as ensure communities are able to understand and respond appropriately.
- Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster. Continue to provide public information on what to do during disasters early and often.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Energy Capacity

- In Cotabato, about 59% of households have access to electricity and 6% have access to liquid petroleum gas lines. The province is ranked 77th out of the 84 territories for energy capacity, indicating the need to invest in increased energy infrastructure. Focus efforts on increasing household access to energy and developing renewable power sources such as solar and wind.
- The entire population in Cotabato is exposed to earthquakes and nearly 40% are exposed to liquefaction hazards. Invest in reinforced energy infrastructure and backup systems, such as generators. Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access, especially in rural communities.

4

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- The population of Cotabato is vulnerable due to limited access to information at the household level. Working with the local fire departments, increasing the number of stations and fire trucks could also be leveraged for early warning signaling.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

COTABATO CITY

NDPBA PROVINCE PROFILE

THE PHILIPPINES

COTABATO CITY

CAPITAL:

Area: 176 km²

Cotabato City is located on Mindanao, geographically the it is located within the Autonomous Region in Muslim Mindanao and administratively is part of the Soccsksargen region. The climate of Cotabato City is characterized as tropical. The topography is relatively flat with some moderately sloping a eas. The population is majority Magindanaon and estimated at just under 300 thousand persons based on the 2015 census. Cotabato City is an economic center within Mindanao with ties in trade, finance, education and other services. The city is located outside the typhoon belt and is primarily exposed to seismic and flooding hazards. The city contains the mouth of two major rivers the Rio Grande de Mindanao and Pulangi, along with other water courses that add to the flooding susceptibility .



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.476 • Rank: 59/84



RESILIENCE (R) - Medium
Score: 0.555 • Rank: 49/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.539 • Rank: 60/84



VULNERABILITY (V) - Medium
Score: 0.44 • Rank: 41/84



COPING CAPACITY (CC) - Medium
Score: 0.551 • Rank: 47/84



Population (2018)
299,239



Population in Poverty
35.5%



Literate population
96.3%



Access to improved water
100.0%



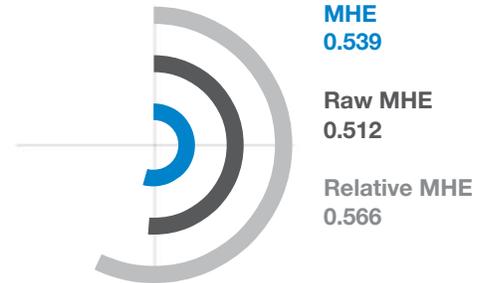
Average life expectancy
64.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 60 / 84 PROVINCES
SCORE: 0.539



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

97%

290,301
\$3.6 Billion



Tsunami

-

-
-



Flood

99%

296,088
\$3.6 Billion



Liquefaction

96%

288,752
\$3.6 Billion



Landslide

-

-
-



Volcano

<1%

897
\$10.9 Million



Drought

-

-
-



Wildfire

-

-
-



Storm Surge

6%

18,356
\$17.1 Million



Typhoon Winds

-

-
-



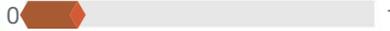
VULNERABILITY (V)

RANK: 41 / 84 PROVINCES ASSESSED
SCORE: 0.44

Vulnerability in Cotabato City is primarily driven by Economic Constraints and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.145** **RANK: 83/84** PROVINCES ASSESSED

0.75 Livestock density
- Barren land (per 10k hectares)
- Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.46** **RANK: 37/84** PROVINCES ASSESSED

- Malnutrition among children (0 to 5 years old)	4.82 Infant mortality rate (per 1k live births)	27.54 Maternal mortality rate (per 100k live births)	64.57 Life expectancy	180 Disability (per 100k persons)
10.8 Tuberculosis mortality rate (per 100k persons)	0 HIV mortality rate (per 100k persons)	4.1 Intestinal disease mortality rate (per 100k persons)	2.2 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)	



Clean Water Vulnerability

0  1 **SCORE: 0.244** **RANK: 72/84** PROVINCES ASSESSED

100.0% Households with improved safe water source
79.8% Households with sanitary toilet facility



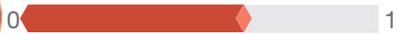
Information Access Vulnerability

0  1 **SCORE: 0.537** **RANK: 29/84** PROVINCES ASSESSED

96.30% Literacy rate (age 10 and older)	78.62% Gross primary school enrollment rate	4.60% Internet Access	76.50% Households with radio	76.94% Households with television
---	---	---------------------------------	--	---



Economic Constraints



SCORE: 0.63

RANK: 14/84 PROVINCES ASSESSED

0.6

Economic
dependency
ratio

35.53%

Poverty
incidence



Gender Inequality



SCORE: 0.47

RANK: 38/84 PROVINCES ASSESSED

1.12

Female to male
secondary school
enrollment Rate

0.53

Labor force
participation ratio



Population Pressures



SCORE: 0.596

RANK: 6/84 PROVINCES ASSESSED

1.86

Population
growth rate
(2010-2015)

2.9

Average annual
urban population
growth rate

6.5%

Informal settlers



COPING CAPACITY (CC)

RANK: 47 / 84 PROVINCES ASSESSED
SCORE: 0.551

Cotabato City exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Governance. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.611 **RANK: 22/84 PROVINCES ASSESSED**

–
Purchasing power of the peso

64.92%
Labor force participation rate

2553.56
Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.428 **RANK: 78/84 PROVINCES ASSESSED**

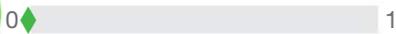
78.2%
Voter participation

22.9
Organized violence (per 100k persons)

54.71%
Garbage pickup



Environmental Capacity



SCORE: – **RANK: /84 PROVINCES ASSESSED**

–
Protected areas (per 1k ha)

–
Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.613 RANK: 25/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.677 RANK: 6/84 PROVINCES ASSESSED

17.33	2.76	74.65%	3.93
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.64 RANK: 17/84 PROVINCES ASSESSED

2.37	21.95
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.854 RANK: 12/84 PROVINCES ASSESSED

6.1%	100.0%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.772 RANK: 20/84 PROVINCES ASSESSED

85.9%	30.1%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.203 RANK: 76/84 PROVINCES ASSESSED

1.34	0.99	2.31
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 49 / 84 PROVINCES ASSESSED
SCORE: 0.555

Cotabato City's score and ranking are due to Medium Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Population Pressures



Emergency Services Capacity



Governance



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 39 / 84 PROVINCES ASSESSED
SCORE: 0.275



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 9 / 84 PROVINCES ASSESSED
SCORE: 0.319



Liquefaction

RANK: 7 / 84 PROVINCES ASSESSED
SCORE: 0.336



Landslide

RANK: 84 / 84 PROVINCES ASSESSED
SCORE: 0.000



Volcano

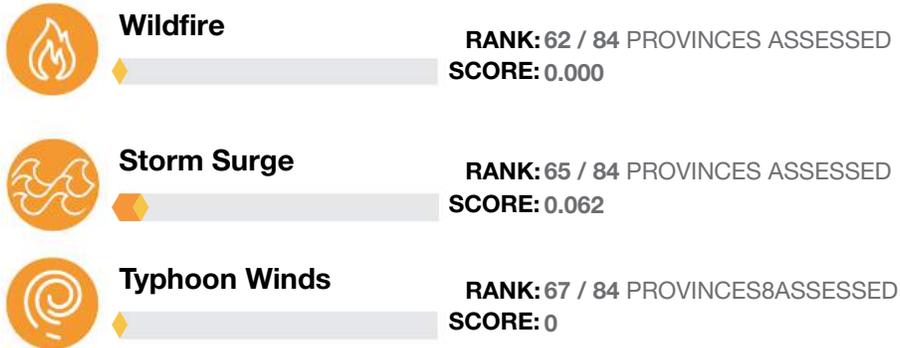
RANK: 46 / 84 PROVINCES ASSESSED
SCORE: 0.101



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

59 / 84
 RANK WITHIN PROVINCES
 Score: 0.476



Cotabato City’s score and ranking are due to Low Multi-hazard exposure combined with Medium Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE (represented by colored bars)
 COUNTRY SCORE (represented by grey bars)



COTABATO CITY RECOMMENDATIONS

1

Economic Constraints

- Cotabato city is ranked 9th highest in poverty rate, which represents 36% of the population. Focus efforts on stimulating the economy to promote the creation of gainful work. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Population pressures are also influencing vulnerabilities in Cotabato City. Continue to work with local stakeholders and diverse partners to stimulate economic growth especially in remote and rural areas.

2

Population Pressures

- Cotabato City is ranked the 6th highest in the Philippines for population pressures. About 6% of the population are considered informal settlers, which ranks as the highest in the country. Expand public assistance programs and housing projects to meet the needs of the growing population.
- Continue to monitor the growth of the population and adjust the allocation of resources to match the changing population dynamics. Enforce building codes and environmental protection laws to ensure expansion is sustainable.

3

Emergency Services Capacity

- Population pressures in Cotabato City are increasing the need to expand emergency service capacity. As the population grows, there is an increased demand on the already limited resources and space in evacuation shelters. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Governance

- Voter participation in Cotabato City is estimated at 78%. Continue efforts to increase civic engagement, as well as government transparency and accountability.
- Expand economic development in Cotabato City. Focus on sustainable development that diversifies the economy and generates local revenue. Invest in small business, local companies and public infrastructure. Expand security capacity and social services to increase stability.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

DAVAO DEL NORTE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

DAVAO DEL NORTE

CAPITAL: CITY OF TAGUM

Area: 3,423 km²

Davao del Norte is a province in the Philippines located in the Davao Region in Mindanao. The province also includes Samal Island to the south in the Davao Gulf. The economy is primarily agricultural with the principal crops being rice, banana, maize, coconut, and coffee. It is also a major producer of gold, silver, silica, copper, and sulfur. Tourism is also a major part of the economy of Davao del Norte. The population in Davao del Norte is highly exposed to drought and earthquake hazards. Additionally, insecurity in some areas have displaced people, mainly those from indigenous communities.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.462 • Rank: 67/84



RESILIENCE (R) - Medium
Score: 0.572 • Rank: 39/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.530 • Rank: 63/84



VULNERABILITY (V) - Low
Score: 0.401 • Rank: 55/84



COPING CAPACITY (CC) - Low
Score: 0.545 • Rank: 51/84



Population (2018)
1,125,187



Population in Poverty
10.2%



Literate population
98.2%



Access to improved water
84.0%



Average life expectancy
68.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 63 / 84 PROVINCES
SCORE: 0.530



MHE
0.530

Raw MHE
0.618

Relative MHE
0.442

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

91%

1,020,003
\$4.8 Billion



Tsunami

<1%

1,548
\$3 Million



Flood

<1%

28
-



Liquefaction

50%

562,500
\$2.9 Billion



Landslide

8%

86,906
\$392.5 Million



Volcano

<1%

8,362
\$43.3 Million



Drought

84%

949,704
\$4.4 Billion



Wildfire

-

-
-



Storm Surge

9%

97,562
\$318.3 Million



Typhoon Winds

<1%

1,925
\$30.5 Million



VULNERABILITY (V)

RANK: 55 / 84 PROVINCES ASSESSED
SCORE: 0.401

Vulnerability in Davao del Norte is primarily driven by Clean Water Access Vulnerability and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



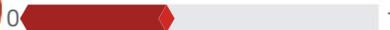
Environmental Stress

0  1 **SCORE: 0.396** **RANK: 57/84** PROVINCES ASSESSED

1.51 Livestock density
6.54 Barren land (per 10k hectares)
2.21% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.404** **RANK: 58/84** PROVINCES ASSESSED

7.8% Malnutrition among children (0 to 5 years old)
4.88 Infant mortality rate (per 1k live births)
37.2 Maternal mortality rate (per 100k live births)
68.62 Life expectancy
203 Disability (per 100k persons)

22.8 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
7.3 Intestinal disease mortality rate (per 100k persons)
4.4 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.516** **RANK: 25/84** PROVINCES ASSESSED

84.0% Households with improved safe water source
86.0% Households with sanitary toilet facility



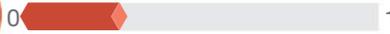
Information Access Vulnerability

0  1 **SCORE: 0.438** **RANK: 49/84** PROVINCES ASSESSED

98.22% Literacy rate (age 10 and older)
119.60% Gross primary school enrollment rate
3.23% Internet Access
59.07% Households with radio
67.32% Households with television



Economic Constraints

0  1 **SCORE: 0.266** **RANK: 65/84** PROVINCES ASSESSED

0.57
Economic
dependency
ratio

10.21%
Poverty
incidence



Gender Inequality

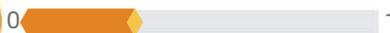
0  1 **SCORE: 0.477** **RANK: 37/84** PROVINCES ASSESSED

1.08
Female to male
secondary school
enrollment Rate

0.44
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.312** **RANK: 74/84** PROVINCES ASSESSED

1.38
Population
growth rate
(2010-2015)

1.3
Average annual
urban population
growth rate

1.7%
Informal settlers



COPING CAPACITY (CC)

RANK: 51 / 84 PROVINCES ASSESSED
SCORE: 0.545

Davao del Norte exhibits weaker Coping Capacity in the areas of Transportation Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.449 **RANK: 61/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

60.95%

Labor force participation rate

1350.29

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.746 **RANK: 10/84 PROVINCES ASSESSED**

84.8%

Voter participation

5.76

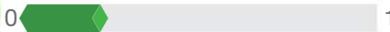
Organized violence (per 100k persons)

40.47%

Garbage pickup



Environmental Capacity



SCORE: 0.212 **RANK: 69/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

6.1%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.55** **RANK: 45/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.296** **RANK: 74/84** PROVINCES ASSESSED

0.54	3.9	56.90%	12.01
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.304** **RANK: 73/84** PROVINCES ASSESSED

1.93	52.91
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.727** **RANK: 33/84** PROVINCES ASSESSED

2.9%	96.0%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.675** **RANK: 31/84** PROVINCES ASSESSED

80.6%	20.1%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.372** **RANK: 59/84** PROVINCES ASSESSED

14.68	1.36	2.32
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 39 / 84 PROVINCES ASSESSED
SCORE: 0.572

Davao del Norte's score and ranking are due to Low Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



**Clean Water
Access
Vulnerability**



Gender Inequality



**Transportation
Capacity**



**Emergency Services
Capacity**



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 41 / 84 PROVINCES ASSESSED
SCORE: 0.274



Tsunami

RANK: 35 / 84 PROVINCES ASSESSED
SCORE: 0.087



Flood

RANK: 73 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 23 / 84 PROVINCES ASSESSED
SCORE: 0.232



Landslide

RANK: 50 / 84 PROVINCES ASSESSED
SCORE: 0.199



Volcano

RANK: 26 / 84 PROVINCES ASSESSED
SCORE: 0.141



Drought

RANK: 19 / 84 PROVINCES ASSESSED
SCORE: 0.376

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

67 / 84

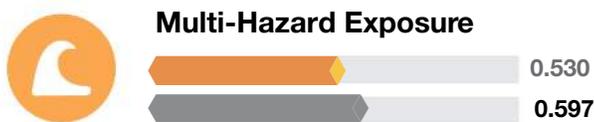
RANK WITHIN PROVINCES
Score: 0.462



Davao del Norte’s score and ranking are due to Low Multi-hazard exposure combined with Low Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



DAVAO DEL NORTE RECOMMENDATIONS

1

Clean Water Access Vulnerability

- The results show that 84% of the population in Davao del Norte is exposed to drought hazards. Invest in improved drinking water and sanitation infrastructure to ensure safe and sustainable access to water for homes and agriculture. With climate change likely to influence more frequent and severe drought conditions, measures to reduce clean water vulnerabilities will decrease current and future risks.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Transportation Capacity

- The average distance between ports and populated areas in Davao del Norte is 52.91 kilometers, the 3rd highest in the Philippines. Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

DAVAO DEL SUR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

DAVAO DEL SUR

CAPITAL: CITY OF DIGOS

Area: 2,164 km²

Davao del Sur is a province in the Philippines located in the Davao Region in Mindanao. The province is bounded by Davao del Norte to the north, Davao Occidental to the south-east, North Cotabato and Sultan Kudarat to the west, South Cotabato and Sarangani to the south-west, and the Davao Gulf to the east. The topography contains sandy beaches and the Philippines highest peak, Mount Apo. The population is highly exposed to seismic hazards. Earthquakes in October of 2019 displaced many families and damaged infrastructure. The impacts were further exacerbated in December of that year with another earthquake of 6.9 magnitude.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.433 • Rank: 77/84



RESILIENCE (R) - Medium
Score: 0.576 • Rank: 34/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.451 • Rank: 73/84



VULNERABILITY (V) - Low
Score: 0.38 • Rank: 61/84



COPING CAPACITY (CC) - Low
Score: 0.532 • Rank: 58/84



Population (2018)
2,219,271



Population in Poverty
8.1%



Literate population
98.2%



Access to improved water
100.0%



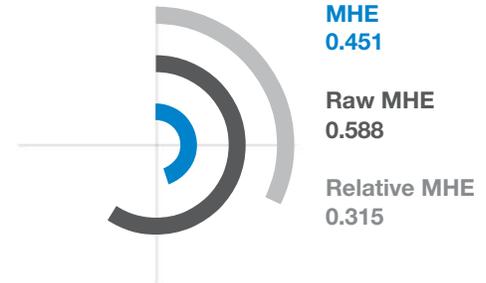
Average life expectancy
69.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 73 / 84 PROVINCES
SCORE: 0.451



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

97%

2,156,324
\$3.3 Billion



Tsunami

<1%

19,031
\$13.9 Million



Flood

-

-
-



Liquefaction

35%

765,791
\$1.5 Billion



Landslide

13%

291,668
\$380.7 Million



Volcano

<1%

6,875
\$11.5 Million



Drought

4%

94,843
\$154.5 Million



Wildfire

11%

241,930
\$344.3 Million



Storm Surge

27%

596,482
\$779.4 Million



Typhoon Winds

-

-

-



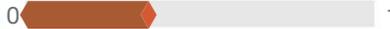
VULNERABILITY (V)

RANK: 61 / 84 PROVINCES ASSESSED
SCORE: 0.38

Vulnerability in Davao del Sur is primarily driven by Gender Inequality and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.352** **RANK: 66/84** PROVINCES ASSESSED

2.17 Livestock density
0.1 Barren land (per 10k hectares)
0.61% Forest cover change



Vulnerable Health Status

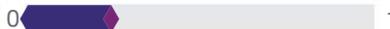
0  1 **SCORE: 0.409** **RANK: 57/84** PROVINCES ASSESSED

7.0% Malnutrition among children (0 to 5 years old)
5.29 Infant mortality rate (per 1k live births)
37.12 Maternal mortality rate (per 100k live births)
69.15 Life expectancy
201 Disability (per 100k persons)

21.3 Tuberculosis mortality rate (per 100k persons)
1.1 HIV mortality rate (per 100k persons)
4 Intestinal disease mortality rate (per 100k persons)
2.6 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



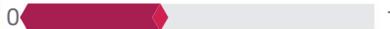
Clean Water Vulnerability

0  1 **SCORE: 0.243** **RANK: 73/84** PROVINCES ASSESSED

100.0% Households with improved safe water source
79.9% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.386** **RANK: 62/84** PROVINCES ASSESSED

98.15% Literacy rate (age 10 and older)
114.87% Gross primary school enrollment rate
8.44% Internet Access
64.54% Households with radio
66.28% Households with television



Economic Constraints



SCORE: 0.2

RANK: 71/84 PROVINCES ASSESSED

0.54

Economic
dependency
ratio

8.07%

Poverty
incidence



Gender Inequality



SCORE: 0.543

RANK: 21/84 PROVINCES ASSESSED

1.09

Female to male
secondary school
enrollment Rate

0.41

Labor force
participation ratio



Population Pressures



SCORE: 0.531

RANK: 12/84 PROVINCES ASSESSED

2.07

Population
growth rate
(2010-2015)

3.87

Average annual
urban population
growth rate

3.1%

Informal settlers



COPING CAPACITY (CC)

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.532

Davao del Sur exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.416** **RANK: 69/84 PROVINCES ASSESSED**

0.9

Purchasing power of the peso

64.54%

Labor force participation rate

512.04

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.579** **RANK: 63/84 PROVINCES ASSESSED**

76.9%

Voter participation

7.54

Organized violence (per 100k persons)

50.01%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.569** **RANK: 11/84 PROVINCES ASSESSED**

30.65

Protected areas (per 1k ha)

14.0%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.59** **RANK: 30/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.242** **RANK: 80/84** PROVINCES ASSESSED

1.71	1.29	58.73%	11.29
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.42** **RANK: 57/84** PROVINCES ASSESSED

1.97	41.48
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.868** **RANK: 10/84** PROVINCES ASSESSED

7.8%	99.0%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.668** **RANK: 33/84** PROVINCES ASSESSED

77.8%	22.9%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.265** **RANK: 72/84** PROVINCES ASSESSED

11.01	0.97	1.48
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 34 / 84 PROVINCES ASSESSED
SCORE: 0.576

Davao del Sur's score and ranking are due to Low Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Population Pressures



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 27 / 84 PROVINCES ASSESSED
SCORE: 0.310



Tsunami

RANK: 20 / 84 PROVINCES ASSESSED
SCORE: 0.134



Flood

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 40 / 84 PROVINCES ASSESSED
SCORE: 0.195



Landslide

RANK: 29 / 84 PROVINCES ASSESSED
SCORE: 0.256



Volcano

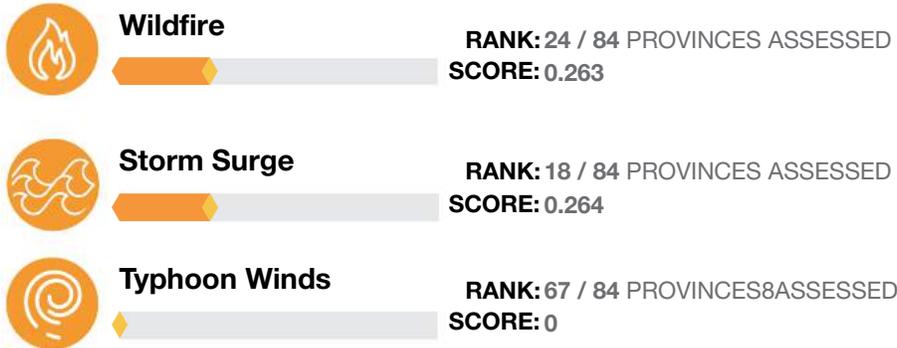
RANK: 38 / 84 PROVINCES ASSESSED
SCORE: 0.114



Drought

RANK: 47 / 84 PROVINCES ASSESSED
SCORE: 0.148

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

77 / 84
 RANK WITHIN PROVINCES
 Score: 0.433



Davao del Sur’s score and ranking are due to Very Low Multi-hazard exposure combined with Low Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE (represented by colored bars)
 COUNTRY SCORE (represented by grey bars)



DAVAO DEL SUR RECOMMENDATIONS

1

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Population Pressures

- Continue to monitor the growth of the population and plan resource allocation appropriately. Enforce building codes and environmental protection laws to ensure expansion is sustainable.
- Work with diverse partners to help stimulate the economy to support increased demands. Ensure equitable distribution of resources and services.

3

Emergency Services Capacity

- Davao del Sur is ranked 72nd out of 84 territories in emergency services capacity. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Davao del Sur ranked 69th out of the 84 territories in economic capacity. Local government annual regular income in Davao del Sur is 512 pesos per capita, the lowest in the Philippines. Continue to encourage programs that diversify the economy in Davao del Sur to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- As the population grows, there will be increases in the demands for emergency services and public programs. Work with stakeholders and partners to expand emergency service capacities by training community members and generating funds to support response activities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

DAVAO OCCIDENTAL

NDPBA PROVINCE PROFILE

THE PHILIPPINES

DAVAO OCCIDENTAL

CAPITAL: MALITA

Area: 2,163 km²

Davao Occidental is the 81st and newest province in the Philippines located in the Davao Region in Mindanao. To the east lies the Davao Gulf. It also shares a maritime border with the Indonesian province of North Sulawesi to the south. The province is the newest province in the Philippines created in 2013. The topography of the region is hilly, rugged, and sloping, with nearly the whole province consisting of mountains. The economy is largely based on aquaculture and agriculture. The produce from the province includes fish, bananas, and coconuts. There are few rice farms in this province due to the hills located in this province.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.466 • Rank: 66/84



RESILIENCE (R) - Very Low
Score: 0.455 • Rank: 76/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.308 • Rank: 78/84



VULNERABILITY (V) - Very High
Score: 0.531 • Rank: 13/84



COPING CAPACITY (CC) - Very Low
Score: 0.442 • Rank: 75/84



Population (2018)
319,804



Population in Poverty
30.9%



Literate population
90.3%



Access to improved water
75.5%



Average life expectancy
69.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 78 / 84 PROVINCES
SCORE: 0.308



MHE
0.308

Raw MHE
0.189

Relative MHE
0.427

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

67%

212,703

\$154.9 Million



Tsunami

1%

3,235

-



Flood

-

-

-



Liquefaction

<1%

898

\$117,487



Landslide

63%

201,883

\$107.4 Million



Volcano

<1%

954

\$532,771



Drought

82%

262,392

\$151.2 Million



Wildfire

-

-

\$23,925



Storm Surge

19%

61,816

\$24.4 Million



Typhoon Winds

-

-

-



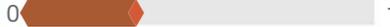
VULNERABILITY (V)

RANK: 13 / 84 PROVINCES ASSESSED
SCORE: 0.531

Vulnerability in Davao Occidental is primarily driven by Gender Inequality and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.315** **RANK: 72/84** PROVINCES ASSESSED

1.46 Livestock density
0.1 Barren land (per 10k hectares)
0.61% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.431** **RANK: 48/84** PROVINCES ASSESSED

– Malnutrition among children (0 to 5 years old)
2.08 Infant mortality rate (per 1k live births)
224.91 Maternal mortality rate (per 100k live births)
69.15 Life expectancy
337 Disability (per 100k persons)

7.8 Tuberculosis mortality rate (per 100k persons)
0.6 HIV mortality rate (per 100k persons)
3.1 Intestinal disease mortality rate (per 100k persons)
0.6 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.729** **RANK: 8/84** PROVINCES ASSESSED

75.5% Households with improved safe water source
61.6% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.43** **RANK: 50/84** PROVINCES ASSESSED

90.33% Literacy rate (age 10 and older)
124.24% Gross primary school enrollment rate
8.44% Internet Access
64.54% Households with radio
66.28% Households with television



Economic Constraints



SCORE: 0.685 **RANK: 12/84** PROVINCES ASSESSED

0.69
Economic
dependency
ratio

30.87%
Poverty
incidence



Gender Inequality



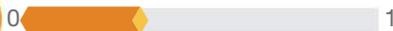
SCORE: 0.802 **RANK: 6/84** PROVINCES ASSESSED

1.16
Female to male
secondary school
enrollment Rate

0.29
Labor force
participation ratio



Population Pressures



SCORE: 0.328 **RANK: 68/84** PROVINCES ASSESSED

1.42
Population
growth rate
(2010-2015)

2.86
Average annual
urban population
growth rate

1.5%
Informal settlers



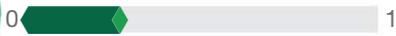
COPING CAPACITY (CC)

RANK: 75 / 84 PROVINCES ASSESSED
SCORE: 0.442

Davao Occidental exhibits weaker Coping Capacity in the areas of Health Care Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.267 **RANK: 83/84 PROVINCES ASSESSED**

— Purchasing power of the peso

— Labor force participation rate

1040.61
 Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.611 **RANK: 50/84 PROVINCES ASSESSED**

75.4%
 Voter participation

2.42
 Organized violence (per 100k persons)

50.01%
 Garbage pickup



Environmental Capacity



SCORE: 0.629 **RANK: 7/84 PROVINCES ASSESSED**

66.64
 Protected areas (per 1k ha)

14.0%
 Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.385** **RANK: 79/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.329** **RANK: 72/84** PROVINCES ASSESSED

–	1.46	60.20%	9.58
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.357** **RANK: 67/84** PROVINCES ASSESSED

0.35	19.89
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.474** **RANK: 69/84** PROVINCES ASSESSED

7.8%	67.6%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.668** **RANK: 33/84** PROVINCES ASSESSED

77.8%	22.9%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.25** **RANK: 73/84** PROVINCES ASSESSED

12.34	0.92	1.23
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 76 / 84 PROVINCES ASSESSED
SCORE: 0.455

Davao Occidental's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Clean Water Access Vulnerability



Health Care Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 70 / 84 PROVINCES ASSESSED
SCORE: 0.183



Tsunami

RANK: 31 / 84 PROVINCES ASSESSED
SCORE: 0.097



Flood

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 80 / 84 PROVINCES ASSESSED
SCORE: 0.011



Landslide

RANK: 4 / 84 PROVINCES ASSESSED
SCORE: 0.384



Volcano

RANK: 52 / 84 PROVINCES ASSESSED
SCORE: 0.086



Drought

RANK: 7 / 84 PROVINCES ASSESSED
SCORE: 0.415

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

66 / 84

RANK WITHIN PROVINCES
Score: 0.466



Davao Occidental’s score and ranking are due to Very Low Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



DAVAO OCCIDENTAL RECOMMENDATIONS

1

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Davao Occidental is ranked 2nd highest for inequalities in gender-based labor force participation. Focus efforts on enforcing equal employment opportunities and expanding gainful work to encourage participation.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Clean Water Access Vulnerability

- The results show that in Davao Occidental 82% of the population are exposed to drought hazards and 63% are exposed to landslides. Droughts and landslides negatively impact surface water availability and quality. Invest in improved water and sanitation infrastructure to reduce vulnerabilities. Ensure water infrastructure projects also incorporate remote and rural communities.

3

Health Care Capacity

- Davao Occidental ranks 83rd out of 84 territories in the Philippines. In Davao Occidental there are 0.54 hospital beds per 10,000 persons, the second lowest in the country. Focus efforts on work with local and international partners to increase health care capacity. Invest in more hospital beds, as well as new and improved hospitals. Other priorities should include greater funding for the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Emergency Services Capacity

- Davao Occidental is ranked 73rd out of 84 territories for emergency services capacity. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

DAVAO ORIENTAL

NDPBA PROVINCE PROFILE

THE PHILIPPINES

DAVAO ORIENTAL

CAPITAL: CITY OF MATI

Area: 5,680 km²

Davao Oriental is a province in the Philippines located in the Davao Region in Mindanao. Davao Oriental borders the province of Davao de Oro to the west, and Agusan del Sur and Surigao del Sur to the north. It is the easternmost province in the country with Pusan Point in the municipality of Caraga as the easternmost location. The Philippine Sea faces Davao Oriental to the east. Part of the province lies on an unnamed peninsula that encloses the Davao Gulf to the west. It is the top producer of Coconuts in the Philippines.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium
Score: 0.489 • Rank: 50/84



RESILIENCE (R) - Low
Score: 0.543 • Rank: 55/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.552 • Rank: 57/84



VULNERABILITY (V) - Medium
Score: 0.431 • Rank: 44/84



COPING CAPACITY (CC) - Low
Score: 0.517 • Rank: 63/84



Population (2018)
572,048



Population in Poverty
27.7%



Literate population
97.4%



Access to improved water
100.0%



Average life expectancy
68.4 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 57 / 84 PROVINCES
SCORE: 0.552



MHE
0.552

Raw MHE
0.537

Relative MHE
0.568

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

92%

527,687
\$2.6 Billion



Tsunami

1%

6,594
\$23.7 Million



Flood

29%

168,525
\$1.1 Billion



Liquefaction

9%

49,268
\$163.9 Million



Landslide

28%

158,182
\$691.9 Million



Volcano

<1%

1,706
\$8.2 Million



Drought

85%

486,713
\$2.5 Billion



Wildfire

5%

26,322
\$89.8 Million



Storm Surge

22%

125,350
\$442.3 Million



Typhoon Winds

29%

165,547
\$549 Million



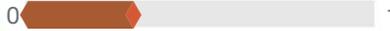
VULNERABILITY (V)

RANK: 44 / 84 PROVINCES ASSESSED
SCORE: 0.431

Vulnerability in Davao Oriental is primarily driven by Gender Inequality and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.308** **RANK: 73/84** PROVINCES ASSESSED

0.91 Livestock density
2.45 Barren land (per 10k hectares)
1.97% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.439** **RANK: 42/84** PROVINCES ASSESSED

3.9% Malnutrition among children (0 to 5 years old)
5.85 Infant mortality rate (per 1k live births)
64.97 Maternal mortality rate (per 100k live births)
68.42 Life expectancy
402 Disability (per 100k persons)

19 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.5 Intestinal disease mortality rate (per 100k persons)
4.9 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.036** **RANK: 82/84** PROVINCES ASSESSED

100.0% Households with improved safe water source
94.7% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.54** **RANK: 28/84** PROVINCES ASSESSED

97.35% Literacy rate (age 10 and older)
125.06% Gross primary school enrollment rate
1.95% Internet Access
52.95% Households with radio
43.65% Households with television



Economic Constraints



SCORE: 0.598 **RANK: 16/84** PROVINCES ASSESSED

0.65
Economic
dependency
ratio

27.70%
Poverty
incidence



Gender Inequality



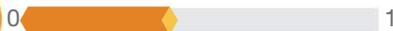
SCORE: 0.683 **RANK: 9/84** PROVINCES ASSESSED

1.14
Female to male
secondary school
enrollment Rate

0.37
Labor force
participation ratio



Population Pressures



SCORE: 0.414 **RANK: 39/84** PROVINCES ASSESSED

1.47
Population
growth rate
(2010-2015)

4.42
Average annual
urban population
growth rate

2.3%
Informal settlers



COPING CAPACITY (CC)

RANK: 63 / 84 PROVINCES ASSESSED
SCORE: 0.517

Davao Oriental exhibits weaker Coping Capacity in the areas of Health Care Capacity and Transportation Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.536 **RANK: 34/84 PROVINCES ASSESSED**

0.87

Purchasing power of the peso

65.00%

Labor force participation rate

2269.77

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.661 **RANK: 34/84 PROVINCES ASSESSED**

85.6%

Voter participation

8.72

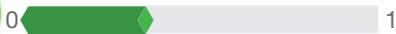
Organized violence (per 100k persons)

19.09%

Garbage pickup



Environmental Capacity



SCORE: 0.342 **RANK: 48/84 PROVINCES ASSESSED**

2.77

Protected areas (per 1k ha)

7.8%

Forest reserves



Infrastructure Capacity



SCORE: 0.412 RANK: 74/84 PROVINCES ASSESSED



Health Care Capacity

SCORE: 0.408 RANK: 62/84 PROVINCES ASSESSED

7.74

Hopital beds
(per 10k people)

1.24

Physicians per
10,000 people

61.18%

Vaccination
coverage

7.53

Average distance to nearest
hospital (km)



Transportation Capacity

SCORE: 0.304 RANK: 74/84 PROVINCES ASSESSED

0.53

Road density
(km per sq. km)

32.2

Average distance to
nearest port (km)



Communications Capacity

SCORE: 0.634 RANK: 52/84 PROVINCES ASSESSED

1.6%

Households with a landline

93.4%

Mobile coverage



Energy Capacity

SCORE: 0.426 RANK: 66/84 PROVINCES ASSESSED

68.7%

Households with electricity

6.4%

Households with gas



Emergency Services Capacity

SCORE: 0.445 RANK: 44/84 PROVINCES ASSESSED

11.82

Evacuation centers
(per 100k persons)

2.08

Fire Stations
(per 100k persons)

2.78

Fire Trucks
(per 100k persons)



RESILIENCE (R)

RANK: 55 / 84 PROVINCES ASSESSED
SCORE: 0.543

Davao Oriental's score and ranking are due to Medium Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Economic Constraints



Health Care Capacity



Transportation Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 44 / 84 PROVINCES ASSESSED
SCORE: 0.263



Tsunami

RANK: 14 / 84 PROVINCES ASSESSED
SCORE: 0.147



Flood

RANK: 52 / 84 PROVINCES ASSESSED
SCORE: 0.145



Liquefaction

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.061



Landslide

RANK: 12 / 84 PROVINCES ASSESSED
SCORE: 0.307



Volcano

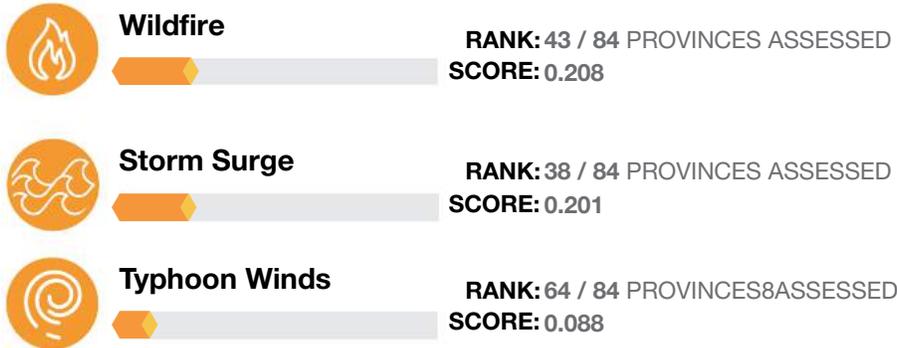
RANK: 41 / 84 PROVINCES ASSESSED
SCORE: 0.105



Drought

RANK: 14 / 84 PROVINCES ASSESSED
SCORE: 0.397

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

50 / 84

RANK WITHIN PROVINCES
Score: 0.489



Davao Oriental's score and ranking are due to Low Multi-hazard exposure combined with Medium Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



DAVAO ORIENTAL RECOMMENDATIONS

1

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Economic constraints also greatly influence vulnerabilities in Davao Oriental. Expand gainful employment opportunities for women to increase the size of the labor force and decrease poverty rates.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Economic Constraints

- In Davao Oriental, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Gender inequality is another major driver of vulnerability in Davao Oriental. Empower women to join the workforce and promote equal opportunity job growth. Invest in small and local businesses, especially in rural and remote areas.

3

Health Care Capacity

- Findings show that Davao Oriental's health care capacity ranks 79th out of the 84 territories in the Philippines. Average distance to hospitals (11.29 kilometers) and hospital beds (1.71 per 10,000 persons) are ranked relatively low compared to the rest of the country. Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Transportation Capacity

- Continue airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

DINAGAT ISLANDS

NDPBA PROVINCE PROFILE

THE PHILIPPINES

DINAGAT ISLANDS

CAPITAL: SAN JOSE

Area: 817 km²

Dinagat Islands are a group of islands constituting a province in the Caraga region in the Philippines on the south side of Leyte Gulf. The province is one of the smallest provinces in the country. Tourism is popular in these islands due to rich natural resources and its caves, resorts, and beaches. The province is highly exposed to typhoon winds and the coastal areas are within storm surge hazards zones. In 2019, many storm warnings of heavy winds and rains were posted for the province, these included impacts from Typhoon Tisoy and Tropical Storm Ursula.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.412 • Rank: 78/84



RESILIENCE (R) - High
Score: 0.587 • Rank: 28/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.409 • Rank: 74/84



VULNERABILITY (V) - Medium
Score: 0.465 • Rank: 34/84



COPING CAPACITY (CC) - Very High
Score: 0.638 • Rank: 10/84



Population (2018)
124,342



Population in Poverty
26.6%



Literate population
98.5%



Access to improved water
97.4%



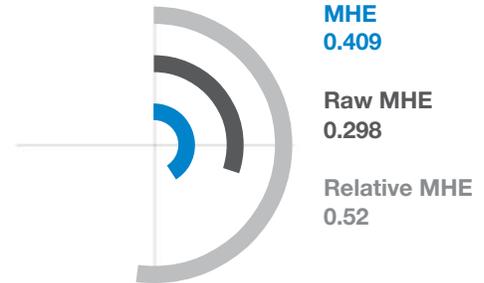
Average life expectancy
66.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 74 / 84 PROVINCES
SCORE: 0.409



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

69%

86,324

\$797.1 Million



Tsunami

2%

2,009

\$9.5 Million



Flood

28%

34,815

\$337 Million



Liquefaction

13%

16,048

\$156.6 Million



Landslide

17%

20,685

\$193.8 Million



Volcano

<1%

375

\$2.8 Million



Drought

2%

2,046

\$192.6 Million



Wildfire

-

-

-



Storm Surge

36%

45,042

\$95.9 Million



Typhoon Winds

99%

123,407

\$925.7 Million



VULNERABILITY (V)

RANK: 34 / 84 PROVINCES ASSESSED
SCORE: 0.465

Vulnerability in Dinagat Islands is primarily driven by Vulnerable Health Status and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.44** **RANK: 51/84 PROVINCES ASSESSED**

0.81 Livestock density
55.12 Barren land (per 10k hectares)
3.03% Forest cover change



Vulnerable Health Status

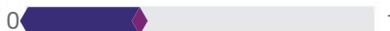
0  1 **SCORE: 0.68** **RANK: 4/84 PROVINCES ASSESSED**

– Malnutrition among children (0 to 5 years old)
2.01 Infant mortality rate (per 1k live births)
201.21 Maternal mortality rate (per 100k live births)
66.17 Life expectancy
951 Disability (per 100k persons)

24.2 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
5.7 Intestinal disease mortality rate (per 100k persons)
0.7 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.326** **RANK: 57/84 PROVINCES ASSESSED**

97.4% Households with improved safe water source
86.7% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.64** **RANK: 10/84 PROVINCES ASSESSED**

98.54% Literacy rate (age 10 and older)
106.00% Gross primary school enrollment rate
1.17% Internet Access
46.85% Households with radio
45.43% Households with television



Economic Constraints

0  1 **SCORE: 0.599** **RANK: 15/84 PROVINCES ASSESSED**

0.66
Economic
dependency
ratio

26.63%
Poverty
incidence



Gender Inequality

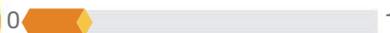
0  1 **SCORE: 0.407** **RANK: 49/84 PROVINCES ASSESSED**

1.03
Female to male
secondary school
enrollment Rate

0.41
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.16** **RANK: 82/84 PROVINCES ASSESSED**

0.05
Population
growth rate
(2010-2015)

0.98
Average annual
urban population
growth rate

1.5%
Informal settlers



COPING CAPACITY (CC)

RANK: 10 / 84 PROVINCES ASSESSED
SCORE: 0.638

Dinagat Islands exhibits weaker Coping Capacity in the areas of Communications Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.793** **RANK: 5/84 PROVINCES ASSESSED**

— Purchasing power of the peso
 — Labor force participation rate
4195.18 Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.724** **RANK: 15/84 PROVINCES ASSESSED**

83.3% Voter participation
0 Organized violence (per 100k persons)
20.06% Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.538** **RANK: 17/84 PROVINCES ASSESSED**

7.5 Protected areas (per 1k ha)
28.7% Forest reserves



Infrastructure Capacity



SCORE: 0.431 RANK: 68/84 PROVINCES ASSESSED



Health Care Capacity SCORE: 0.377 RANK: 68/84 PROVINCES ASSESSED

1.38	1.41	65.63%	5.75
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.527 RANK: 37/84 PROVINCES ASSESSED

0.69	13.58
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.168 RANK: 80/84 PROVINCES ASSESSED

0.4%	67.0%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.432 RANK: 65/84 PROVINCES ASSESSED

67.8%	7.1%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.711 RANK: 13/84 PROVINCES ASSESSED

184.05	4.66	2.33
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 28 / 84 PROVINCES ASSESSED
SCORE: 0.587

Dinagat Islands's score and ranking are due to Medium Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Vulnerable Health Status



Information Access Vulnerability



Communications Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.139



Tsunami

RANK: 24 / 84 PROVINCES ASSESSED
SCORE: 0.114



Flood

RANK: 62 / 84 PROVINCES ASSESSED
SCORE: 0.096



Liquefaction

RANK: 73 / 84 PROVINCES ASSESSED
SCORE: 0.062



Landslide

RANK: 52 / 84 PROVINCES ASSESSED
SCORE: 0.196



Volcano

RANK: 56 / 84 PROVINCES ASSESSED
SCORE: 0.071



Drought

RANK: 49 / 84 PROVINCES ASSESSED
SCORE: 0.134

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

78 / 84
RANK WITHIN PROVINCES
Score: 0.412



Dinagat Islands's score and ranking are due to Very Low Multi-hazard exposure combined with Medium Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



DINAGAT ISLANDS RECOMMENDATIONS

1

Vulnerable Health Status

- Dinagat Islands is ranked as the 4th highest province for vulnerable health status. The province has 951 persons with a disability per 100,000 population, which is the highest in the country. Maternal mortality rate is also elevated (201 deaths per 100,000 live births). Focus efforts on increasing access to health care and providing resources to disabled persons and mothers. These vulnerable populations need to be prioritized for disaster plans and resource allocation.
- Work with partners to bring in resources to expand health care infrastructure and medical staff members.

2

Information Access Vulnerability

- Dinagat Islands is ranked 10th highest in the Philippines for information access vulnerability. Expand efforts to increase household access to communication devices and educational opportunities.
- Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster. Continue to provide public information on what to do during disasters early and often.

3

Communications Capacity

- Dinagat Islands ranked 5th for mobile phone coverage, with only 67% of barangays having cell signal in the Province. Additionally, less than 1% of households report having access to landlines. The population of Dinagat Islands is also highly exposed to typhoons, earthquakes and floods. Invest in communications infrastructure that is reinforced to withstand hazards and adds redundancy to the communication network.
- Findings show that the population in Dinagat Islands are also vulnerable due to limitations in access to information. Improvements to communications infrastructure should be paralleled by increased households' access to telecommunication devices. Expand private and public partnerships in the meantime to plan emergency communications.

4

Health Care Capacity

- Findings show that health care capacity in Dinagat Islands ranked 72nd out of the 84 territories in the Philippines. Major investments and improvements are needed in Dinagat Islands to meet the current health care needs of the population.
- Dinagat Islands have the largest proportion of disabled persons and high maternal mortality rates. Continue to work with local and international partners to increase available funds and capacity for the health care sector. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

EASTERN SAMAR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

EASTERN SAMAR

CAPITAL: CITY OF BORONGAN

Area: 4,617 km²

Eastern Samar is a province in the Philippines located in the Eastern Visayas region. It occupies the eastern portion of the island of Samar. Bordering the province to the north is the province of Northern Samar and to the west is Samar province. To the east lies the Philippine Sea, to the south lies Leyte Gulf. Due to its geographic location facing the Philippine Sea it suffers heavily from powerful typhoons.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.551 • Rank: 17/84



RESILIENCE (R) - Very Low
Score: 0.494 • Rank: 68/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.642 • Rank: 35/84



VULNERABILITY (V) - Very High
Score: 0.552 • Rank: 9/84



COPING CAPACITY (CC) - Low
Score: 0.54 • Rank: 54/84



Population (2018)
409,189



Population in Poverty
40.9%



Literate population
97.3%



Access to improved water
87.7%



Average life expectancy
67.7 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 35 / 84 PROVINCES
SCORE: 0.642



MHE
0.642

Raw MHE
0.524

Relative MHE
0.761

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

87%

357,178
\$1.8 Billion



Tsunami

56%

228,262
\$862.7 Million



Flood

50%

205,673
\$916.8 Million



Liquefaction

51%

209,421
\$862.6 Million



Landslide

8%

30,805
\$237.4 Million



Volcano

<1%

202
\$1.2 Million



Drought

<1%

601
\$20 Million



Wildfire

-

-
\$616,651



Storm Surge

45%

185,815
\$747.1 Million



Typhoon Winds

100%

408,860
\$2 Billion



VULNERABILITY (V)

RANK: 9 / 84 PROVINCES ASSESSED
SCORE: 0.552

Vulnerability in Eastern Samar is primarily driven by Economic Constraints and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.512** **RANK: 32/84 PROVINCES ASSESSED**

0.76 Livestock density
39.02 Barren land (per 10k hectares)
-1.26% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.504** **RANK: 25/84 PROVINCES ASSESSED**

6.0% Malnutrition among children (0 to 5 years old)
6.49 Infant mortality rate (per 1k live births)
38.95 Maternal mortality rate (per 100k live births)
67.71 Life expectancy
697 Disability (per 100k persons)

18.5 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
3 Intestinal disease mortality rate (per 100k persons)
1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.499** **RANK: 28/84 PROVINCES ASSESSED**

87.7% Households with improved safe water source
85.0% Households with sanitary toilet facility



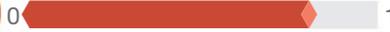
Information Access Vulnerability

0  1 **SCORE: 0.634** **RANK: 11/84 PROVINCES ASSESSED**

97.31% Literacy rate (age 10 and older)
116.01% Gross primary school enrollment rate
2.48% Internet Access
35.37% Households with radio
47.41% Households with television



Economic Constraints

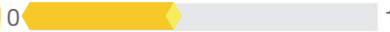
0  1 **SCORE: 0.816** **RANK: 5/84** PROVINCES ASSESSED

0.69
Economic
dependency
ratio

40.94%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.421** **RANK: 46/84** PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.46
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.476** **RANK: 21/84** PROVINCES ASSESSED

1.64
Population
growth rate
(2010-2015)

17.16
Average annual
urban population
growth rate

1.5%
Informal settlers



COPING CAPACITY (CC)

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0.54

Eastern Samar exhibits weaker Coping Capacity in the areas of Transportation Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.51** **RANK: 41/84 PROVINCES ASSESSED**

0.85

Purchasing power of the peso

67.26%

Labor force participation rate

2191.96

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.761** **RANK: 7/84 PROVINCES ASSESSED**

85.3%

Voter participation

2.46

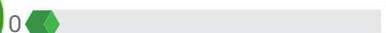
Organized violence (per 100k persons)

27.05%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.055** **RANK: 75/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

0.7%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.511** **RANK: 58/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.454** **RANK: 51/84** PROVINCES ASSESSED

25.28	0.5	60.24%	7.37
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.279** **RANK: 78/84** PROVINCES ASSESSED

0.45	32.08
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.526** **RANK: 65/84** PROVINCES ASSESSED

2.1%	82.2%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.633** **RANK: 41/84** PROVINCES ASSESSED

78.1%	17.2%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.699** **RANK: 15/84** PROVINCES ASSESSED

26.8	3.95	4.99
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0.494

Eastern Samar's score and ranking are due to Very High Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Information Access Vulnerability



Transportation Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 49 / 84 PROVINCES ASSESSED
SCORE: 0.248



Tsunami

RANK: 2 / 84 PROVINCES ASSESSED
SCORE: 0.506



Flood

RANK: 38 / 84 PROVINCES ASSESSED
SCORE: 0.192



Liquefaction

RANK: 34 / 84 PROVINCES ASSESSED
SCORE: 0.21



Landslide

RANK: 43 / 84 PROVINCES ASSESSED
SCORE: 0.212



Volcano

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.067



Drought

RANK: 53 / 84 PROVINCES ASSESSED
SCORE: 0.097

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

17 / 84

RANK WITHIN PROVINCES
Score: 0.551



Eastern Samar’s score and ranking are due to Medium Multi-hazard exposure combined with Very High Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



EASTERN SAMAR RECOMMENDATIONS

1

Economic Constraints

- In Eastern Samar poverty rate is at 41%, which is the 4th highest in the Philippines. Focus efforts on engaging local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Continue promoting industries that create gainful work, to prevent outmigration of the working age population. Enforce policies to ensure equal opportunity employment for all constituents.

2

Information Access Vulnerability

- In Eastern Samar, many homes lack access to radios, television and internet. Focus efforts on expanding economic and educational opportunities.
- Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster. Continue to provide public information on what to do during disasters early and often.

3

Transportation Capacity

- Eastern Samar is ranked 78th out of 84 territories for transportation capacity. The average distance between ports and populated places is 23.08 kilometers and road density in the province is 0.45 kilometers per square kilometer. Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

GUIMARAS

NDPBA PROVINCE PROFILE

THE PHILIPPINES

GUIMARAS

CAPITAL: JORDAN

Area: 612 km²

Guimaras is an island province in the Philippines located in the Western Visayas region. It is located in the Panay Gulf, between the islands of Panay and Negros. To the northwest is the province of Iloilo and to the southeast is Negros Occidental. It consists primarily of Guimaras Island and includes many surrounding islets. The economy is largely based on agriculture producing mangoes, coconuts, livestock, poultry, and fish. There is also a major tourism industry and processing industry. The population in Guimaras is highly exposed to earthquakes and typhoon winds. Infectious diseases also impact the province. Guimaras was one of 12 other provinces that declared states of calamity due to the dengue outbreak in 2019.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.374 • Rank: 81/84



RESILIENCE (R) - Very High
Score: 0.615 • Rank: 16/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.352 • Rank: 76/84



VULNERABILITY (V) - Very Low
Score: 0.336 • Rank: 73/84



COPING CAPACITY (CC) - Medium
Score: 0.565 • Rank: 35/84



Population (2018)
182,246



Population in Poverty
6.6%



Literate population
99.3%



Access to improved water
93.8%



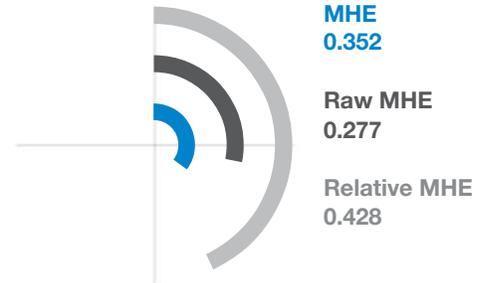
Average life expectancy
68.7 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 76 / 84 PROVINCES
SCORE: 0.352



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Earthquake
83%
150,436
\$637.8 Million

Tsunami
-
-
-

Flood
6%
10,343
\$56.3 Million

Liquefaction
23%
42,588
\$211.3 Million

Landslide
12%
21,598
\$68.4 Million

Volcano
<1%
545
\$2.1 Million

Drought
-
-
-

Wildfire
-
-
-

Storm Surge
9%
16,946
\$66 Million

Typhoon Winds
100%
182,173
\$713.2 Million



VULNERABILITY (V)

RANK: 73 / 84 PROVINCES ASSESSED
SCORE: 0.336

Vulnerability in Guimaras is primarily driven by Environmental Stress and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



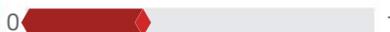
Environmental Stress

0  1 **SCORE: 0.483** **RANK: 37/84 PROVINCES ASSESSED**

2.2 Livestock density	2.06 Barren land (per 10k hectares)	-2.41% Forest cover change
---------------------------------	---	--------------------------------------



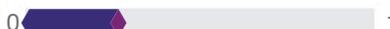
Vulnerable Health Status

0  1 **SCORE: 0.331** **RANK: 71/84 PROVINCES ASSESSED**

3.6% Malnutrition among children (0 to 5 years old)	9.56 Infant mortality rate (per 1k live births)	0 Maternal mortality rate (per 100k live births)	68.68 Life expectancy	373 Disability (per 100k persons)
27.6 Tuberculosis mortality rate (per 100k persons)	0 HIV mortality rate (per 100k persons)	2.3 Intestinal disease mortality rate (per 100k persons)	0 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)	



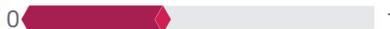
Clean Water Vulnerability

0  1 **SCORE: 0.26** **RANK: 70/84 PROVINCES ASSESSED**

93.8% Households with improved safe water source	95.0% Households with sanitary toilet facility
--	--



Information Access Vulnerability

0  1 **SCORE: 0.389** **RANK: 61/84 PROVINCES ASSESSED**

99.31% Literacy rate (age 10 and older)	120.05% Gross primary school enrollment rate	2.14% Internet Access	72.75% Households with radio	58.72% Households with television
---	--	---------------------------------	--	---



Economic Constraints

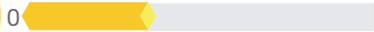
0  1 **SCORE: 0.209** **RANK: 69/84** PROVINCES ASSESSED

0.56
Economic
dependency
ratio

6.62%
Poverty
incidence



Gender Inequality

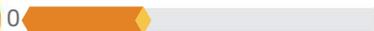
0  1 **SCORE: 0.346** **RANK: 61/84** PROVINCES ASSESSED

1.04
Female to male
secondary school
enrollment Rate

0.49
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.332** **RANK: 67/84** PROVINCES ASSESSED

1.33
Population
growth rate
(2010-2015)

9.81
Average annual
urban population
growth rate

0.8%
Informal settlers



COPING CAPACITY (CC)

RANK: 35 / 84 PROVINCES ASSESSED
SCORE: 0.565

Guimaras exhibits weaker Coping Capacity in the areas of Health Care Capacity and Energy Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.498** **RANK: 46/84 PROVINCES ASSESSED**

0.9

Purchasing power of the peso

52.22%

Labor force participation rate

3017.25

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.729** **RANK: 13/84 PROVINCES ASSESSED**

87.6%

Voter participation

1.1

Organized violence (per 100k persons)

8.99%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.496** **RANK: 23/84 PROVINCES ASSESSED**

3.58

Protected areas (per 1k ha)

30.7%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.491** **RANK: 61/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.521** **RANK: 38/84** PROVINCES ASSESSED

10.76 **2.43** **59.15%** **4.8**
 Hospital beds (per 10k people) Physicians per 10,000 people Vaccination coverage Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.63** **RANK: 20/84** PROVINCES ASSESSED

1.72 **17.9**
 Road density (km per sq. km) Average distance to nearest port (km)



Communications Capacity **SCORE: 0.548** **RANK: 60/84** PROVINCES ASSESSED

1.8% **85.7%**
 Households with a landline Mobile coverage



Energy Capacity **SCORE: 0.377** **RANK: 71/84** PROVINCES ASSESSED

71.6% **3.6%**
 Households with electricity Households with gas



Emergency Services Capacity **SCORE: 0.567** **RANK: 23/84** PROVINCES ASSESSED

26.95 **2.79** **3.35**
 Evacuation centers (per 100k persons) Fire Stations (per 100k persons) Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 16 / 84 PROVINCES ASSESSED
SCORE: 0.615

Guimaras’s score and ranking are due to Very Low Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Information Access Vulnerability



Health Care Capacity



Energy Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 72 / 84 PROVINCES ASSESSED
SCORE: 0.165



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 69 / 84 PROVINCES ASSESSED
SCORE: 0.026



Liquefaction

RANK: 64 / 84 PROVINCES ASSESSED
SCORE: 0.089



Landslide

RANK: 65 / 84 PROVINCES ASSESSED
SCORE: 0.148



Volcano

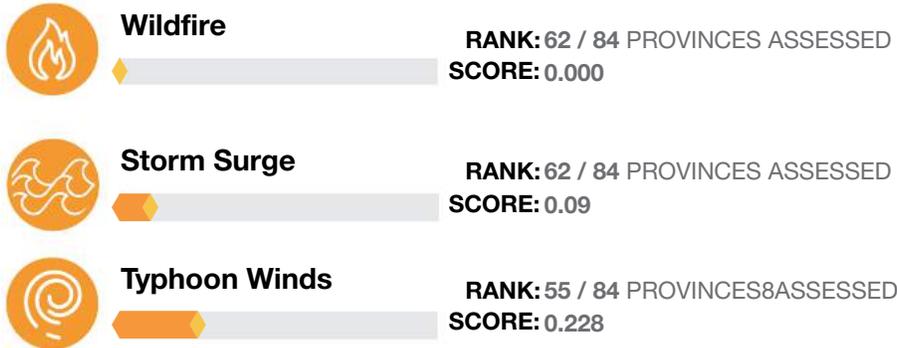
RANK: 59 / 84 PROVINCES ASSESSED
SCORE: 0.066



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

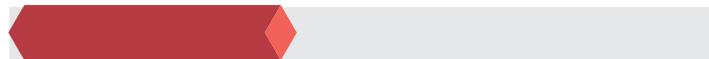
(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

81 / 84

RANK WITHIN PROVINCES
Score: 0.374



Guimaras’s score and ranking are due to Very Low Multi-hazard exposure combined with Very Low Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



GUIMARAS RECOMMENDATIONS

1

Environmental Stress

- Guimaras is ranked 7th in the Philippines for forest cover change vulnerability. Between 2000 and 2010 2.41 percent of forest cover was lost. Continue and expand reforestation efforts along with the proper management of natural resources. Other focus areas include increasing sustainable agriculture and decreasing areas classified as bar en land.

2

Information Access Vulnerability

- In Guimaras, many homes lack access to radios, television and internet. Public dissemination of information must take into consideration alternative means of getting emergency messages to the population. Expand the use of stationary and emergency vehicle sirens, also ensuring the public is informed on what alarm systems are communicating and how to act. Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

3

Health Care Capacity

- Health care capacity in Guimaras is ranked 71st out of 84 territories in the Philippines. In Guimaras, for every 10,000 persons there are 1.38 hospital beds and 0.5 physicians, which are relatively low compared to the rest of the country. Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Energy Capacity

- Guimaras ranked 71st out of the 84 territories for energy capacity, with 72% of households having access to electricity. Only 3.6% of households have access to liquid petroleum gas lines, which is the 4th lowest in the Philippines. Invest in increased energy infrastructure to connect homes to gas and power lines.
- Energy lines should be carefully engineered to be resilient to earthquakes and typhoon winds. With backup mechanisms to increase redundancy in the system. Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access, especially in rural communities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

IFUGAO

NDPBA PROVINCE PROFILE

THE PHILIPPINES

IFUGAO

CAPITAL: LAGAWE

Area: 2,618 km²

Ifugao is a landlocked province of the Philippines in the Cordillera Administrative Region in Luzon. Ifugao borders Benguet to the west, Mountain Province to the north, Isabela to the east, and Nueva Vizcaya to the south. Ifugao's landscape is characterized by rugged terrain, river valleys, and massive forests. The rice terraces in this province are a UNESCO world heritage site. The province is highly exposed to earthquakes and typhoon winds. In 2019, several storms threatened the province, these included tropical storms Ramon and Falcon.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium

Score: 0.502 • Rank: 41/84



RESILIENCE (R) - Medium

Score: 0.563 • Rank: 44/84



MULTI-HAZARD EXPOSURE (MHE) - Medium

Score: 0.632 • Rank: 38/84



VULNERABILITY (V) - High

Score: 0.471 • Rank: 30/84



COPING CAPACITY (CC) - High

Score: 0.596 • Rank: 22/84



Population (2018)

205,909



Population in Poverty

9.8%



Literate population

95.7%



Access to improved water

61.0%



Average life expectancy

68.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 38 / 84 PROVINCES
SCORE: 0.632



MHE
0.632

Raw MHE
 0.429

Relative MHE
 0.835

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

205,909

\$1.2 Billion



Tsunami

-

-

-



Flood

6%

12,699

\$143.4 Million



Liquefaction

9%

19,060

\$198 Million



Landslide

67%

137,999

\$543.7 Million



Volcano

-

-

-



Drought

100%

205,909

\$1.2 Billion



Wildfire

29%

59,677

\$475.5 Million



Storm Surge

-

-

-



Typhoon Winds

100%

205,909

\$1.2 Billion



VULNERABILITY (V)

RANK: 30 / 84 PROVINCES ASSESSED
SCORE: 0.471

Vulnerability in Ifugao is primarily driven by Information Access Vulnerability and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



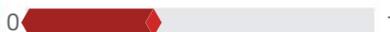
Environmental Stress

0  1 **SCORE: 0.472** **RANK: 43/84** PROVINCES ASSESSED

1.7 Livestock density
27.64 Barren land (per 10k hectares)
2.90% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.362** **RANK: 66/84** PROVINCES ASSESSED

4.2% Malnutrition among children (0 to 5 years old)
4.9 Infant mortality rate (per 1k live births)
0 Maternal mortality rate (per 100k live births)
68.21 Life expectancy
451 Disability (per 100k persons)

7.6 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
2.4 Intestinal disease mortality rate (per 100k persons)
1.9 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.619** **RANK: 14/84** PROVINCES ASSESSED

61.0% Households with improved safe water source
85.8% Households with sanitary toilet facility



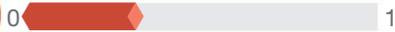
Information Access Vulnerability

0  1 **SCORE: 0.626** **RANK: 12/84** PROVINCES ASSESSED

95.68% Literacy rate (age 10 and older)
112.32% Gross primary school enrollment rate
0.84% Internet Access
60.49% Households with radio
42.72% Households with television



Economic Constraints



SCORE: 0.31

RANK: 54/84 PROVINCES ASSESSED

0.61

Economic
dependency
ratio

9.83%

Poverty
incidence



Gender Inequality



SCORE: 0.583

RANK: 15/84 PROVINCES ASSESSED

1.25

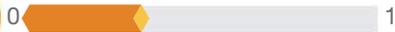
Female to male
secondary school
enrollment Rate

0.66

Labor force
participation ratio



Population Pressures



SCORE: 0.326

RANK: 69/84 PROVINCES ASSESSED

1.14

Population
growth rate
(2010-2015)

17.38

Average annual
urban population
growth rate

0.3%

Informal settlers



COPING CAPACITY (CC)

RANK: 22 / 84 PROVINCES ASSESSED
SCORE: 0.596

Ifugao exhibits weaker Coping Capacity in the areas of Transportation Capacity and Communications Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.772** **RANK: 7/84 PROVINCES ASSESSED**

0.92

Purchasing power of the peso

70.14%

Labor force participation rate

3589.37

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.607** **RANK: 52/84 PROVINCES ASSESSED**

83.2%

Voter participation

4.33

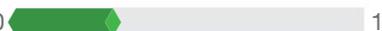
Organized violence (per 100k persons)

10.01%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.283** **RANK: 60/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

12.6%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.516** **RANK: 56/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.7** **RANK: 5/84** PROVINCES ASSESSED

11.25	4.79	67.58%	3.74
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.343** **RANK: 68/84** PROVINCES ASSESSED

0.53	28.27
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.35** **RANK: 76/84** PROVINCES ASSESSED

0.3%	83.4%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.532** **RANK: 59/84** PROVINCES ASSESSED

62.8%	21.4%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.812** **RANK: 6/84** PROVINCES ASSESSED

97.24	4.37	5.34
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 44 / 84 PROVINCES ASSESSED
SCORE: 0.563

Ifugao's score and ranking are due to High Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Information
Access
Vulnerability



Clean Water Access
Vulnerability



Transportation
Capacity



Communications
Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 48 / 84 PROVINCES ASSESSED
SCORE: 0.254



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0.040



Liquefaction

RANK: 71 / 84 PROVINCES ASSESSED
SCORE: 0.065



Landslide

RANK: 10 / 84 PROVINCES ASSESSED
SCORE: 0.320



Volcano

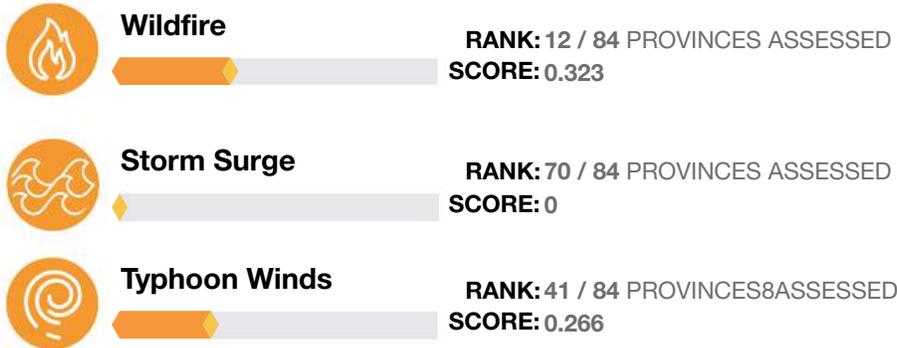
RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 15 / 84 PROVINCES ASSESSED
SCORE: 0.391

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

41 / 84
 RANK WITHIN PROVINCES
 Score: 0.502

Ifugao’s score and ranking are due to Medium Multi-hazard exposure combined with High Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
 COUNTRY SCORE



IFUGAO RECOMMENDATIONS

1

Information Access Vulnerability

- In Ifugao, many homes lack access to radios, television and internet. Expand efforts to increase household access to communication devices and educational opportunities.
- Ensure emergency management plans consider the limitations in access and availability of communications infrastructure.

2

Clean Water Access Vulnerability

- In Ifugao, only 61% of households have access to improved water sources, which is the 5th lowest in the Philippines. Focus on increasing clean water infrastructure especially in rural and remote areas to reduce health risks.
- The results show that in Ifugao the population is exposed to drought hazards and 67% are exposed to landslides. Droughts and landslides negatively impact surface water availability and quality. Invest in improved drinking water and sanitation infrastructure to reduce vulnerabilities.

3

Transportation Capacity

- Although Ifugao ranked relatively high for transportation capacity, the fact that the province is landlocked with rugged terrain presents considerable challenges during disaster response events. Invest in airports and roads to ensure access to evacuation routes, as well as continuity in resource and service delivery during disasters.
- Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, as well as increase access to markets and enhance social connectivity. Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Communications Capacity

- In Ifugao, less than 1% of households have access to landlines. The population of Ifugao is also highly exposed to typhoons, earthquakes and landslides. Invest in communications infrastructure that is reinforced to withstand hazards and adds redundancy to the communication network.
- Findings show that the population in Ifugao are also vulnerable due to limitations in access to information. Improvements to communications infrastructure should be paralleled by increased households' access to telecommunication devices. Expand private and public partnerships in the meantime to plan emergency communications.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ILOCOS NORTE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ILOCOS NORTE

CAPITAL: CITY OF LAOAG

Area: 3,419 km²

Ilocos Norte is a province of the Philippines located in the Ilocos Region. It faces the West Philippine Sea to the west and the Luzon Strait to the north. The economy is largely agricultural specializing in rice, corn, garlic, legumes, root crops, tobacco, and various fruits and vegetables. It also specializes in livestock and fisheries.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.476 • Rank: 60/84



RESILIENCE (R) - Very High
Score: 0.664 • Rank: 6/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.756 • Rank: 16/84



VULNERABILITY (V) - Low
Score: 0.362 • Rank: 67/84



COPING CAPACITY (CC) - Very High
Score: 0.69 • Rank: 2/84



Population (2018)
602,605



Population in Poverty
3.2%



Literate population
99.0%



Access to improved water
91.9%



Average life expectancy
70.1 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 16 / 84 PROVINCES
SCORE: 0.756



MHE
0.756

Raw MHE
0.62

Relative MHE
0.892

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

95%

574,459
\$3 Billion



Tsunami

4%

21,214
\$51.9 Million



Flood

48%

288,430
\$1.6 Billion



Liquefaction

71%

428,177
\$2.4 Billion



Landslide

8%

48,052
\$108.2 Million



Volcano

—

—
< \$10,000



Drought

93%

559,690
\$2.9 Billion



Wildfire

10%

57,438
\$353.3 Million



Storm Surge

9%

52,043
\$170.2 Million



Typhoon Winds

100%

602,529
\$3.1 Billion



VULNERABILITY (V)

RANK: 67 / 84 PROVINCES ASSESSED
SCORE: 0.362

Vulnerability in Ilocos Norte is primarily driven by Environmental Stress and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0 1 **SCORE: 0.731** **RANK: 1/84 PROVINCES ASSESSED**

6.85 **261.78** **3.04%**
 Livestock density Barren land (per 10k hectares) Forest cover change



Vulnerable Health Status

0 1 **SCORE: 0.295** **RANK: 75/84 PROVINCES ASSESSED**

5.8% **3.82** **45.78** **70.08** **167**
 Malnutrition among children (0 to 5 years old) Infant mortality rate (per 1k live births) Maternal mortality rate (per 100k live births) Life expectancy Disability (per 100k persons)

17.7 **0.2** **5.1** **0**
 Tuberculosis mortality rate (per 100k persons) HIV mortality rate (per 100k persons) Intestinal disease mortality rate (per 100k persons) Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0 1 **SCORE: 0.313** **RANK: 60/84 PROVINCES ASSESSED**

91.9% **94.1%**
 Households with improved safe water source Households with sanitary toilet facility



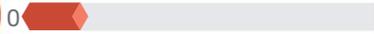
Information Access Vulnerability

0 1 **SCORE: 0.272** **RANK: 77/84 PROVINCES ASSESSED**

98.99% **107.30%** **8.20%** **83.83%** **86.07%**
 Literacy rate (age 10 and older) Gross primary school enrollment rate Internet Access Households with radio Households with television



Economic Constraints

0  1 **SCORE: 0.148** **RANK: 76/84** PROVINCES ASSESSED

0.55
Economic
dependency
ratio

3.20%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.397** **RANK: 51/84** PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.49
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.376** **RANK: 55/84** PROVINCES ASSESSED

0.83
Population
growth rate
(2010-2015)

29.31
Average annual
urban population
growth rate

0.5%
Informal settlers



COPING CAPACITY (CC)

RANK: 2 / 84 PROVINCES ASSESSED
SCORE: 0.69

Ilocos Norte exhibits weaker Coping Capacity in the areas of Transportation Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.689** **RANK: 11/84 PROVINCES ASSESSED**

0.91

Purchasing power of the peso

67.92%

Labor force participation rate

2748.49

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.703** **RANK: 24/84 PROVINCES ASSESSED**

85.3%

Voter participation

6.77

Organized violence (per 100k persons)

25.21%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.557** **RANK: 14/84 PROVINCES ASSESSED**

1.04

Protected areas (per 1k ha)

99.1%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.722** **RANK: 3/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.622** **RANK: 15/84** PROVINCES ASSESSED

11.62	4.52	60.87%	5.36
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.548** **RANK: 32/84** PROVINCES ASSESSED

1.01	17.63
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.782** **RANK: 25/84** PROVINCES ASSESSED

7.4%	92.6%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.928** **RANK: 10/84** PROVINCES ASSESSED

96.8%	48.9%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.723** **RANK: 12/84** PROVINCES ASSESSED

46.07	3.49	5.15
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 6 / 84 PROVINCES ASSESSED
SCORE: 0.664

Ilocos Norte's score and ranking are due to Low Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Gender Inequality



Transportation Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 65 / 84 PROVINCES ASSESSED
SCORE: 0.206



Tsunami

RANK: 19 / 84 PROVINCES ASSESSED
SCORE: 0.14



Flood

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0.141



Liquefaction

RANK: 30 / 84 PROVINCES ASSESSED
SCORE: 0.211



Landslide

RANK: 73 / 84 PROVINCES ASSESSED
SCORE: 0.118



Volcano

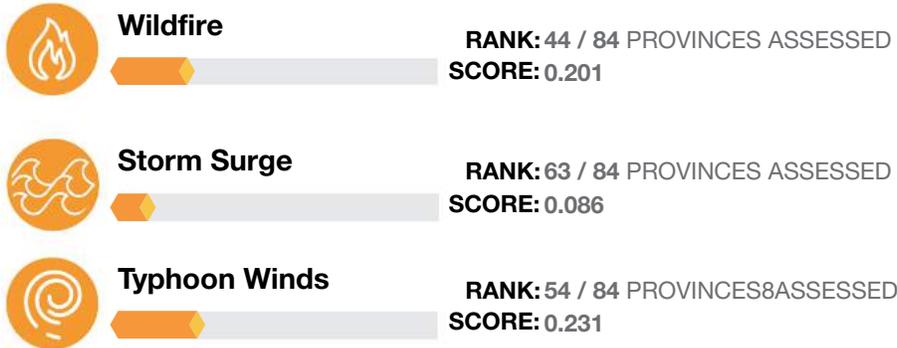
RANK: 67 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 28 / 84 PROVINCES ASSESSED
SCORE: 0.303

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

60 / 84

RANK WITHIN PROVINCES
Score: 0.476



Ilocos Norte’s score and ranking are due to Very High Multi-hazard exposure combined with Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



ILOCOS NORTE RECOMMENDATIONS

1

Ilocos Norte

- Environmental Stress
- Ilocos Norte is ranked highest in the Philippines for environmental stress. Focus efforts on increasing forest cover, decreasing barren land and practicing of sustainable agriculture.
- With climate change influencing more severe and frequent natural disasters, action must be taken to promote sustainable communities. Increased forestation and greening projects along with improvements to the agricultural sector will help mitigate climate change impacts and strengthen resilience in Ilocos Norte.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Transportation Capacity

- Continue airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ILOCOS SUR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ILOCOS SUR

CAPITAL: CITY OF VIGAN

Area: 2,596 km²

Ilocos Sur is a province in the Philippines located in the Ilocos Region in Luzon and is located on the mouth of the Mestizo River. Ilocos Sur is bordered by Ilocos Norte and Abra to the north, Mountain Province to the east, La Union and Benguet to the south and the South China Sea to the west. It is home to two UNESCO World Heritage Sites, namely, the Heritage City of Vigan and the Baroque Church of Santa Maria. The economy is largely agricultural however a large portion of the land in this province is not suitable for farming forcing the transition to manufacturing and trade.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.456 • Rank: 71/84



RESILIENCE (R) - Very High
Score: 0.662 • Rank: 7/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.694 • Rank: 25/84



VULNERABILITY (V) - Very Low
Score: 0.343 • Rank: 71/84



COPING CAPACITY (CC) - Very High
Score: 0.668 • Rank: 3/84



Population (2018)
695,965



Population in Poverty
5.4%



Literate population
99.1%



Access to improved water
98.1%



Average life expectancy
69.7 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 25 / 84 PROVINCES
SCORE: 0.694



MHE
0.694

Raw MHE
0.624

Relative MHE
0.764

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

94%

657,276
\$3.5 Billion



Tsunami

4%

27,226
\$59.3 Million



Flood

51%

357,295
\$2.3 Billion



Liquefaction

78%

545,463
\$3.2 Billion



Landslide

12%

85,180
\$217.3 Million



Volcano

—

—
—



Drought

—

—
—



Wildfire

4%

27,501
\$92.9 Million



Storm Surge

29%

198,424
\$1.3 Billion



Typhoon Winds

100%

695,732
\$3.6 Billion



VULNERABILITY (V)

RANK: 71 / 84 PROVINCES ASSESSED
SCORE: 0.343

Vulnerability in Ilocos Sur is primarily driven by Environmental Stress and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



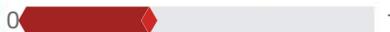
Environmental Stress

0  1 **SCORE: 0.586** **RANK: 22/84 PROVINCES ASSESSED**

4.39 Livestock density
102.07 Barren land (per 10k hectares)
5.10% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.358** **RANK: 68/84 PROVINCES ASSESSED**

7.9% Malnutrition among children (0 to 5 years old)
1.93 Infant mortality rate (per 1k live births)
10.72 Maternal mortality rate (per 100k live births)
69.67 Life expectancy
301 Disability (per 100k persons)

16.4 Tuberculosis mortality rate (per 100k persons)
0.5 HIV mortality rate (per 100k persons)
3.1 Intestinal disease mortality rate (per 100k persons)
1.9 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



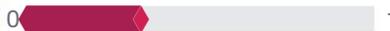
Clean Water Vulnerability

0  1 **SCORE: 0.215** **RANK: 75/84 PROVINCES ASSESSED**

98.1% Households with improved safe water source
92.3% Households with sanitary toilet facility



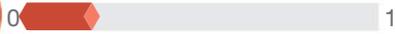
Information Access Vulnerability

0  1 **SCORE: 0.334** **RANK: 70/84 PROVINCES ASSESSED**

99.10% Literacy rate (age 10 and older)
107.35% Gross primary school enrollment rate
6.10% Internet Access
77.52% Households with radio
80.27% Households with television



Economic Constraints



SCORE: 0.19

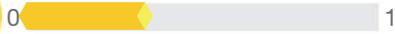
RANK: 73/84 PROVINCES ASSESSED

0.56
Economic
dependency
ratio

5.38%
Poverty
incidence



Gender Inequality



SCORE: 0.346

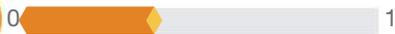
RANK: 62/84 PROVINCES ASSESSED

1.05
Female to male
secondary school
enrollment Rate

0.52
Labor force
participation ratio



Population Pressures



SCORE: 0.373

RANK: 56/84 PROVINCES ASSESSED

0.88
Population
growth rate
(2010-2015)

28.46
Average annual
urban population
growth rate

0.4%
Informal settlers



COPING CAPACITY (CC)

RANK: 3 / 84 PROVINCES ASSESSED
SCORE: 0.668

Ilocos Sur exhibits weaker Coping Capacity in the areas of Transportation Capacity and Governance. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.726** **RANK: 9/84 PROVINCES ASSESSED**

0.92

Purchasing power of the peso

63.13%

Labor force participation rate

4726.55

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.651** **RANK: 39/84 PROVINCES ASSESSED**

86.9%

Voter participation

11.33

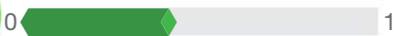
Organized violence (per 100k persons)

18.22%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.41** **RANK: 36/84 PROVINCES ASSESSED**

6.57

Protected areas (per 1k ha)

8.9%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.712** **RANK: 5/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.624** **RANK: 14/84** PROVINCES ASSESSED

9.55	5.29	60.20%	6.24
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.49** **RANK: 43/84** PROVINCES ASSESSED

1.01	23.62
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.781** **RANK: 26/84** PROVINCES ASSESSED

4.1%	97.3%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.872** **RANK: 14/84** PROVINCES ASSESSED

93.9%	38.5%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.732** **RANK: 11/84** PROVINCES ASSESSED

42.66	3.85	5.14
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 7 / 84 PROVINCES ASSESSED
SCORE: 0.662

Ilocos Sur's score and ranking are due to Very Low Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Population Pressures



Transportation Capacity



Governance



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 63 / 84 PROVINCES ASSESSED
SCORE: 0.214



Tsunami

RANK: 16 / 84 PROVINCES ASSESSED
SCORE: 0.146



Flood

RANK: 48 / 84 PROVINCES ASSESSED
SCORE: 0.165



Liquefaction

RANK: 21 / 84 PROVINCES ASSESSED
SCORE: 0.237



Landslide

RANK: 64 / 84 PROVINCES ASSESSED
SCORE: 0.152



Volcano

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

71 / 84
RANK WITHIN PROVINCES
Score: 0.456



Ilocos Sur's score and ranking are due to High Multi-hazard exposure combined with Very Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



ILOCOS SUR RECOMMENDATIONS

1

Environmental Stress

- In Ilocos Sur, environmental stress is a major driver of vulnerability. Focus efforts on increasing forest cover, decreasing barren land and practicing of sustainable agriculture.
- Population pressures are another major driver of vulnerability in Ilocos Sur. Promoting sustainable agriculture and protection of natural areas will ensure resources can keep up with increasing demands as the population grows.

2

Population Pressures

- Continue to monitor the growth of the population and plan resource allocation appropriately. Work with diverse partners to help stimulate the economy to support increased public demands. Ensure equitable distribution of resources and services.
- Environmental stress is already leading to vulnerabilities in Ilocos Sur. Enforce building codes and environmental protection laws to ensure expansion is sustainable. Also, focus efforts on bringing in funds and innovations for enhancing the built environment.

3

Transportation Capacity

- Continue airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Governance

- In Ilocos Sur, continue to work with local and international partners to achieve good governance related goals. Focus efforts on reducing civil unrest and violent incidents to bring more stability to the province.
- Work toward expanding public services and utilities. Invest in transportation projects to increase connectivity and access to services, especially in rural communities. Ensure all projects assess environmental impacts and incorporate public feedback.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ILOILO

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ILOILO

CAPITAL: CITY OF ILOILO

Area: 4,998 km²

Iloilo is a province in the Philippines located in the Western Visayas region. Iloilo occupies a major southeast portion of the Visayan island of Panay and is bordered by the province of Antique to the west, Capiz to the north, the Jintotolo Channel to the northeast, the Guimaras Strait to the east, and the Iloilo Strait and Panay Gulf to the southwest. The province is divided into two distinct geographic regions- the highlands on the western border and the lowland plains which account for most of the provinces land. Expansive fishponds and mangrove wetlands are found along the coast. The economy is mixed with business and agriculture and strong due to a recent economic boom.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.548 • Rank: 18/84



RESILIENCE (R) - High
Score: 0.588 • Rank: 27/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.821 • Rank: 7/84



VULNERABILITY (V) - Medium
Score: 0.422 • Rank: 49/84



COPING CAPACITY (CC) - High
Score: 0.598 • Rank: 21/84



Population (2018)
2,445,165



Population in Poverty
12.0%



Literate population
98.8%



Access to improved water
93.3%



Average life expectancy
69.9 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 7 / 84 PROVINCES
SCORE: 0.821



MHE
0.821

Raw MHE
0.835

Relative MHE
0.806

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

93%

2,269,636
\$10.3 Billion



Tsunami

<1%

92
-



Flood

77%

1,887,139
\$9.5 Billion



Liquefaction

62%

1,516,006
\$8.4 Billion



Landslide

11%

276,523
\$434.1 Million



Volcano

<1%

5,689
\$28.4 Million



Drought

14%

338,789
\$567.5 Million



Wildfire

7%

171,062
\$631.8 Million



Storm Surge

20%

495,942
\$3.3 Billion



Typhoon Winds

100%

2,444,181
\$10.4 Billion



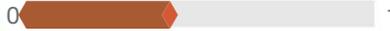
VULNERABILITY (V)

RANK: 49 / 84 PROVINCES ASSESSED
SCORE: 0.422

Vulnerability in Iloilo is primarily driven by Population Pressures and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



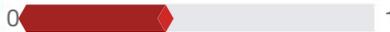
Environmental Stress

0  1 **SCORE: 0.65** **RANK: 7/84 PROVINCES ASSESSED**

1.98 Livestock density
88.69 Barren land (per 10k hectares)
-1.32% Forest cover change



Vulnerable Health Status

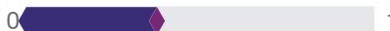
0  1 **SCORE: 0.432** **RANK: 47/84 PROVINCES ASSESSED**

6.2% Malnutrition among children (0 to 5 years old)
5.97 Infant mortality rate (per 1k live births)
19.89 Maternal mortality rate (per 100k live births)
69.88 Life expectancy
507 Disability (per 100k persons)

29.2 Tuberculosis mortality rate (per 100k persons)
0.1 HIV mortality rate (per 100k persons)
5.4 Intestinal disease mortality rate (per 100k persons)
1.3 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



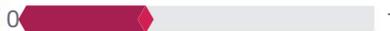
Clean Water Vulnerability

0  1 **SCORE: 0.381** **RANK: 48/84 PROVINCES ASSESSED**

93.3% Households with improved safe water source
89.4% Households with sanitary toilet facility



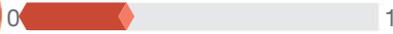
Information Access Vulnerability

0  1 **SCORE: 0.348** **RANK: 68/84 PROVINCES ASSESSED**

98.79% Literacy rate (age 10 and older)
116.09% Gross primary school enrollment rate
6.18% Internet Access
73.23% Households with radio
68.88% Households with television



Economic Constraints



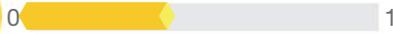
SCORE: 0.291 **RANK: 58/84** PROVINCES ASSESSED

0.57
Economic
dependency
ratio

11.96%
Poverty
incidence



Gender Inequality



SCORE: 0.41 **RANK: 47/84** PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.46
Labor force
participation ratio



Population Pressures



SCORE: 0.438 **RANK: 29/84** PROVINCES ASSESSED

1.18
Population
growth rate
(2010-2015)

8.98
Average annual
urban population
growth rate

2.4%
Informal settlers



COPING CAPACITY (CC)

RANK: 21 / 84 PROVINCES ASSESSED
SCORE: 0.598

Iloilo exhibits weaker Coping Capacity in the areas of Economic Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.465 **RANK: 57/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

62.60%

Labor force participation rate

1093.99

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.71 **RANK: 19/84 PROVINCES ASSESSED**

84.6%

Voter participation

4.53

Organized violence (per 100k persons)

23.95%

Garbage pickup



Environmental Capacity



SCORE: 0.405 **RANK: 37/84 PROVINCES ASSESSED**

0.45

Protected areas (per 1k ha)

30.7%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.684 RANK: 11/84 PROVINCES ASSESSED**



Health Care Capacity **SCORE: 0.715 RANK: 2/84 PROVINCES ASSESSED**

9.01	2.7	81.07%	1.16
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.792 RANK: 5/84 PROVINCES ASSESSED**

1.90	3.01
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.875 RANK: 9/84 PROVINCES ASSESSED**

8.1%	99.3%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.628 RANK: 43/84 PROVINCES ASSESSED**

83.5%	11.6%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.467 RANK: 38/84 PROVINCES ASSESSED**

16.21	2.09	2.82
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 27 / 84 PROVINCES ASSESSED
SCORE: 0.588

Iloilo's score and ranking are due to Low Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Population Pressures



Environmental Stress



Economic Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 15 / 84 PROVINCES ASSESSED
SCORE: 0.344



Tsunami

RANK: 51 / 84 PROVINCES ASSESSED
SCORE: 0.038



Flood

RANK: 4 / 84 PROVINCES ASSESSED
SCORE: 0.354



Liquefaction

RANK: 9 / 84 PROVINCES ASSESSED
SCORE: 0.322



Landslide

RANK: 40 / 84 PROVINCES ASSESSED
SCORE: 0.225



Volcano

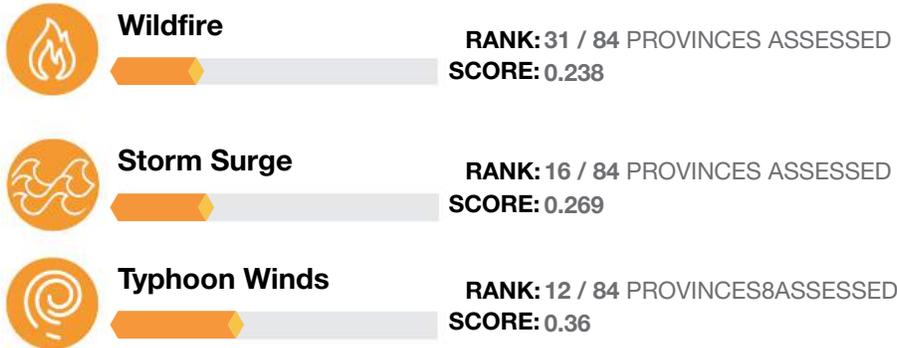
RANK: 34 / 84 PROVINCES ASSESSED
SCORE: 0.12



Drought

RANK: 42 / 84 PROVINCES ASSESSED
SCORE: 0.178

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

18 / 84
RANK WITHIN PROVINCES
Score: 0.548

Iloilo's score and ranking are due to Very High Multi-hazard exposure combined with Medium Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



ILOILO RECOMMENDATIONS

1

Population Pressures

- Continue to monitor the growth of the population and plan resource allocation appropriately. Work with diverse partners to help stimulate the economy to support increased public demands. Ensure equitable distribution of resources and services.
- Environmental stress is already leading to vulnerabilities in Iloilo. Enforce building codes and environmental protection laws to ensure expansion is sustainable. Also, focus efforts on bringing in funds and innovations for enhancing the built environment.

2

Environmental Stress

- Expand work to increase forest cover, decrease barren land and promoting sustainable agriculture.
- Population pressures is also a major driver of vulnerability in Iloilo. Promoting sustainable agriculture and protection of natural areas will ensure resources can keep up with increasing demands as the population grows.

3

Economic Capacity

- Iloilo ranked 57th out of the 84 territories in economic capacity. Continue to encourage programs that diversify the economy in Iloilo to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- As the population grows, there will be increases in the demands for emergency services and public programs. Work with stakeholders and partners to expand emergency service capacities by training community members and generating funds to support response activities.

4

Emergency Services Capacity

- Population pressures in Iloilo are increasing the need to expand emergency service capacity. As the population grows, there is an increased demand on the already limited resources and space in evacuation shelters. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ISABELA

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ISABELA

CAPITAL: CITY OF ILAGAN

Area: 13,102 km²

Isabela is the second largest province in the Philippines in land area located in the Cagayan Valley region in Luzon. It is bordered by the provinces of Cagayan to the north, Kalinga to the northwest, Mountain Province to the central-west, Ifugao and Nueva Vizcaya to the southwest, Quirino and Aurora to the south, and the Philippine Sea to the east. The economy is mixed business and agriculture and is one of the richest provinces in the Philippines.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.584 • Rank: 6/84



RESILIENCE (R) - Medium
Score: 0.575 • Rank: 36/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.901 • Rank: 1/84



VULNERABILITY (V) - Low
Score: 0.393 • Rank: 57/84



COPING CAPACITY (CC) - Low
Score: 0.543 • Rank: 53/84



Population (2018)
1,625,948



Population in Poverty
12.9%



Literate population
99.0%



Access to improved water
97.3%



Average life expectancy
68.9 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 1 / 84 PROVINCES
SCORE: 0.901



MHE
0.901

Raw MHE
0.831

Relative MHE
0.971

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

1,625,330
\$10.4 Billion



Tsunami

<1%

5
-



Flood

78%

1,263,297
\$8.8 Billion



Liquefaction

76%

1,233,537
\$8.7 Billion



Landslide

3%

46,129
\$206.4 Million



Volcano

<1%

311
\$1.4 Million



Drought

100%

1,625,617
\$10.4 Billion



Wildfire

9%

146,135
\$988.7 Million



Storm Surge

<1%

7,175
\$6.3 Million



Typhoon Winds

100%

1,625,948
\$10.4 Billion



VULNERABILITY (V)

RANK: 57 / 84 PROVINCES ASSESSED
SCORE: 0.393

Vulnerability in Isabela is primarily driven by Environmental Stress and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



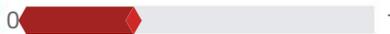
Environmental Stress

0  1 **SCORE: 0.623** **RANK: 12/84 PROVINCES ASSESSED**

1.75 Livestock density
13.94 Barren land (per 10k hectares)
-5.33% Forest cover change



Vulnerable Health Status

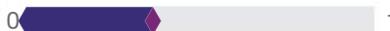
0  1 **SCORE: 0.313** **RANK: 72/84 PROVINCES ASSESSED**

6.0% Malnutrition among children (0 to 5 years old)
2.64 Infant mortality rate (per 1k live births)
32.33 Maternal mortality rate (per 100k live births)
68.93 Life expectancy
198 Disability (per 100k persons)

20.9 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
3.4 Intestinal disease mortality rate (per 100k persons)
1.1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



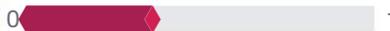
Clean Water Vulnerability

0  1 **SCORE: 0.369** **RANK: 52/84 PROVINCES ASSESSED**

97.3% Households with improved safe water source
83.0% Households with sanitary toilet facility



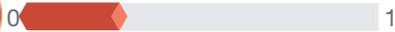
Information Access Vulnerability

0  1 **SCORE: 0.368** **RANK: 65/84 PROVINCES ASSESSED**

98.97% Literacy rate (age 10 and older)
114.79% Gross primary school enrollment rate
3.38% Internet Access
71.23% Households with radio
75.93% Households with television



Economic Constraints



SCORE: 0.271 **RANK: 61/84** PROVINCES ASSESSED

0.55
Economic
dependency
ratio

12.91%
Poverty
incidence



Gender Inequality



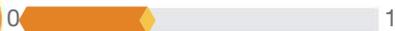
SCORE: 0.454 **RANK: 39/84** PROVINCES ASSESSED

1.07
Female to male
secondary school
enrollment Rate

0.45
Labor force
participation ratio



Population Pressures



SCORE: 0.353 **RANK: 61/84** PROVINCES ASSESSED

1.29
Population
growth rate
(2010-2015)

10.18
Average annual
urban population
growth rate

1.1%
Informal settlers



COPING CAPACITY (CC)

RANK: 53 / 84 PROVINCES ASSESSED
SCORE: 0.543

Isabela exhibits weaker Coping Capacity in the areas of Transportation Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.52 **RANK: 38/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

65.06%

Labor force participation rate

1636.04

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.587 **RANK: 57/84 PROVINCES ASSESSED**

83.7%

Voter participation

11.33

Organized violence (per 100k persons)

18.86%

Garbage pickup



Environmental Capacity



SCORE: 0.437 **RANK: 33/84 PROVINCES ASSESSED**

19.24

Protected areas (per 1k ha)

5.2%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.556** **RANK: 43/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.522** **RANK: 37/84** PROVINCES ASSESSED

4.09	2.83	72.22%	6.63
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.284** **RANK: 76/84** PROVINCES ASSESSED

0.78	40.32
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.654** **RANK: 48/84** PROVINCES ASSESSED

2.2%	92.2%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.805** **RANK: 19/84** PROVINCES ASSESSED

88.5%	32.7%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.532** **RANK: 31/84** PROVINCES ASSESSED

29.4	1.9	3.68
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 36 / 84 PROVINCES ASSESSED
SCORE: 0.575

Isabela's score and ranking are due to Low Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Gender Inequality



Transportation Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 13 / 84 PROVINCES ASSESSED
SCORE: 0.359



Tsunami

RANK: 53 / 84 PROVINCES ASSESSED
SCORE: 0.015



Flood

RANK: 7 / 84 PROVINCES ASSESSED
SCORE: 0.339



Liquefaction

RANK: 4 / 84 PROVINCES ASSESSED
SCORE: 0.346



Landslide

RANK: 72 / 84 PROVINCES ASSESSED
SCORE: 0.126



Volcano

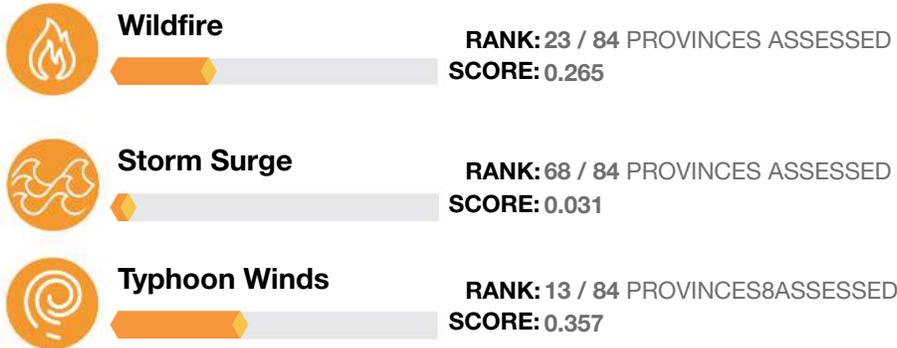
RANK: 62 / 84 PROVINCES ASSESSED
SCORE: 0.061



Drought

RANK: 5 / 84 PROVINCES ASSESSED
SCORE: 0.420

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

6 / 84
 RANK WITHIN PROVINCES
 Score: 0.584



Isabela’s score and ranking are due to Very High Multi-hazard exposure combined with Low Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



ISABELA RECOMMENDATIONS

1

Environmental Stress

- In Isabela, environmental stress is a major driver of vulnerability. Isabela is ranked 2nd highest in the Philippines for forest cover change vulnerability. Between 2000 and 2010 5.33 percent of forest cover was lost. Continue and expand reforestation efforts along with the proper management of natural resources.
- Isabela is ranked 2nd highest for multi-hazard exposure and 6th highest in multi-hazard risk. Major interventions to reduce risks are need, including expanded efforts to improve environmental conditions. Focus efforts on increasing forest cover, decreasing areas classified a barren land and promoting sustainable agriculture.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Transportation Capacity

- In Isabela the average distance between ports and populated areas is 40.3 kilometers per square kilometer, which is the 9th highest in the Philippines. Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Findings show that Isabela is ranked the 2nd highest in multi-hazard exposure. Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

KALINGA

NDPBA PROVINCE PROFILE

THE PHILIPPINES

KALINGA

CAPITAL: CITY OF TABUK

Area: 3,282 km²

Kalinga is a landlocked province in the Philippines situated within the Cordillera Administrative Region in Luzon. Kalinga borders Mountain Province to the south, Abra to the west, Isabela to the east, Cagayan to the northeast, and Apayao to the north. Kalinga and Apayao are the result of the 1995 partitioning of the former province of Kalinga-Apayao which was seen to better service the respective needs of the various indigenous peoples in the area. The topography of the region is rugged and sloped. The economy is largely agricultural with the main products being rice, corn, coffee, and bananas.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.481 • Rank: 56/84



RESILIENCE (R) - Medium
Score: 0.557 • Rank: 48/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.557 • Rank: 56/84



VULNERABILITY (V) - Low
Score: 0.401 • Rank: 56/84



COPING CAPACITY (CC) - Low
Score: 0.516 • Rank: 64/84



Population (2018)
236,690



Population in Poverty
9.3%



Literate population
96.5%



Access to improved water
98.5%



Average life expectancy
67.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 56 / 84 PROVINCES
SCORE: 0.557



MHE
0.557

Raw MHE
0.423

Relative MHE
0.692

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

236,690

\$1.3 Billion



Tsunami

-

-

-



Flood

16%

37,787

\$251.3 Million



Liquefaction

34%

80,213

\$458.9 Million



Landslide

38%

89,785

\$377.8 Million



Volcano

<1%

53

\$1.2 Million



Drought

24%

55,937

\$578 Million



Wildfire

29%

68,964

\$458.9 Million



Storm Surge

-

-

-



Typhoon Winds

100%

236,690

\$1.3 Billion



VULNERABILITY (V)

RANK: 56 / 84 PROVINCES ASSESSED
SCORE: 0.401

Vulnerability in Kalinga is primarily driven by Environmental Stress and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.671** **RANK: 5/84 PROVINCES ASSESSED**

2.16 Livestock density
103.99 Barren land (per 10k hectares)
-1.45% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.463** **RANK: 35/84 PROVINCES ASSESSED**

2.2% Malnutrition among children (0 to 5 years old)
10.23 Infant mortality rate (per 1k live births)
24.94 Maternal mortality rate (per 100k live births)
67.55 Life expectancy
550 Disability (per 100k persons)

14.5 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
3.6 Intestinal disease mortality rate (per 100k persons)
2.3 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.427** **RANK: 41/84 PROVINCES ASSESSED**

98.5% Households with improved safe water source
67.8% Households with sanitary toilet facility



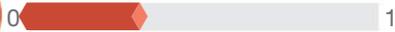
Information Access Vulnerability

0  1 **SCORE: 0.54** **RANK: 27/84 PROVINCES ASSESSED**

96.49% Literacy rate (age 10 and older)
115.84% Gross primary school enrollment rate
1.50% Internet Access
64.16% Households with radio
53.38% Households with television



Economic Constraints



SCORE: 0.33

RANK: 51/84 PROVINCES ASSESSED

0.63

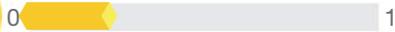
Economic
dependency
ratio

9.32%

Poverty
incidence



Gender Inequality



SCORE: 0.242

RANK: 77/84 PROVINCES ASSESSED

1.04

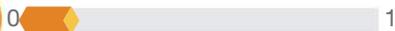
Female to male
secondary school
enrollment Rate

0.58

Labor force
participation ratio



Population Pressures



SCORE: 0.13

RANK: 84/84 PROVINCES ASSESSED

1.02

Population
growth rate
(2010-2015)

-1.33

Average annual
urban population
growth rate

0.6%

Informal settlers



COPING CAPACITY (CC)

RANK: 64 / 84 PROVINCES ASSESSED
SCORE: 0.516

Kalinga exhibits weaker Coping Capacity in the areas of Transportation Capacity and Communications Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.555 **RANK: 29/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

58.45%

Labor force participation rate

3944.18

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.464 **RANK: 73/84 PROVINCES ASSESSED**

85.3%

Voter participation

9.2

Organized violence (per 100k persons)

2.41%

Garbage pickup



Environmental Capacity



SCORE: 0.509 **RANK: 22/84 PROVINCES ASSESSED**

1.18

Protected areas (per 1k ha)

60.1%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.53** **RANK: 53/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.571** **RANK: 23/84** PROVINCES ASSESSED

7.86	4.41	53.05%	3.8
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.404** **RANK: 61/84** PROVINCES ASSESSED

0.40	17.45
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.433** **RANK: 71/84** PROVINCES ASSESSED

0.4%	88.8%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.64** **RANK: 39/84** PROVINCES ASSESSED

73.9%	23.9%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.651** **RANK: 19/84** PROVINCES ASSESSED

84.24	3.71	2.78
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 48 / 84 PROVINCES ASSESSED
SCORE: 0.557

Kalinga's score and ranking are due to Low Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Information Access Vulnerability



Transportation Capacity



Communications Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 45 / 84 PROVINCES ASSESSED
SCORE: 0.259



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 65 / 84 PROVINCES ASSESSED
SCORE: 0.069



Liquefaction

RANK: 57 / 84 PROVINCES ASSESSED
SCORE: 0.135



Landslide

RANK: 19 / 84 PROVINCES ASSESSED
SCORE: 0.277



Volcano

RANK: 63 / 84 PROVINCES ASSESSED
SCORE: 0.048



Drought

RANK: 36 / 84 PROVINCES ASSESSED
SCORE: 0.232

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

56 / 84

RANK WITHIN PROVINCES
Score: 0.481



Kalinga's score and ranking are due to Low Multi-hazard exposure combined with Low Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



KALINGA RECOMMENDATIONS

1

Environmental Stress

- In Kalinga, environmental stress is a major driver of vulnerability. Kalinga ranks 5th highest for environmental stress in the Philippines. Focus efforts on increasing forest cover, decreasing areas classified as barren land and promoting sustainable agriculture.
- The population of Kalinga are exposed to drought, flood and landslide hazards. Continue reforestation efforts that are focused on sloped terrain and critical watersheds. Work with local farmers and diverse partners to enhance soil and water conservation throughout society.

2

Information Access Vulnerability

- In Kalinga, many homes lack access to radios, television and internet. Expand efforts to increase household access to communication devices and educational opportunities. Investments in communication infrastructure should parallel efforts at the household level, as results show that Kalinga has low communications capacity.
- Ensure emergency management plans consider the limitations in access and availability of communications infrastructure. Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster

3

Transportation Capacity

- Road density in Kalinga is 0.4 kilometers per square, the 7th highest in the Philippines. Since Kalinga is a landlocked province, focus efforts on increasing road density .
- Continue airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Communications Capacity

- Similar to other provinces, in Kalinga less than 1% of households have access to landlines. The population of Kalinga is highly exposed to multiple hazards, including earthquakes and typhoon winds. Invest in diverse communications infrastructure that is reinforced to withstand hazards and adds redundancy to the communication network.
- Findings show that the population in Kalinga are also vulnerable due to limitations in access to information. Improvements to communications infrastructure should be paralleled by increased households' access to telecommunication devices. Expand private and public partnerships in the meantime to plan emergency communications.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

LA UNION

NDPBA PROVINCE PROFILE

THE PHILIPPINES

LA UNION

CAPITAL: CITY OF SAN FERNANDO

Area: 1,499 km²

La Union is a province in the Philippines located in the Ilocos Region in the island of Luzon. Its capital is San Fernando, which also serves as the regional center of the whole Ilocos Region. It is bordered by Ilocos Sur to the north, Benguet to the east, Pangasinan to the south and to the west by the shores of the South China Sea. The economy is primarily tourism based along with a small amount of manufacturing.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.455 • Rank: 72/84



RESILIENCE (R) - Very High
Score: 0.646 • Rank: 9/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.657 • Rank: 30/84



VULNERABILITY (V) - Very Low
Score: 0.357 • Rank: 68/84



COPING CAPACITY (CC) - Very High
Score: 0.649 • Rank: 8/84



Population (2018)
774,794



Population in Poverty
2.9%



Literate population
99.2%



Access to improved water
92.6%



Average life expectancy
69.3 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 30 / 84 PROVINCES
SCORE: 0.657



MHE
0.657

Raw MHE
0.634

Relative MHE
0.68

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

85%

657,076
\$3.8 Billion



Tsunami

<1%

1,943
\$2.4 Million



Flood

53%

414,075
\$2.7 Billion



Liquefaction

60%

463,376
\$3 Billion



Landslide

14%

108,773
\$332 Million



Volcano

-

-
-



Drought

-

-
-



Wildfire

4%

30,686
\$184.2 Million



Storm Surge

22%

171,657
\$1.2 Billion



Typhoon Winds

100%

774,641
\$4.4 Billion



VULNERABILITY (V)

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0.357

Vulnerability in La Union is primarily driven by Environmental Stress and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.603** **RANK: 16/84 PROVINCES ASSESSED**

6.27 Livestock density
91.84 Barren land (per 10k hectares)
5.57% Forest cover change



Vulnerable Health Status

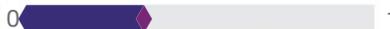
0  1 **SCORE: 0.447** **RANK: 39/84 PROVINCES ASSESSED**

9.1% Malnutrition among children (0 to 5 years old)
8.69 Infant mortality rate (per 1k live births)
122.6 Maternal mortality rate (per 100k live births)
69.34 Life expectancy
259 Disability (per 100k persons)

26.7 Tuberculosis mortality rate (per 100k persons)
0.4 HIV mortality rate (per 100k persons)
5 Intestinal disease mortality rate (per 100k persons)
1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



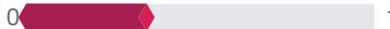
Clean Water Vulnerability

0  1 **SCORE: 0.343** **RANK: 55/84 PROVINCES ASSESSED**

92.6% Households with improved safe water source
92.2% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.351** **RANK: 66/84 PROVINCES ASSESSED**

99.15% Literacy rate (age 10 and older)
104.71% Gross primary school enrollment rate
7.58% Internet Access
72.28% Households with radio
79.00% Households with television



Economic Constraints



SCORE: 0.137

RANK: 77/84 PROVINCES ASSESSED

0.54

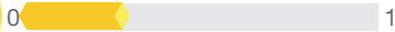
Economic
dependency
ratio

2.88%

Poverty
incidence



Gender Inequality



SCORE: 0.28

RANK: 71/84 PROVINCES ASSESSED

1.04

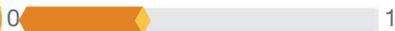
Female to male
secondary school
enrollment Rate

0.55

Labor force
participation ratio



Population Pressures



SCORE: 0.34

RANK: 64/84 PROVINCES ASSESSED

1.12

Population
growth rate
(2010-2015)

11.98

Average annual
urban population
growth rate

1.0%

Informal settlers



COPING CAPACITY (CC)

RANK: 8 / 84 PROVINCES ASSESSED
SCORE: 0.649

La Union exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Transportation Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.657 **RANK: 17/84 PROVINCES ASSESSED**

0.93

Purchasing power of the peso

62.22%

Labor force participation rate

2448.7

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.715 **RANK: 17/84 PROVINCES ASSESSED**

86.4%

Voter participation

6.89

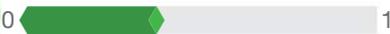
Organized violence (per 100k persons)

22.60%

Garbage pickup



Environmental Capacity



SCORE: 0.377 **RANK: 43/84 PROVINCES ASSESSED**

77.5

Protected areas (per 1k ha)

0.3%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.664 RANK: 18/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.554 RANK: 28/84 PROVINCES ASSESSED

10.97	2.98	53.97%	2.66
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.57 RANK: 30/84 PROVINCES ASSESSED

1.67	23.52
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.861 RANK: 11/84 PROVINCES ASSESSED

6.8%	99.7%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.844 RANK: 16/84 PROVINCES ASSESSED

91.2%	37.1%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.475 RANK: 37/84 PROVINCES ASSESSED

27.49	1.99	2.49
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 9 / 84 PROVINCES ASSESSED
SCORE: 0.646

La Union's score and ranking are due to Very Low Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Vulnerable Health Status



Emergency Services Capacity



Transportation Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0.192



Tsunami

RANK: 39 / 84 PROVINCES ASSESSED
SCORE: 0.072



Flood

RANK: 42 / 84 PROVINCES ASSESSED
SCORE: 0.181



Liquefaction

RANK: 31 / 84 PROVINCES ASSESSED
SCORE: 0.211



Landslide

RANK: 57 / 84 PROVINCES ASSESSED
SCORE: 0.177



Volcano

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

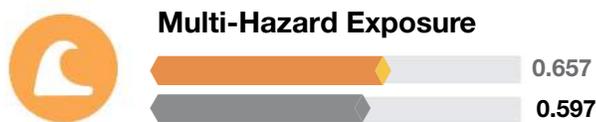
72 / 84
RANK WITHIN PROVINCES
Score: 0.455



La Union's score and ranking are due to High Multi-hazard exposure combined with Very Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



LA UNION RECOMMENDATIONS

1

Environmental Stress

- Vulnerable health status is also a major driver of vulnerabilities in La Union. Efforts to enhance the natural and built environment can improve health outcomes by decreasing runoff, mitigating the impacts of climate change and enhancing other ecosystem services. Focus efforts on increasing forest cover, decreasing areas classified as barren land and promoting sustainable agriculture.

2

Vulnerable Health Status

- In La Union, vulnerable health status is a major driver of vulnerability. Work toward increasing the health of the population through community outreach, increased access to health care and other public health interventions. Continue monitoring for and providing care for those suffering from communicable diseases.

3

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Transportation Capacity

- The average distance between ports and populated places in La Union is 23.52 kilometers. Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

LAGUNA

NDPBA PROVINCE PROFILE

THE PHILIPPINES

LAGUNA

CAPITAL: SANTA CRUZ

Area: 1,928 km²

Laguna is a province in the Philippines located in the Calabarzon region in Luzon. Laguna is southeast of Metro Manila, south of the province of Rizal, west of Quezon, north of Batangas and east of Cavite. Laguna hugs the southern shores of Laguna de Bay, the largest lake in the country. The province is home to 24 mountains most of which are inactive volcanoes. The economy is based on a mix of tourism and agriculture with the main goods being coconuts, rice, sugar, citrus fruits, and various other products.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.486 • Rank: 51/84



RESILIENCE (R) - Very High
Score: 0.644 • Rank: 10/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.747 • Rank: 17/84



VULNERABILITY (V) - Very Low
Score: 0.311 • Rank: 79/84



COPING CAPACITY (CC) - High
Score: 0.599 • Rank: 19/84



Population (2018)
3,038,118



Population in Poverty
2.7%



Literate population
99.6%



Access to improved water
90.3%



Average life expectancy
70.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 17 / 84 PROVINCES
SCORE: 0.747



MHE
0.747

Raw MHE
0.795

Relative MHE
0.698

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

3,038,118
\$7.1 Billion



Tsunami

-

-

-



Flood

73%

2,207,084
\$6 Billion



Liquefaction

56%

1,698,107
\$4.3 Billion



Landslide

2%

58,969
\$107.9 Million



Volcano

3%

102,316
\$148.4 Million



Drought

-

-

-



Wildfire

15%

453,775
\$1 Billion



Storm Surge

-

-

-



Typhoon Winds

100%

3,038,118
\$7.1 Billion



VULNERABILITY (V)

RANK: 79 / 84 PROVINCES ASSESSED
SCORE: 0.311

Vulnerability in Laguna is primarily driven by Environmental Stress and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



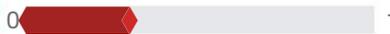
Environmental Stress

0  1 **SCORE: 0.456** **RANK: 48/84** PROVINCES ASSESSED

3.93 Livestock density
2.81 Barren land (per 10k hectares)
1.70% Forest cover change



Vulnerable Health Status

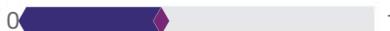
0  1 **SCORE: 0.301** **RANK: 73/84** PROVINCES ASSESSED

7.7% Malnutrition among children (0 to 5 years old)
9 Infant mortality rate (per 1k live births)
33.85 Maternal mortality rate (per 100k live births)
70.19 Life expectancy
76 Disability (per 100k persons)

33.3 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
3.7 Intestinal disease mortality rate (per 100k persons)
1.5 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



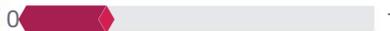
Clean Water Vulnerability

0  1 **SCORE: 0.393** **RANK: 46/84** PROVINCES ASSESSED

90.3% Households with improved safe water source
91.0% Households with sanitary toilet facility



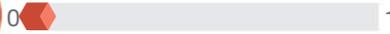
Information Access Vulnerability

0  1 **SCORE: 0.233** **RANK: 78/84** PROVINCES ASSESSED

99.64% Literacy rate (age 10 and older)
108.30% Gross primary school enrollment rate
12.48% Internet Access
66.48% Households with radio
90.19% Households with television



Economic Constraints

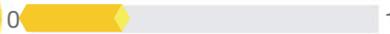
0  1 **SCORE: 0.063** **RANK: 83/84** PROVINCES ASSESSED

0.49
Economic
dependency
ratio

2.70%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.279** **RANK: 72/84** PROVINCES ASSESSED

1.08
Female to male
secondary school
enrollment Rate

0.63
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.453** **RANK: 26/84** PROVINCES ASSESSED

2.47
Population
growth rate
(2010-2015)

3.68
Average annual
urban population
growth rate

1.6%
Informal settlers



COPING CAPACITY (CC)

RANK: 19 / 84 PROVINCES ASSESSED
SCORE: 0.599

Laguna exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.536 **RANK: 35/84 PROVINCES ASSESSED**

0.91

Purchasing power of the peso

67.14%

Labor force participation rate

872.48

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.598 **RANK: 53/84 PROVINCES ASSESSED**

77.4%

Voter participation

10.1

Organized violence (per 100k persons)

77.35%

Garbage pickup



Environmental Capacity



SCORE: 0.47 **RANK: 31/84 PROVINCES ASSESSED**

15.28

Protected areas (per 1k ha)

8.8%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.707 RANK: 6/84 PROVINCES ASSESSED**



Health Care Capacity **SCORE: 0.548 RANK: 30/84 PROVINCES ASSESSED**

10.59	1.76	67.00%	4.11
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.836 RANK: 1/84 PROVINCES ASSESSED**

3.96	10.23
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.899 RANK: 3/84 PROVINCES ASSESSED**

11.1%	98.7%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.953 RANK: 6/84 PROVINCES ASSESSED**

94.7%	68.0%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.296 RANK: 70/84 PROVINCES ASSESSED**

16.04	0.92	1.83
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 10 / 84 PROVINCES ASSESSED
SCORE: 0.644

Laguna’s score and ranking are due to Very Low Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Population Pressures



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 30 / 84 PROVINCES ASSESSED
SCORE: 0.303



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 17 / 84 PROVINCES ASSESSED
SCORE: 0.285



Liquefaction

RANK: 22 / 84 PROVINCES ASSESSED
SCORE: 0.237



Landslide

RANK: 77 / 84 PROVINCES ASSESSED
SCORE: 0.093



Volcano

RANK: 19 / 84 PROVINCES ASSESSED
SCORE: 0.17



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

51 / 84

RANK WITHIN PROVINCES
Score: 0.486



Laguna’s score and ranking are due to High Multi-hazard exposure combined with Very Low Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



LAGUNA RECOMMENDATIONS

1

Environmental Stress

- Population pressures are also a major driver of vulnerability in Laguna. Promoting sustainable agriculture and protection of natural areas will ensure resource production can keep up with increased demands as the population grows. Focus efforts on increasing forest cover, decreasing areas classified as barren land and promoting sustainable agriculture.

2

Population Pressures

- Continue to monitor the growth of the population and plan resource allocation appropriately. Work with diverse partners to help stimulate the economy to support increased demands. Ensure equitable distribution of resources and services.
- Environmental stress is already leading to vulnerabilities in Laguna. Enforce building codes and environmental protection laws to ensure expansion is sustainable. Also, focus efforts on bringing in funds and innovations for enhancing the built environment.

3

Emergency Services Capacity

- In Laguna, there are 0.92 fire stations per 100,000 persons, which is the 8th lowest in the Philippines. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Focus efforts on increasing the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Laguna ranked 79th out of the 84 territories in annual regular income per capita (872.5 pesos per capita). Continue to encourage programs that diversify the economy in Laguna to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

LANAO DEL NORTE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

LANAO DEL NORTE

CAPITAL: TUBOD

Area: 3,354 km²

Lanao del Norte officially the Province of Lanao del Norte, is a province in the Philippines located in the Northern Mindanao region. The province borders Lanao del Sur to the southeast, Zamboanga del Sur to the west, Illana Bay to the southwest, Iligan Bay to the north, Iligan City to the northeast, and is separated from Misamis Occidental by Panguil Bay to the northwest. Lanao del Norte is a rugged province that ranges from the coastal shorelines in the north to the high plateaus and mountains in the south. The economy is largely agricultural and based on production of crops and fishing.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium
Score: 0.507 • Rank: 38/84



RESILIENCE (R) - Very Low
Score: 0.491 • Rank: 69/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.504 • Rank: 65/84



VULNERABILITY (V) - High
Score: 0.497 • Rank: 18/84



COPING CAPACITY (CC) - Very Low
Score: 0.479 • Rank: 69/84



Population (2018)
994,238



Population in Poverty
19.0%



Literate population
97.0%



Access to improved water
83.1%



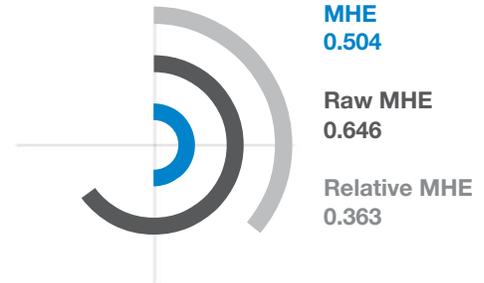
Average life expectancy
67.7 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 65 / 84 PROVINCES
SCORE: 0.504



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

96%

950,423
\$10 Billion



Tsunami

-

-

-



Flood

34%

337,055
\$5.9 Billion



Liquefaction

12%

121,519
\$311.2 Million



Landslide

12%

124,079
\$913.4 Million



Volcano

<1%

2,986
\$30.6 Million



Drought

53%

530,954
\$1.6 Billion



Wildfire

-

-

-



Storm Surge

15%

147,333
\$1.7 Billion



Typhoon Winds

-

-

-



VULNERABILITY (V)

RANK: 18 / 84 PROVINCES ASSESSED
SCORE: 0.497

Vulnerability in Lanao del Norte is primarily driven by Gender Inequality and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



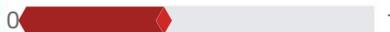
Environmental Stress

0  1 **SCORE: 0.425** **RANK: 53/84** PROVINCES ASSESSED

2.31 **6.26** **2.58%**
 Livestock density Barren land (per 10k hectares) Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.401** **RANK: 60/84** PROVINCES ASSESSED

4.3% **1.37** **0** **67.72** **455**
 Malnutrition among children (0 to 5 years old) Infant mortality rate (per 1k live births) Maternal mortality rate (per 100k live births) Life expectancy Disability (per 100k persons)

24.2 **0** **5.2** **2.4**
 Tuberculosis mortality rate (per 100k persons) HIV mortality rate (per 100k persons) Intestinal disease mortality rate (per 100k persons) Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.582** **RANK: 17/84** PROVINCES ASSESSED

83.1% **79.8%**
 Households with improved safe water source Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.559** **RANK: 20/84** PROVINCES ASSESSED

96.97% **99.29%** **5.59%** **60.28%** **62.09%**
 Literacy rate (age 10 and older) Gross primary school enrollment rate Internet Access Households with radio Households with television



Economic Constraints



SCORE: 0.499

RANK: 29/84 PROVINCES ASSESSED

0.66

Economic
dependency
ratio

19.04%

Poverty
incidence



Gender Inequality



SCORE: 0.607

RANK: 11/84 PROVINCES ASSESSED

1.12

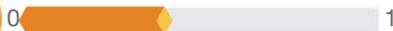
Female to male
secondary school
enrollment Rate

0.4

Labor force
participation ratio



Population Pressures



SCORE: 0.403

RANK: 44/84 PROVINCES ASSESSED

1.6

Population
growth rate
(2010-2015)

2.64

Average annual
urban population
growth rate

2.3%

Informal settlers



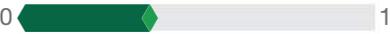
COPING CAPACITY (CC)

RANK: 69 / 84 PROVINCES ASSESSED
SCORE: 0.479

Lanao del Norte exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.363 **RANK: 78/84 PROVINCES ASSESSED**

0.83

Purchasing power of the peso

65.42%

Labor force participation rate

1172.56

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.591 **RANK: 56/84 PROVINCES ASSESSED**

77.7%

Voter participation

4.41

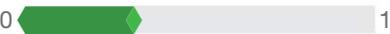
Organized violence (per 100k persons)

30.48%

Garbage pickup



Environmental Capacity



SCORE: 0.317 **RANK: 56/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

17.5%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.537 RANK: 49/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.562 RANK: 26/84 PROVINCES ASSESSED

5.56	1.26	86.52%	6.2
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.439 RANK: 54/84 PROVINCES ASSESSED

0.74	23.74
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.744 RANK: 32/84 PROVINCES ASSESSED

7.7%	89.3%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.629 RANK: 42/84 PROVINCES ASSESSED

77.9%	16.9%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.324 RANK: 68/84 PROVINCES ASSESSED

13.46	1.33	1.52
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 69 / 84 PROVINCES ASSESSED
SCORE: 0.491

Lanao del Norte's score and ranking are due to High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Clean Water Access Vulnerability



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 6 / 84 PROVINCES ASSESSED
SCORE: 0.391



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 23 / 84 PROVINCES ASSESSED
SCORE: 0.250



Liquefaction

RANK: 65 / 84 PROVINCES ASSESSED
SCORE: 0.087



Landslide

RANK: 13 / 84 PROVINCES ASSESSED
SCORE: 0.292



Volcano

RANK: 24 / 84 PROVINCES ASSESSED
SCORE: 0.144



Drought

RANK: 29 / 84 PROVINCES ASSESSED
SCORE: 0.300

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

38 / 84
RANK WITHIN PROVINCES
Score: 0.507

Lanao del Norte’s score and ranking are due to Low Multi-hazard exposure combined with High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



LANAO DEL NORTE RECOMMENDATIONS

1

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Clean Water Access Vulnerability

- The results show that in Lanao del Norte 53% of the population is exposed to drought hazards. Invest in improved water and sanitation infrastructure to ensure safe access to water. With climate change likely to influence more frequent and severe drought conditions, measures to reduce clean water vulnerabilities will decrease current and future risks.

3

Emergency Services Capacity

- In Lanao del Norte, there are 1.52 fire trucks per 100,000 persons, which is the 12th lowest in the Philippines. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Lanao del Norte ranked 78th out of the 84 territories in economic capacity. Purchasing power of the peso is 0.83, the 8th lowest in the Philippines. Continue to encourage programs that diversify the economy in Lanao del Norte to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

LANAO DEL SUR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

LANAO DEL SUR

CAPITAL: CITY OF MARAWI

Area: 15,056 km²

Lanao del Sur is a province in the Philippines located in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). The province borders Lanao del Norte to the north, Bukidnon to the east, and Maguindanao and Cotabato to the south. To the southwest lies Illana Bay. Situated in the interior of Lanao del Sur is Lanao Lake, the largest in Mindanao.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.591 • Rank: 2/84



RESILIENCE (R) - Very Low
Score: 0.352 • Rank: 80/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.477 • Rank: 70/84



VULNERABILITY (V) - Very High
Score: 0.672 • Rank: 4/84



COPING CAPACITY (CC) - Very Low
Score: 0.376 • Rank: 80/84



Population (2018)
700,691



Population in Poverty
64.1%



Literate population
94.1%



Access to improved water
55.0%



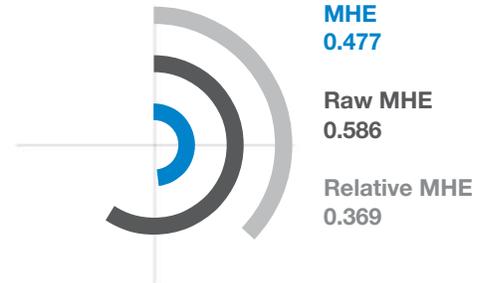
Average life expectancy
64.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 70 / 84 PROVINCES
SCORE: 0.477



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

699,927

\$7.1 Billion



Tsunami

-

-

-



Flood

19%

132,424

\$807.7 Million



Liquefaction

10%

67,229

\$507 Million



Landslide

9%

64,610

\$638.2 Million



Volcano

2%

14,049

\$146 Million



Drought

76%

533,793

\$5.6 Billion



Wildfire

-

-

-



Storm Surge

2%

11,065

\$159 Million



Typhoon Winds

-

-

-



VULNERABILITY (V)

RANK: 4 / 84 PROVINCES ASSESSED
SCORE: 0.672

Vulnerability in Lanao del Sur is primarily driven by Economic Constraints and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0 1 **SCORE: 0.34** **RANK: 69/84 PROVINCES ASSESSED**

1.14 Livestock density	1.11 Barren land (per 10k hectares)	0.21% Forest cover change
----------------------------------	---	-------------------------------------



Vulnerable Health Status

0 1 **SCORE: 0.413** **RANK: 56/84 PROVINCES ASSESSED**

5.2% Malnutrition among children (0 to 5 years old)	1.4 Infant mortality rate (per 1k live births)	18.06 Maternal mortality rate (per 100k live births)	64.21 Life expectancy	275 Disability (per 100k persons)
3.3 Tuberculosis mortality rate (per 100k persons)	0 HIV mortality rate (per 100k persons)	1.5 Intestinal disease mortality rate (per 100k persons)	0.5 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)	



Clean Water Vulnerability

0 1 **SCORE: 0.887** **RANK: 2/84 PROVINCES ASSESSED**

55.0% Households with improved safe water source	34.3% Households with sanitary toilet facility
--	--



Information Access Vulnerability

0 1 **SCORE: 0.587** **RANK: 16/84 PROVINCES ASSESSED**

94.12% Literacy rate (age 10 and older)	95.62% Gross primary school enrollment rate	1.74% Internet Access	70.11% Households with radio	75.37% Households with television
---	---	---------------------------------	--	---



Economic Constraints

0  1 **SCORE: 0.945** **RANK: 2/84** PROVINCES ASSESSED

0.79
Economic
dependency
ratio

64.05%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.922** **RANK: 3/84** PROVINCES ASSESSED

1.28
Female to male
secondary school
enrollment Rate

0.36
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.61** **RANK: 4/84** PROVINCES ASSESSED

2.18
Population
growth rate
(2010-2015)

33.42
Average annual
urban population
growth rate

1.4%
Informal settlers



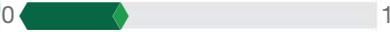
COPING CAPACITY (CC)

RANK: 80 / 84 PROVINCES ASSESSED
SCORE: 0.376

Lanao del Sur exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.272 **RANK: 82/84 PROVINCES ASSESSED**

0.86

Purchasing power of the peso

46.88%

Labor force participation rate

1731.83

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.436 **RANK: 76/84 PROVINCES ASSESSED**

86.9%

Voter participation

26.9

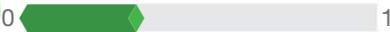
Organized violence (per 100k persons)

13.65%

Garbage pickup



Environmental Capacity



SCORE: 0.318 **RANK: 55/84 PROVINCES ASSESSED**

4.1

Protected areas (per 1k ha)

4.7%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.439** **RANK: 66/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.567** **RANK: 24/84** PROVINCES ASSESSED

8.87	3.41	68.52%	7.15
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.413** **RANK: 60/84** PROVINCES ASSESSED

0.40	16.42
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.337** **RANK: 77/84** PROVINCES ASSESSED

1.2%	71.8%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.76** **RANK: 22/84** PROVINCES ASSESSED

87.4%	24.7%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.125** **RANK: 80/84** PROVINCES ASSESSED

0	1.48	0.65
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 80 / 84 PROVINCES ASSESSED
SCORE: 0.352

Lanao del Sur's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Gender Inequality



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 2 / 84 PROVINCES ASSESSED
SCORE: 0.473



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 55 / 84 PROVINCES ASSESSED
SCORE: 0.128



Liquefaction

RANK: 61 / 84 PROVINCES ASSESSED
SCORE: 0.109



Landslide

RANK: 9 / 84 PROVINCES ASSESSED
SCORE: 0.321



Volcano

RANK: 9 / 84 PROVINCES ASSESSED
SCORE: 0.269



Drought

RANK: 1 / 84 PROVINCES ASSESSED
SCORE: 0.544

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

2 / 84
RANK WITHIN PROVINCES
Score: 0.591



Lanao del Sur’s score and ranking are due to Very Low Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



LANAO DEL SUR RECOMMENDATIONS

1

Economic Constraints

- In Lanao del Sur, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Gender inequality is another major driver of vulnerability in Lanao del Sur. Empower women to join the workforce and promote equal opportunity job growth. Invest in small and local businesses, especially in rural and remote areas.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Lanao del Sur is ranked 2nd highest for gender-based inequalities in secondary school enrollment and 3rd highest in labor force participation. Focus efforts on enforcing equal employment opportunities and promoting continued education.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Emergency Services Capacity

- Lanao del Sur is ranked 80th out of the 84 territories for emergency services capacity. There are no government run evacuation shelters in the province. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Focus efforts on establishing evacuation centers, as well as increasing the number of fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Lanao del Sur ranked 82nd out of the 84 territories in economic capacity. The labor force participation rate in the province is 46.9%, the 3rd lowest in the Philippines. Continue to encourage programs that diversify the economy in Lanao del Sur to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- Increase government efforts to provide inclusive economic growth by creating policies that promote competition, private sector investment and industries that create higher paying jobs.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

LEYTE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

LEYTE

CAPITAL: CITY OF TACLOBAN

Area: 6,335 km²

Leyte is a province in the Philippines located in the Eastern Visayas region, occupying the northern three-quarters of Leyte Island. Leyte is situated west of Samar Island, north of Southern Leyte and south of Biliran. To the west across the Camotes Sea is the province of Cebu. Leyte is also known as the site of the largest naval battle in modern history, the Battle of Leyte Gulf, which took place during the Second World War. It is especially prone to Typhoons due to it geographically faces the Pacific Ocean. The economy of Leyte is a mixed agriculture, fishing, industrial, energy and mining.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.587 • Rank: 4/84



RESILIENCE (R) - Low
Score: 0.535 • Rank: 59/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.831 • Rank: 5/84



VULNERABILITY (V) - High
Score: 0.468 • Rank: 32/84



COPING CAPACITY (CC) - Low
Score: 0.538 • Rank: 55/84



Population (2018)
1,875,597



Population in Poverty
21.9%



Literate population
97.2%



Access to improved water
94.3%



Average life expectancy
68.5 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 5 / 84 PROVINCES
SCORE: 0.831



MHE
0.831

Raw MHE
0.824

Relative MHE
0.838

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

88%

1,643,929
\$9.5 Billion



Tsunami

<1%

10,720
\$54 Million



Flood

72%

1,342,473
\$9 Billion



Liquefaction

56%

1,050,588
\$6.5 Billion



Landslide

11%

212,683
\$903.9 Million



Volcano

<1%

7,534
\$36.5 Million



Drought

45%

837,127
\$4.8 Billion



Wildfire

8%

144,545
\$1.2 Billion



Storm Surge

30%

555,727
\$3.2 Billion



Typhoon Winds

100%

1,874,452
\$10.9 Billion



VULNERABILITY (V)

RANK: 32 / 84 PROVINCES ASSESSED
SCORE: 0.468

Vulnerability in Leyte is primarily driven by Gender Inequality and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.472** **RANK: 42/84** PROVINCES ASSESSED

1.97 Livestock density	3.75 Barren land (per 10k hectares)	-1.24% Forest cover change
----------------------------------	---	--------------------------------------



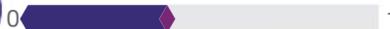
Vulnerable Health Status

0  1 **SCORE: 0.433** **RANK: 46/84** PROVINCES ASSESSED

9.7% Malnutrition among children (0 to 5 years old)	4.32 Infant mortality rate (per 1k live births)	12.72 Maternal mortality rate (per 100k live births)	68.48 Life expectancy	421 Disability (per 100k persons)
28.8 Tuberculosis mortality rate (per 100k persons)	0 HIV mortality rate (per 100k persons)	5.7 Intestinal disease mortality rate (per 100k persons)	1.1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)	



Clean Water Vulnerability

0  1 **SCORE: 0.406** **RANK: 44/84** PROVINCES ASSESSED

94.3% Households with improved safe water source	86.1% Households with sanitary toilet facility
--	--



Information Access Vulnerability

0  1 **SCORE: 0.5** **RANK: 34/84** PROVINCES ASSESSED

97.21% Literacy rate (age 10 and older)	117.33% Gross primary school enrollment rate	5.01% Internet Access	52.37% Households with radio	59.48% Households with television
---	--	---------------------------------	--	---



Economic Constraints



SCORE: 0.508 **RANK: 27/84** PROVINCES ASSESSED

0.64
Economic
dependency
ratio

21.86%
Poverty
incidence



Gender Inequality



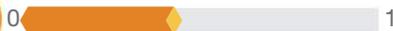
SCORE: 0.533 **RANK: 22/84** PROVINCES ASSESSED

1.11
Female to male
secondary school
enrollment Rate

0.44
Labor force
participation ratio



Population Pressures



SCORE: 0.426 **RANK: 37/84** PROVINCES ASSESSED

1.78
Population
growth rate
(2010-2015)

6.41
Average annual
urban population
growth rate

1.8%
Informal settlers



COPING CAPACITY (CC)

RANK: 55 / 84 PROVINCES ASSESSED
SCORE: 0.538

Leyte exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.409** **RANK: 73/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

59.04%

Labor force participation rate

1166.66

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.737** **RANK: 11/84 PROVINCES ASSESSED**

86.4%

Voter participation

3.94

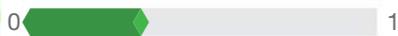
Organized violence (per 100k persons)

19.35%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.323** **RANK: 53/84 PROVINCES ASSESSED**

1.47

Protected areas (per 1k ha)

9.1%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.541** **RANK: 48/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.377** **RANK: 67/84** PROVINCES ASSESSED

4.4	0.33	66.66%	6.72
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.474** **RANK: 45/84** PROVINCES ASSESSED

1.25	28.61
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.673** **RANK: 45/84** PROVINCES ASSESSED

6.4%	85.1%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.615** **RANK: 45/84** PROVINCES ASSESSED

75.7%	17.4%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.378** **RANK: 58/84** PROVINCES ASSESSED

0.56	2.07	4.15
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 59 / 84 PROVINCES ASSESSED
SCORE: 0.535

Leyte's score and ranking are due to High Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Economic Constraints



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 20 / 84 PROVINCES ASSESSED
SCORE: 0.332



Tsunami

RANK: 13 / 84 PROVINCES ASSESSED
SCORE: 0.163



Flood

RANK: 3 / 84 PROVINCES ASSESSED
SCORE: 0.363



Liquefaction

RANK: 10 / 84 PROVINCES ASSESSED
SCORE: 0.308



Landslide

RANK: 16 / 84 PROVINCES ASSESSED
SCORE: 0.281



Volcano

RANK: 25 / 84 PROVINCES ASSESSED
SCORE: 0.144



Drought

RANK: 26 / 84 PROVINCES ASSESSED
SCORE: 0.314

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

4 / 84

RANK WITHIN PROVINCES
Score: 0.587



Leyte's score and ranking are due to Very High Multi-hazard exposure combined with High Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



LEYTE RECOMMENDATIONS

1

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Economic Constraints

- In Leyte, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Gender inequality is another major driver of vulnerability in Leyte. Empower women to join the workforce and promote equal opportunity job growth. Invest in small and local businesses, especially in rural and remote areas.

3

Emergency Services Capacity

- In Leyte, there are 0.56 evacuation shelters per 100,000 persons, which is the 7th lowest in the Philippines. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Leyte ranked 73rd out of the 84 territories in economic capacity. The labor force participation rate in Leyte is 59.91 %, the 14th lowest rate in the Philippines. Continue to encourage programs that diversify the economy in Leyte to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- Stimulate economic growth by creating policies that promote competition, private sector investment and attract industries that create higher paying jobs.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

MAGUINDANAO

NDPBA PROVINCE PROFILE

THE PHILIPPINES

MAGUINDANAO

CAPITAL: SHARIFF AGUAK (MAGANOY)

Area: 9,968 km²

Maguindanao is a province in the Philippines located in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). It borders Lanao del Sur to the north, Cotabato to the east, Sultan Kudarat to the south, and the Illana Bay to the west. The economy is largely based on agriculture.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.661 • Rank: 1/84



RESILIENCE (R) - Very Low
Score: 0.297 • Rank: 82/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.577 • Rank: 53/84



VULNERABILITY (V) - Very High
Score: 0.7 • Rank: 3/84



COPING CAPACITY (CC) - Very Low
Score: 0.295 • Rank: 83/84



Population (2018)
713,021



Population in Poverty
39.9%



Literate population
89.3%



Access to improved water
51.8%



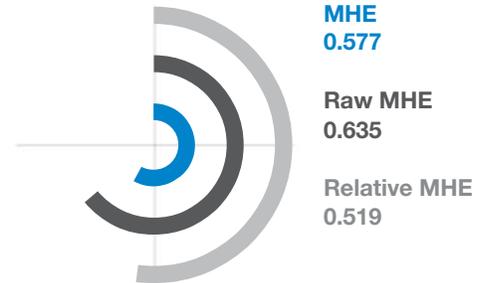
Average life expectancy
64.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 53 / 84 PROVINCES
SCORE: 0.577



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

 Earthquake
98%
700,393
\$7.1 Billion

 Tsunami
-
-
-

 Flood
55%
395,366
\$4.7 Billion

 Liquefaction
64%
456,202
\$5.2 Billion

 Landslide
10%
70,883
\$240.8 Million

 Volcano
<1%
4,622
\$30.3 Million

 Drought
45%
318,287
\$2.4 Billion

 Wildfire
3%
19,396
\$203.5 Million

 Storm Surge
2%
13,565
\$154.8 Million

 Typhoon Winds
-
-
-



VULNERABILITY (V)

RANK: 3 / 84 PROVINCES ASSESSED
SCORE: 0.7

Vulnerability in Maguindanao is primarily driven by Economic Constraints and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.301** **RANK: 74/84 PROVINCES ASSESSED**

1.27 Livestock density
0.21 Barren land (per 10k hectares)
0.88% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.437** **RANK: 43/84 PROVINCES ASSESSED**

5.9% Malnutrition among children (0 to 5 years old)
3.02 Infant mortality rate (per 1k live births)
44.67 Maternal mortality rate (per 100k live births)
64.57 Life expectancy
208 Disability (per 100k persons)

5.2 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
3.5 Intestinal disease mortality rate (per 100k persons)
1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.823** **RANK: 5/84 PROVINCES ASSESSED**

51.8% Households with improved safe water source
57.3% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.735** **RANK: 4/84 PROVINCES ASSESSED**

89.28% Literacy rate (age 10 and older)
95.15% Gross primary school enrollment rate
0.43% Internet Access
72.40% Households with radio
43.36% Households with television



Economic Constraints

0  1 **SCORE: 0.924** **RANK: 4/84** PROVINCES ASSESSED

0.78
Economic
dependency
ratio

39.91%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.909** **RANK: 4/84** PROVINCES ASSESSED

1.24
Female to male
secondary school
enrollment Rate

0.35
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.771** **RANK: 3/84** PROVINCES ASSESSED

4.22
Population
growth rate
(2010-2015)

13.69
Average annual
urban population
growth rate

3.3%
Informal settlers



COPING CAPACITY (CC)

RANK: 83 / 84 PROVINCES ASSESSED
SCORE: 0.295

Maguindanao exhibits weaker Coping Capacity in the areas of Communications Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0 1 **SCORE: 0.371** **RANK: 77/84 PROVINCES ASSESSED**

0.81

Purchasing power of the peso

69.03%

Labor force participation rate

1314.65

Local government annual regular income per capita (Philippine Peso)



Governance

0 1 **SCORE: 0.16** **RANK: 84/84 PROVINCES ASSESSED**

78.2%

Voter participation

32.31

Organized violence (per 100k persons)

4.89%

Garbage pickup



Environmental Capacity

0 1 **SCORE: 0.545** **RANK: 16/84 PROVINCES ASSESSED**

61.01

Protected areas (per 1k ha)

6.3%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.27** **RANK: 81/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.417** **RANK: 60/84** PROVINCES ASSESSED

5.24	1.9	57.33%	6.02
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.466** **RANK: 48/84** PROVINCES ASSESSED

0.44	12.72
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.148** **RANK: 82/84** PROVINCES ASSESSED

0.7%	61%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.203** **RANK: 81/84** PROVINCES ASSESSED

46.3%	5.0%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.155** **RANK: 79/84** PROVINCES ASSESSED

0	1.71	0.81
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 82 / 84 PROVINCES ASSESSED
SCORE: 0.297

Maguindanao's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Gender Inequality



Communications Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 1 / 84 PROVINCES ASSESSED
SCORE: 0.507



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 1 / 84 PROVINCES ASSESSED
SCORE: 0.391



Liquefaction

RANK: 1 / 84 PROVINCES ASSESSED
SCORE: 0.459



Landslide

RANK: 15 / 84 PROVINCES ASSESSED
SCORE: 0.284



Volcano

RANK: 15 / 84 PROVINCES ASSESSED
SCORE: 0.21



Drought

RANK: 4 / 84 PROVINCES ASSESSED
SCORE: 0.431

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

1 / 84
RANK WITHIN PROVINCES
Score: 0.661



Maguindanao’s score and ranking are due to Low Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



MAGUINDANAO RECOMMENDATIONS

1

Economic Constraints

- Maguindanao is ranked 4th highest in the Philippines for economic constraints vulnerability. In Maguindanao poverty rate is 40%. Focus efforts on engaging local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Continue promoting industries that create gainful work that is attractive to the working age population. Promote equal opportunity job growth and empower women to join the labor force.

2

Gender Inequality

- Maguindanao is ranked 4th highest in the Philippines for gender inequality. Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education.
- Economic constraints also greatly influence vulnerabilities in Maguindanao. Expand gainful employment opportunities for women to increase the size of the labor force and decrease poverty rates.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Communications Capacity

- Maguindanao ranked 3rd lowest in communications capacity. Only 66% of barangays in Maguindanao have cell signal and less than 1% of households have landlines. Focus efforts on increasing communications capacity through investments in infrastructure.
- Work closely with partners to expand the communication network. Ensure that coverage reaches even rural areas and is affordable through market caps or other financial controls. Continue to engage stakeholders and partners to enhance emergency communications plans.

4

Emergency Services Capacity

- Maguindanao is ranked 79th out of the 84 territories for emergency services capacity. There are no government run evacuation centers and 0.81 fire trucks per 100,000 persons. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Focus efforts to establish evacuation centers, as well as increase the number of fire stations and fire trucks to serve the population and increase emergency service capacity.
- Findings show that Maguindanao is ranked highest in multi-hazard risk. Work with stakeholders and partners to increase available funds and capacity for emergency services. Additionally, continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

MARINDUQUE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

MARINDUQUE

CAPITAL: BOAC

Area: 953 km²

Marinduque is an island province in the Philippines located in Southwestern Tagalog Region. Marinduque lies between Tayabas Bay to the north and Sibuyan Sea to the south. It is west of the Bondoc Peninsula of Quezon province; east of Mindoro Island; and north of the island province of Romblon. Some parts of the Verde Island Passage, the center of the center of world's marine biodiversity and a protected marine area, are also within Marinduque's provincial waters. Marinduque is considered as the geographical center of the Philippine archipelago. The economy is largely agricultural primarily focused on rice and coconuts.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.459 • Rank: 70/84



RESILIENCE (R) - High
Score: 0.578 • Rank: 33/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.533 • Rank: 61/84



VULNERABILITY (V) - Medium
Score: 0.46 • Rank: 36/84



COPING CAPACITY (CC) - Very High
Score: 0.616 • Rank: 15/84



Population (2018)
225,159



Population in Poverty
10.0%



Literate population
99.3%



Access to improved water
93.8%



Average life expectancy
66.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 62 / 84 PROVINCES
SCORE: 0.533



MHE
0.533

Raw MHE
0.351

Relative MHE
0.715

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

65%

147,136

\$463.1 Million



Tsunami

<1%

304

-



Flood

73%

165,112

\$483.7 Million



Liquefaction

31%

68,866

\$172.3 Million



Landslide

19%

42,007

\$93.9 Million



Volcano

<1%

542

\$1.4 Million



Drought

40%

90,406

\$328.9 Million



Wildfire

-

-

-



Storm Surge

24%

53,111

\$102.1 Million



Typhoon Winds

100%

225,159

\$599.9 Million



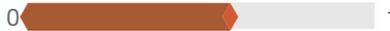
VULNERABILITY (V)

RANK: 36 / 84 PROVINCES ASSESSED
SCORE: 0.46

Vulnerability in Marinduque is primarily driven by Environmental Stress and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.591** **RANK: 20/84 PROVINCES ASSESSED**

2.78 Livestock density
142.5 Barren land (per 10k hectares)
3.89% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.586** **RANK: 9/84 PROVINCES ASSESSED**

13.8% Malnutrition among children (0 to 5 years old)
10.94 Infant mortality rate (per 1k live births)
56.12 Maternal mortality rate (per 100k live births)
66.19 Life expectancy
453 Disability (per 100k persons)

34.7 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
3 Intestinal disease mortality rate (per 100k persons)
2.1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.317** **RANK: 59/84 PROVINCES ASSESSED**

93.8% Households with improved safe water source
92.6% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.474** **RANK: 41/84 PROVINCES ASSESSED**

99.25% Literacy rate (age 10 and older)
113.21% Gross primary school enrollment rate
3.44% Internet Access
54.16% Households with radio
60.56% Households with television



Economic Constraints

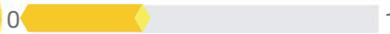
0  1 **SCORE: 0.434** **RANK: 36/84** PROVINCES ASSESSED

0.7
Economic
dependency
ratio

9.95%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.334** **RANK: 64/84** PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.53
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.485** **RANK: 18/84** PROVINCES ASSESSED

0.55
Population
growth rate
(2010-2015)

41.7
Average annual
urban population
growth rate

1.4%
Informal settlers



COPING CAPACITY (CC)

RANK: 15 / 84 PROVINCES ASSESSED
SCORE: 0.616

Marinduque exhibits weaker Coping Capacity in the areas of Transportation Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.605** **RANK: 23/84 PROVINCES ASSESSED**

0.9

Purchasing power of the peso

64.02%

Labor force participation rate

2435.13

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.727** **RANK: 14/84 PROVINCES ASSESSED**

86.7%

Voter participation

0

Organized violence (per 100k persons)

9.35%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.478** **RANK: 28/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

80.6%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.561** **RANK: 42/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.29** **RANK: 77/84** PROVINCES ASSESSED

1.58	0.8	66.44%	9.68
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.396** **RANK: 64/84** PROVINCES ASSESSED

0.92	31.63
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.766** **RANK: 28/84** PROVINCES ASSESSED

2.6%	100.0%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.592** **RANK: 49/84** PROVINCES ASSESSED

75.9%	14.4%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.635** **RANK: 20/84** PROVINCES ASSESSED

50.77	2.53	4.22
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 33 / 84 PROVINCES ASSESSED
SCORE: 0.578

Marinduque’s score and ranking are due to Medium Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Vulnerable Health Status



Transportation Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 76 / 84 PROVINCES ASSESSED
SCORE: 0.119



Tsunami

RANK: 47 / 84 PROVINCES ASSESSED
SCORE: 0.05



Flood

RANK: 34 / 84 PROVINCES ASSESSED
SCORE: 0.211



Liquefaction

RANK: 62 / 84 PROVINCES ASSESSED
SCORE: 0.108



Landslide

RANK: 51 / 84 PROVINCES ASSESSED
SCORE: 0.196



Volcano

RANK: 57 / 84 PROVINCES ASSESSED
SCORE: 0.068



Drought

RANK: 34 / 84 PROVINCES ASSESSED
SCORE: 0.246

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

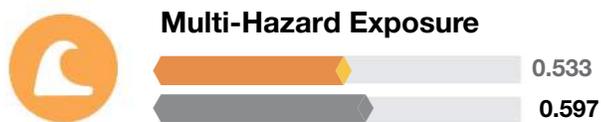
70 / 84
RANK WITHIN PROVINCES
Score: 0.459



Marinduque’s score and ranking are due to Low Multi-hazard exposure combined with Medium Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



MARINDUQUE RECOMMENDATIONS

1

Environmental Stress

- Vulnerable health status is also a major driver of vulnerabilities in Marinduque. Efforts to enhance the natural and built environment can improve health outcomes by decreasing runoff, mitigating the impacts of climate change and enhancing other ecosystem services. Focus efforts on increasing forest cover, decreasing areas classified as bar en land and promoting sustainable agriculture.

2

Vulnerable Health Status

- Findings show that Marinduque is ranked 9th highest in the Philippines for vulnerable health status. Work toward increasing the health of the population through community outreach, increased access to health care and other public health interventions. Continue monitoring for and providing care for those suffering from communicable diseases.

3

Transportation Capacity

- Continue airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increased access to markets and enhanced social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Health Care Capacity

- Increases in Marinduque's health care capacity should be focused on increasing child and maternal health services. In Marinduque, immunization coverage is 57.3%, which is relatively low compared to the rest of the country. Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holopono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

MASBATE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

MASBATE

CAPITAL: CITY OF MASBATE

Area: 4,139 km²

Masbate is an island province in the Philippines located near the midsection of the nation's archipelago. The province consists of three major islands: Masbate, Ticao and Burias. Masbate is at the crossroads of two island groups: Visayas and Luzon. The province lies roughly at the center of the Philippine archipelago. It is bounded on the north by Burias and Ticao Pass, east by San Bernardino Strait, south by the Visayan Sea, and west by the Sibuyan Sea. Masbate is endowed with rich natural resources. The economy is largely agricultural and based on fishing and crops such as rice and coconuts.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.564 • Rank: 12/84



RESILIENCE (R) - Very Low
Score: 0.444 • Rank: 77/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.579 • Rank: 52/84



VULNERABILITY (V) - Very High
Score: 0.596 • Rank: 6/84



COPING CAPACITY (CC) - Very Low
Score: 0.484 • Rank: 68/84



Population (2018)
934,203



Population in Poverty
25.8%



Literate population
97.8%



Access to improved water
80.2%



Average life expectancy
67.3 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 53 / 84 PROVINCES
SCORE: 0.579



MHE
0.579

Raw MHE
0.581

Relative MHE
0.578

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

67%

628,410
\$2.4 Billion



Tsunami

<1%

6,051
\$261,536



Flood

-

-
-



Liquefaction

28%

259,319
\$800.2 Million



Landslide

7%

64,593
\$187.8 Million



Volcano

<1%

2,539
\$7.1 Million



Drought

57%

535,427
\$1.9 Billion



Wildfire

4%

41,675
\$156.3 Million



Storm Surge

31%

291,995
\$414.7 Million



Typhoon Winds

100%

930,630
\$2.8 Billion



VULNERABILITY (V)

RANK: 6 / 84 PROVINCES ASSESSED
SCORE: 0.596

Vulnerability in Masbate is primarily driven by Economic Constraints and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.59** **RANK: 21/84 PROVINCES ASSESSED**

1.59 Livestock density
127.5 Barren land (per 10k hectares)
1.36% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.552** **RANK: 15/84 PROVINCES ASSESSED**

9.1% Malnutrition among children (0 to 5 years old)
5.14 Infant mortality rate (per 1k live births)
125.4 Maternal mortality rate (per 100k live births)
67.31 Life expectancy
465 Disability (per 100k persons)

22.5 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
10.9 Intestinal disease mortality rate (per 100k persons)
1.6 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.713** **RANK: 10/84 PROVINCES ASSESSED**

80.2% Households with improved safe water source
59.6% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.61** **RANK: 14/84 PROVINCES ASSESSED**

97.77% Literacy rate (age 10 and older)
120.64% Gross primary school enrollment rate
1.09% Internet Access
52.08% Households with radio
30.38% Households with television



Economic Constraints

0  1 **SCORE: 0.808** **RANK: 6/84** PROVINCES ASSESSED

0.83
Economic
dependency
ratio

25.79%
Poverty
incidence



Gender Inequality

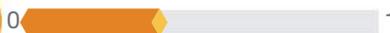
0  1 **SCORE: 0.517** **RANK: 29/84** PROVINCES ASSESSED

1.14
Female to male
secondary school
enrollment Rate

0.52
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.384** **RANK: 52/84** PROVINCES ASSESSED

1.28
Population
growth rate
(2010-2015)

6
Average annual
urban population
growth rate

1.9%
Informal settlers



COPING CAPACITY (CC)

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0.484

Masbate exhibits weaker Coping Capacity in the areas of Energy Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.599 **RANK: 24/84 PROVINCES ASSESSED**

0.9

Purchasing power of the peso

69.36%

Labor force participation rate

1424.24

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.494 **RANK: 69/84 PROVINCES ASSESSED**

82.7%

Voter participation

9.35

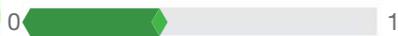
Organized violence (per 100k persons)

6.25%

Garbage pickup



Environmental Capacity



SCORE: 0.377 **RANK: 42/84 PROVINCES ASSESSED**

0.4

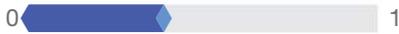
Protected areas (per 1k ha)

24.3%

Forest reserves



Infrastructure Capacity



SCORE: 0.395 RANK: 78/84 PROVINCES ASSESSED



Health Care Capacity SCORE: 0.616 RANK: 17/84 PROVINCES ASSESSED

15.61	2.63	63.76%	2.94
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.572 RANK: 28/84 PROVINCES ASSESSED

0.78	11.13
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.522 RANK: 66/84 PROVINCES ASSESSED

0.7%	90.7%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.172 RANK: 82/84 PROVINCES ASSESSED

40.8%	5.6%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.419 RANK: 47/84 PROVINCES ASSESSED

22.66	1.76	1.98
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 77 / 84 PROVINCES ASSESSED
SCORE: 0.444

Masbate's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Clean Water Access Vulnerability



Energy Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 56 / 84 PROVINCES ASSESSED
SCORE: 0.231



Tsunami

RANK: 28 / 84 PROVINCES ASSESSED
SCORE: 0.108



Flood

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 44 / 84 PROVINCES ASSESSED
SCORE: 0.181



Landslide

RANK: 39 / 84 PROVINCES ASSESSED
SCORE: 0.226



Volcano

RANK: 30 / 84 PROVINCES ASSESSED
SCORE: 0.13



Drought

RANK: 8 / 84 PROVINCES ASSESSED
SCORE: 0.413

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

12 / 84
RANK WITHIN PROVINCES
Score: 0.564



Masbate’s score and ranking are due to Low Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



MASBATE RECOMMENDATIONS

1

Environmental Stress

- Vulnerable health status is also a major driver of vulnerabilities in Marinduque. Efforts to enhance the natural and built environment can improve health outcomes by decreasing runoff, mitigating the impacts of climate change and enhancing other ecosystem services. Focus efforts on increasing forest cover, decreasing areas classified as bar en land and promoting sustainable agriculture.

2

Vulnerable Health Status

- Findings show that Marinduque is ranked 9th highest in the Philippines for vulnerable health status. Work toward increasing the health of the population through community outreach, increased access to health care and other public health interventions. Continue monitoring for and providing care for those suffering from communicable diseases.

3

Transportation Capacity

- Continue airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increased access to markets and enhanced social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Health Care Capacity

- Increases in Marinduque's health care capacity should be focused on increasing child and maternal health services. In Marinduque, immunization coverage is 57.3%, which is relatively low compared to the rest of the country. Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES _____
MISAMIS OCCIDENTAL

NDPBA PROVINCE PROFILE

THE PHILIPPINES

MISAMIS OCCIDENTAL

CAPITAL: CITY OF OROQUIETA

Area: 2,007 km²

Misamis Occidental is a province located in the region of Northern Mindanao in the Philippines. The province borders Zamboanga del Norte and Zamboanga del Sur to the west and is separated from Lanao del Norte by Panguil Bay to the south and Iligan Bay to the east. Except along the coastal area, hilly and rolling land characterize the provincial terrain. Towards the western border, the terrain is particularly rugged. The economy is largely agriculturally based and primarily focused on fishing and c ops.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.444 • Rank: 73/84



RESILIENCE (R) - Medium
Score: 0.572 • Rank: 38/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.477 • Rank: 71/84



VULNERABILITY (V) - Low
Score: 0.392 • Rank: 59/84



COPING CAPACITY (CC) - Low
Score: 0.536 • Rank: 57/84



Population (2018)
626,095



Population in Poverty
19.4%



Literate population
98.6%



Access to improved water
97.5%



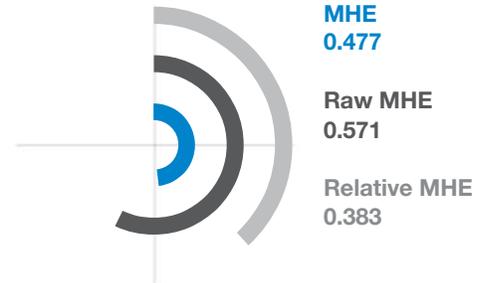
Average life expectancy
68.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 71 / 84 PROVINCES
SCORE: 0.477



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

 Earthquake
79%
493,962
\$5.3 Billion

 Tsunami
-
-
-

 Flood
12%
74,195
\$623.1 Million

 Liquefaction
9%
54,150
\$341.1 Million

 Landslide
8%
47,334
\$588.1 Million

 Volcano
<1%
1,139
\$11.2 Million

 Drought
82%
514,299
\$5.5 Billion

 Wildfire
-
-
-

 Storm Surge
30%
190,928
\$1.7 Billion

 Typhoon Winds
-
-
-



VULNERABILITY (V)

RANK: 59 / 84 PROVINCES ASSESSED
SCORE: 0.392

Vulnerability in Misamis Occidental is primarily driven by Information Access Vulnerability and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.279** **RANK: 78/84** PROVINCES ASSESSED

1.98 **0.59** **4.38%**
 Livestock density Barren land (per 10k hectares) Forest cover change



Vulnerable Health Status

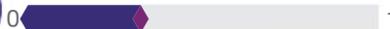
0  1 **SCORE: 0.466** **RANK: 33/84** PROVINCES ASSESSED

4.9% **3.11** **0** **68.22** **723**
 Malnutrition among children (0 to 5 years old) Infant mortality rate (per 1k live births) Maternal mortality rate (per 100k live births) Life expectancy Disability (per 100k persons)

28.4 **0** **3.3** **1.8**
 Tuberculosis mortality rate (per 100k persons) HIV mortality rate (per 100k persons) Intestinal disease mortality rate (per 100k persons) Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.329** **RANK: 56/84** PROVINCES ASSESSED

97.5% **86.2%**
 Households with improved safe water source Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.484** **RANK: 39/84** PROVINCES ASSESSED

98.55% **110.91%** **4.50%** **57.58%** **61.31%**
 Literacy rate (age 10 and older) Gross primary school enrollment rate Internet Access Households with radio Households with television



Economic Constraints



SCORE: 0.421

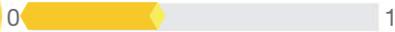
RANK: 42/84 PROVINCES ASSESSED

0.6
Economic
dependency
ratio

19.35%
Poverty
incidence



Gender Inequality



SCORE: 0.378

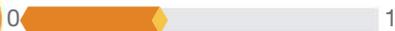
RANK: 57/84 PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.51
Labor force
participation ratio



Population Pressures



SCORE: 0.385

RANK: 51/84 PROVINCES ASSESSED

1.13
Population
growth rate
(2010-2015)

8.77
Average annual
urban population
growth rate

1.8%
Informal settlers



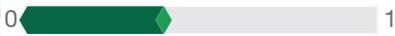
COPING CAPACITY (CC)

RANK: 57 / 84 PROVINCES ASSESSED
SCORE: 0.536

Misamis Occidental exhibits weaker Coping Capacity in the areas of Economic Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.398 **RANK: 75/84 PROVINCES ASSESSED**

0.85

Purchasing power of the peso

59.79%

Labor force participation rate

1764.03

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.656 **RANK: 37/84 PROVINCES ASSESSED**

82.3%

Voter participation

3.89

Organized violence (per 100k persons)

19.94%

Garbage pickup



Environmental Capacity



SCORE: 0.487 **RANK: 26/84 PROVINCES ASSESSED**

284.66

Protected areas (per 1k ha)

0.4%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.569 RANK: 38/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.617 RANK: 16/84 PROVINCES ASSESSED

10.48	3.3	70.70%	5.39
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.533 RANK: 36/84 PROVINCES ASSESSED

0.72	13.75
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.701 RANK: 40/84 PROVINCES ASSESSED

3.3%	92.7%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.578 RANK: 50/84 PROVINCES ASSESSED

78.3%	11.1%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.418 RANK: 48/84 PROVINCES ASSESSED

15.79	1.63	2.61
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 38 / 84 PROVINCES ASSESSED
SCORE: 0.572

Misamis Occidental's score and ranking are due to Low Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Information Access Vulnerability



Vulnerable Health Status



Economic Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 62 / 84 PROVINCES ASSESSED
SCORE: 0.215



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 66 / 84 PROVINCES ASSESSED
SCORE: 0.065



Liquefaction

RANK: 72 / 84 PROVINCES ASSESSED
SCORE: 0.063



Landslide

RANK: 49 / 84 PROVINCES ASSESSED
SCORE: 0.200



Volcano

RANK: 49 / 84 PROVINCES ASSESSED
SCORE: 0.098



Drought

RANK: 21 / 84 PROVINCES ASSESSED
SCORE: 0.372

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

73 / 84

RANK WITHIN PROVINCES
Score: 0.444



Misamis Occidental's score and ranking are due to Very Low Multi-hazard exposure combined with Low Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



MISAMIS OCCIDENTAL RECOMMENDATIONS

1

Information Access Vulnerability

- In Misamis Occidental, many homes lack access to radios, television and internet. Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

2

Vulnerable Health Status

- In Misamis Occidental there are 732 disabled persons per 100,000 population, which is the 8th highest in the Philippines. Work to ensure disaster management plans incorporate provisions for the special needs of disabled persons during disasters, including evacuation, shelter, and medical care.
- Work toward increasing the health of the population through community outreach, increased access to health care and other public health interventions. Continue monitoring for and providing care for those suffering from communicable diseases.

3

Economic Capacity

- Misamis Occidental ranked 75th out of the 84 territories in economic capacity. Continue to encourage programs that diversify the economy in Misamis Occidental to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- Increase government efforts to provide inclusive economic growth by creating policies that promote competition, private sector investment and industries that create higher paying jobs.

4

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

MISAMIS ORIENTAL

NDPBA PROVINCE PROFILE

THE PHILIPPINES

MISAMIS ORIENTAL

CAPITAL: CITY OF CAGAYAN DE ORO

Area: 3,132 km²

Misamis Oriental is a province located in the region of Northern Mindanao in the Philippines. Its capital and provincial center is Cagayan de Oro, which is governed independently from the province. The economy is based largely on manufacturing and agriculture.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.478 • Rank: 58/84



RESILIENCE (R) - Medium
Score: 0.569 • Rank: 41/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.573 • Rank: 54/84



VULNERABILITY (V) - Low
Score: 0.392 • Rank: 58/84



COPING CAPACITY (CC) - Low
Score: 0.529 • Rank: 59/84



Population (2018)
1,622,006



Population in Poverty
11.4%



Literate population
98.8%



Access to improved water
96.4%



Average life expectancy
69.0 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 55 / 84 PROVINCES
SCORE: 0.573



MHE
0.573

Raw MHE
0.711

Relative MHE
0.434

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

89%

1,438,986
\$9.5 Billion



Tsunami

<1%

134
-



Flood

46%

738,821
\$4.8 Billion



Liquefaction

12%

190,868
\$2.1 Billion



Landslide

11%

178,724
\$1 Billion



Volcano

<1%

5,425
\$32.1 Million



Drought

15%

243,486
\$1.4 Billion



Wildfire

5%

79,481
\$287.3 Million



Storm Surge

31%

495,380
\$2.2 Billion



Typhoon Winds

41%

665,373
\$3 Billion



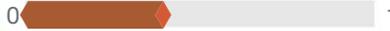
VULNERABILITY (V)

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.392

Vulnerability in Misamis Oriental is primarily driven by Population Pressures and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.395** **RANK: 58/84 PROVINCES ASSESSED**

2.38 Livestock density
6.35 Barren land (per 10k hectares)
4.04% Forest cover change



Vulnerable Health Status

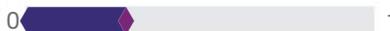
0  1 **SCORE: 0.425** **RANK: 50/84 PROVINCES ASSESSED**

4.2% Malnutrition among children (0 to 5 years old)
3.99 Infant mortality rate (per 1k live births)
9.96 Maternal mortality rate (per 100k live births)
69.02 Life expectancy
563 Disability (per 100k persons)

20.3 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
5.6 Intestinal disease mortality rate (per 100k persons)
2.7 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



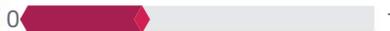
Clean Water Vulnerability

0  1 **SCORE: 0.286** **RANK: 65/84 PROVINCES ASSESSED**

96.4% Households with improved safe water source
91.5% Households with sanitary toilet facility



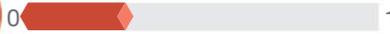
Information Access Vulnerability

0  1 **SCORE: 0.333** **RANK: 71/84 PROVINCES ASSESSED**

98.81% Literacy rate (age 10 and older)
118.89% Gross primary school enrollment rate
9.04% Internet Access
62.48% Households with radio
69.75% Households with television



Economic Constraints

0  1 **SCORE: 0.284** **RANK: 60/84** PROVINCES ASSESSED

0.57
Economic
dependency
ratio

11.35%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.443** **RANK: 41/84** PROVINCES ASSESSED

1.08
Female to male
secondary school
enrollment Rate

0.48
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.578** **RANK: 7/84** PROVINCES ASSESSED

1.96
Population
growth rate
(2010-2015)

5.61
Average annual
urban population
growth rate

3.5%
Informal settlers



COPING CAPACITY (CC)

RANK: 59 / 84 PROVINCES ASSESSED
SCORE: 0.529

Misamis Oriental exhibits weaker Coping Capacity in the areas of Transportation Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.375 **RANK: 76/84 PROVINCES ASSESSED**

0.86

Purchasing power of the peso

65.08%

Labor force participation rate

753.5

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.749 **RANK: 9/84 PROVINCES ASSESSED**

85.3%

Voter participation

7

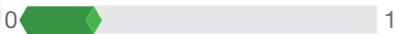
Organized violence (per 100k persons)

43.62%

Garbage pickup



Environmental Capacity



SCORE: 0.194 **RANK: 72/84 PROVINCES ASSESSED**

0.17

Protected areas (per 1k ha)

4.3%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.576 RANK: 36/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.557 RANK: 27/84 PROVINCES ASSESSED

17.11 Hospital beds (per 10k people)	3.47 Physicians per 10,000 people	56.39% Vaccination coverage	6.34 Average distance to nearest hospital (km)
---	--	--	---



Transportation Capacity SCORE: 0.267 RANK: 80/84 PROVINCES ASSESSED

1.63 Road density (km per sq. km)	60.12 Average distance to nearest port (km)
--	--



Communications Capacity SCORE: 0.851 RANK: 13/84 PROVINCES ASSESSED

7.3% Households with a landline	98.2% Mobile coverage
---	---------------------------------



Energy Capacity SCORE: 0.739 RANK: 23/84 PROVINCES ASSESSED

85.4% Households with electricity	24.0% Households with gas
---	-------------------------------------



Emergency Services Capacity SCORE: 0.406 RANK: 51/84 PROVINCES ASSESSED

10.95 Evacuation centers (per 100k persons)	1.79 Fire Stations (per 100k persons)	2.53 Fire Trucks (per 100k persons)
--	--	--



RESILIENCE (R)

RANK: 41 / 84 PROVINCES ASSESSED
SCORE: 0.569

Misamis Oriental's score and ranking are due to Low Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Population Pressures



Gender Inequality



Transportation Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 26 / 84 PROVINCES ASSESSED
SCORE: 0.313



Tsunami

RANK: 49 / 84 PROVINCES ASSESSED
SCORE: 0.043



Flood

RANK: 30 / 84 PROVINCES ASSESSED
SCORE: 0.224



Liquefaction

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.126



Landslide

RANK: 25 / 84 PROVINCES ASSESSED
SCORE: 0.262



Volcano

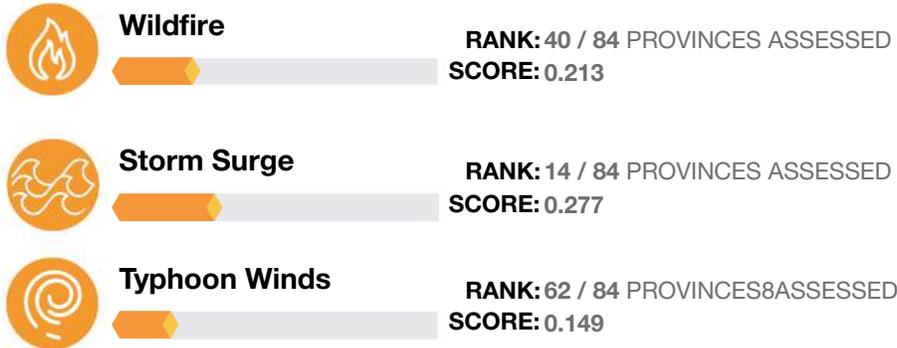
RANK: 32 / 84 PROVINCES ASSESSED
SCORE: 0.128



Drought

RANK: 39 / 84 PROVINCES ASSESSED
SCORE: 0.204

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

58 / 84

RANK WITHIN PROVINCES
Score: 0.478



Misamis Oriental's score and ranking are due to Low Multi-hazard exposure combined with Low Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



MISAMIS ORIENTAL RECOMMENDATIONS

1

Population Pressures

- Continue to monitor the growth of the population and plan resource allocation appropriately. Enforce building codes and environmental protection laws to ensure expansion is sustainable.
- Work with diverse partners to help stimulate the economy to support increased public demands. Ensure equitable distribution of resources and services.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Transportation Capacity

- Misamis Oriental has the greatest average distance between ports and populated places (60.12 kilometers per square kilometer). Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Economic Capacity

- Misamis Oriental ranked 76th out of the 84 territories in economic capacity. Continue to encourage programs that diversify the economy in Misamis Oriental to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- As the population grows, there will be increases in the demands for emergency services and public programs. Work with stakeholders and partners to expand emergency service capacities by training community members and generating funds to support response activities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

MOUNTAIN PROVINCE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

MOUNTAIN PROVINCE

CAPITAL: BONTOC

Area: 2,389 km²

Mountain Province is a landlocked province of the Philippines in the Cordillera Administrative Region in Luzon. The province is named after Cordillera Central mountain range found in the upper realms of Luzon island. The province is bordered on the north by Kalinga, south by Ifugao, southwest by Benguet, west by Ilocos Sur, and northwest by Abra. The economy is largely based on agriculture with tourism also providing some income.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.387 • Rank: 80/84



RESILIENCE (R) - Very High
Score: 0.665 • Rank: 5/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.492 • Rank: 37/84



VULNERABILITY (V) - Very Low
Score: 0.323 • Rank: 67/84



COPING CAPACITY (CC) - Very High
Score: 0.653 • Rank: 6/84



Population (2018)
158,114



Population in Poverty
17.2%



Literate population
95.9%



Access to improved water
-



Average life expectancy
68.8 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 37 / 84 PROVINCES
SCORE: 0.492



MHE
0.492

Raw MHE
0.343

Relative MHE
0.641

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

158,114

\$887.4 Million



Tsunami

-

-

-



Flood

-

-

-



Liquefaction

9%

14,683

\$76.5 Million



Landslide

73%

115,053

\$595.2 Million



Volcano

-

-

-



Drought

10%

15,419

\$166.9 Million



Wildfire

37%

58,852

\$341 Million



Storm Surge

-

-

-



Typhoon Winds

100%

158,114

\$887.4 Million



VULNERABILITY (V)

RANK: 76 / 84 PROVINCES ASSESSED
SCORE: 0.323

Vulnerability in Mountain Province is primarily driven by Information Access Vulnerability and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



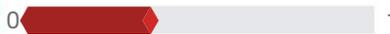
Environmental Stress

0  1 **SCORE: 0.469** **RANK: 44/84 PROVINCES ASSESSED**

4.22 Livestock density
0.51 Barren land (per 10k hectares)
-1.01% Forest cover change



Vulnerable Health Status

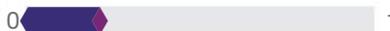
0  1 **SCORE: 0.358** **RANK: 67/84 PROVINCES ASSESSED**

5.9% Malnutrition among children (0 to 5 years old)
11.99 Infant mortality rate (per 1k live births)
0 Maternal mortality rate (per 100k live births)
68.8 Life expectancy
389 Disability (per 100k persons)

4.9 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.9 Intestinal disease mortality rate (per 100k persons)
1.2 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.21** **RANK: 77/84 PROVINCES ASSESSED**

91.6% Households with improved safe water source
 Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.569** **RANK: 17/84 PROVINCES ASSESSED**

95.86% Literacy rate (age 10 and older)
113.06% Gross primary school enrollment rate
2.10% Internet Access
60.80% Households with radio
53.59% Households with television



Economic Constraints



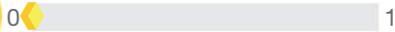
SCORE: 0.423 **RANK: 41/84** PROVINCES ASSESSED

0.62
Economic
dependency
ratio

17.18%
Poverty
incidence



Gender Inequality



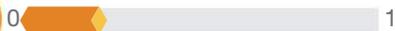
SCORE: 0.024 **RANK: 83/84** PROVINCES ASSESSED

1.02
Female to male
secondary school
enrollment Rate

0.74
Labor force
participation ratio



Population Pressures



SCORE: 0.207 **RANK: 81/84** PROVINCES ASSESSED

0.05
Population
growth rate
(2010-2015)

13.49
Average annual
urban population
growth rate

0.5%
Informal settlers



COPING CAPACITY (CC)

RANK: 6 / 84 PROVINCES ASSESSED
SCORE: 0.653

Mountain Province exhibits weaker Coping Capacity in the areas of Governance and Communications Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.862** **RANK: 2/84 PROVINCES ASSESSED**

0.92

Purchasing power of the peso

84.71%

Labor force participation rate

4293.04

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.476** **RANK: 72/84 PROVINCES ASSESSED**

79.4%

Voter participation

8.33

Organized violence (per 100k persons)

9.66%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.472** **RANK: 30/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

76.1%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.68** **RANK: 13/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.873** **RANK: 1/84** PROVINCES ASSESSED

22.25 Hospital beds (per 10k people)	9.06 Physicians per 10,000 people	73.18% Vaccination coverage	0.95 Average distance to nearest hospital (km)
---	--	--	---



Transportation Capacity **SCORE: 0.558** **RANK: 31/84** PROVINCES ASSESSED

0.55 Road density (km per sq. km)	6.69 Average distance to nearest port (km)
--	---



Communications Capacity **SCORE: 0.556** **RANK: 58/84** PROVINCES ASSESSED

0.5% Households with a landline	97% Mobile coverage
---	-------------------------------



Energy Capacity **SCORE: 0.811** **RANK: 18/84** PROVINCES ASSESSED

82.9% Households with electricity	49.8% Households with gas
---	-------------------------------------



Emergency Services Capacity **SCORE: 0.919** **RANK: 4/84** PROVINCES ASSESSED

54.99 Evacuation centers (per 100k persons)	6.43 Fire Stations (per 100k persons)	7.07 Fire Trucks (per 100k persons)
--	--	--



RESILIENCE (R)

RANK: 5 / 84 PROVINCES ASSESSED
SCORE: 0.665

Mountain Province's score and ranking are due to Very Low Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



**Information
Access
Vulnerability**



**Environmental
Stress**



Governance



**Communications
Capacity**



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 69 / 84 PROVINCES ASSESSED
SCORE: 0.190



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 78 / 84 PROVINCES ASSESSED
SCORE: 0.037



Landslide

RANK: 33 / 84 PROVINCES ASSESSED
SCORE: 0.252



Volcano

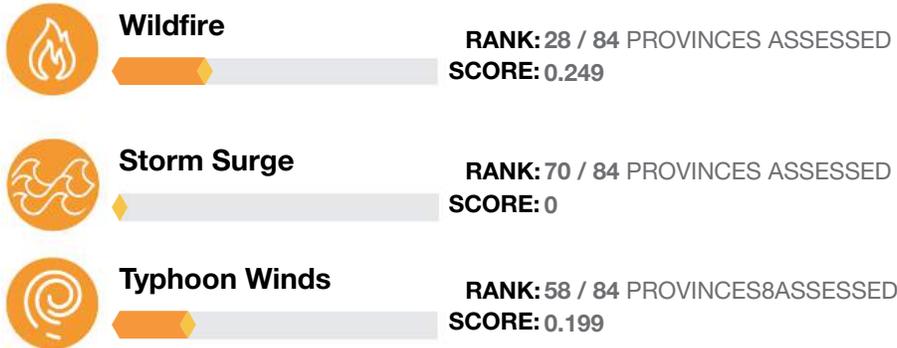
RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

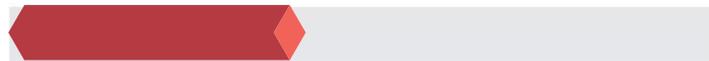
RANK: 51 / 84 PROVINCES ASSESSED
SCORE: 0.124

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

77 / 84
 RANK WITHIN PROVINCES
 Score: 0.387



Mountain Province's score and ranking are due to Medium Multi-hazard exposure combined with Very Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE (Colorful bar)
 COUNTRY SCORE (Grey bar)



MOUNTAIN PROVINCE RECOMMENDATIONS

1

Information Access Vulnerability

- In Mountain Province, many homes lack access to radios, television and internet. Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

2

Environmental Stress

- Forest cover change has also been on a downward trend between 2000 and 2010 (-1.01%). Focus efforts on increasing forest cover, decreasing areas classified as barren land and reduced livestock density.
- The population in Mountain Province is highly exposed to flooding and drought hazards. With climate change, floods and droughts are projected to become more severe and frequent. Work with local communities and diverse partners to promote water and soil conservation through enhanced agricultural practices and reforestation efforts.

3

Governance

- Continue to work with local and international partners to achieve good governance related goals in Mountain Province. Keep up efforts to expand voter participation, increase government services and maintain peace and security.
- Work with private and public organizations to expand information access in Mountain Province. Government transparency and accountability have been major parts of the good governance agenda. Expanding access to the internet and other forms of media will ensure proper public oversight, increasing trust in the local government.

4

Communications Capacity

- In Mountain Province less than 1% of households report having access to landlines, while nearly 97% of barangays in Mountain Province have cell signal. Focus efforts on investing in landlines and alternative communication networks, such as public radio towers. The population of Mountain Province is highly exposed to typhoons, earthquakes and landslides. Invest in communications infrastructure that is reinforced to withstand hazards and adds redundancy to the communication network.
- Findings show that the population in Mountain Province are also vulnerable due to limitations in access to information. Improvements to communications infrastructure should be paralleled by increased households' access to telecommunication devices. Expand private and public partnerships in the meantime to plan emergency communications.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

NCR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

NCR

CAPITAL:

Area: 620 km²

The National Capital Region (NCR) is the only region in the country with no provinces designated. NCR is located on Luzon within the Manila Bay and also borders Laguna Lake. The climate in NCR is tropical with often high humidity. An estimated 13 percent of the entire population of the Philippines lives in the region. Metro Manila is the economic center of the entire country leading in commercial and industrial industries. Being an economic hub, the region is highly urbanized. There are still many challenges faced by the region, including nutritional and housing vulnerabilities. Located within typhoon and seismic hazard zones, the population is highly exposed. In addition, the COVID-19 pandemic has been detrimental, with reports showing the highest deaths and number of cases within the NCR.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.496 • Rank: 46/84



RESILIENCE (R) - Very High
Score: 0.697 • Rank: 2/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.883 • Rank: 2/84



VULNERABILITY (V) - Very Low
Score: 0.273 • Rank: 83/84



COPING CAPACITY (CC) - Very High
Score: 0.667 • Rank: 4/84



Population (2018)
12,623,010



Population in Poverty
1.5%



Literate population
99.8%



Access to improved water
98.5%



Average life expectancy
72.1 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 1 / 84 PROVINCES
SCORE: 0.883



MHE
0.883

Raw MHE
1.0
Relative MHE
0.765

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

99%

12,556,544
\$156.1 Billion



Tsunami

<1%

83,777
\$434.5 Million



Flood

71%

9,020,292
\$119.6 Billion



Liquefaction

45%

5,714,230
\$74.2 Billion



Landslide

<1%

13
-



Volcano

<1%

37,861
\$472 Million



Drought

-
-
-



Wildfire

44%

5,537,318
\$66.6 Billion



Storm Surge

22%

2,763,038
\$33.7 Billion



Typhoon Winds

100%

12,606,841
\$156.8 Billion



VULNERABILITY (V)

RANK: 83 / 84 PROVINCES ASSESSED
SCORE: 0.273

Vulnerability in NCR is primarily driven by Population Pressures and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



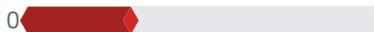
Environmental Stress

0  1 **SCORE: 0.481** **RANK: 38/84 PROVINCES ASSESSED**

5.51 Livestock density
0.87 Barren land (per 10k hectares)
0.14% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.3** **RANK: 74/84 PROVINCES ASSESSED**

6.4% Malnutrition among children (0 to 5 years old)
15.04 Infant mortality rate (per 1k live births)
60.16 Maternal mortality rate (per 100k live births)
72.13 Life expectancy
54 Disability (per 100k persons)

29.3 Tuberculosis mortality rate (per 100k persons)
1.3 HIV mortality rate (per 100k persons)
4 Intestinal disease mortality rate (per 100k persons)
1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



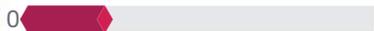
Clean Water Vulnerability

0  1 **SCORE: 0.183** **RANK: 79/84 PROVINCES ASSESSED**

98.5% Households with improved safe water source
93.1% Households with sanitary toilet facility



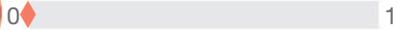
Information Access Vulnerability

0  1 **SCORE: 0.224** **RANK: 79/84 PROVINCES ASSESSED**

99.82% Literacy rate (age 10 and older)
93.52% Gross primary school enrollment rate
27.63% Internet Access
71.24% Households with radio
93.22% Households with television



Economic Constraints



SCORE: 0

RANK: 84/84 PROVINCES ASSESSED

0.45

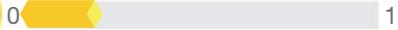
Economic
dependency
ratio

1.46%

Poverty
incidence



Gender Inequality



SCORE: 0.195

RANK: 81/84 PROVINCES ASSESSED

1.06

Female to male
secondary school
enrollment Rate

0.66

Labor force
participation ratio



Population Pressures



SCORE: 0.53

RANK: 13/84 PROVINCES ASSESSED

1.58

Population
growth rate
(2010-2015)

1.67

Average annual
urban population
growth rate

4.0%

Informal settlers



COPING CAPACITY (CC)

RANK: 4 / 84 PROVINCES ASSESSED
SCORE: 0.667

NCR exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Governance. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.787** **RANK: 6/84 PROVINCES ASSESSED**

0.92

Purchasing power of the peso

63.70%

Labor force participation rate

7272.34

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.584** **RANK: 60/84 PROVINCES ASSESSED**

78.6%

Voter participation

14.95

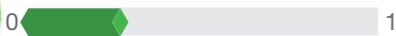
Organized violence (per 100k persons)

96.69%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.268** **RANK: 62/84 PROVINCES ASSESSED**

28.12

Protected areas (per 1k ha)

0.0%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.765 RANK: 1/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.435 RANK: 56/84 PROVINCES ASSESSED

6.64	1.08	68.36%	7.47
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.778 RANK: 6/84 PROVINCES ASSESSED

291.71	25.68
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 1 RANK: 1/84 PROVINCES ASSESSED

25.4%	100.0%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.992 RANK: 1/84 PROVINCES ASSESSED

97.3%	77.7%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.182 RANK: 78/84 PROVINCES ASSESSED

3.47	1	1.03
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 2 / 84 PROVINCES ASSESSED
SCORE: 0.697

NCR's score and ranking are due to Very Low Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Population Pressures



Environmental Stress



Emergency Services Capacity



Governance



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 31 / 84 PROVINCES ASSESSED
SCORE: 0.301



Tsunami

RANK: 18 / 84 PROVINCES ASSESSED
SCORE: 0.141



Flood

RANK: 20 / 84 PROVINCES ASSESSED
SCORE: 0.264



Liquefaction

RANK: 27 / 84 PROVINCES ASSESSED
SCORE: 0.223



Landslide

RANK: 83 / 84 PROVINCES ASSESSED
SCORE: 0.000



Volcano

RANK: 31 / 84 PROVINCES ASSESSED
SCORE: 0.128



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

25 / 84
RANK WITHIN PROVINCES
Score: 0.496

NCR's score and ranking are due to Very High Multi-hazard exposure combined with Very Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



NCR RECOMMENDATIONS

1

Population Pressures

- Findings show that NCR is ranked 4th in the Philippines for informal settlers, which accounts for 4% of the population. Continue to monitor the growth of the population and plan resource allocation appropriately. Work with diverse partners to help stimulate the economy to support increased public demands. Ensure equitable distribution of resources and services.
- Environmental stress is already leading to vulnerabilities in NCR. Enforce building codes and environmental protection laws to ensure expansion is sustainable. Also, focus efforts on bringing in funds and innovations for enhancing the built environment.

2

Environmental Stress

- NCR is ranked highest in the Philippines for multi-hazard exposure. Mitigate potential hazard impacts by promoting sustainable agriculture and protection of natural areas through policies and investments. Focus efforts on increasing forest cover, decreasing areas classified as barren land and reduced livestock density.

3

Emergency Services Capacity

- NCR is ranked 78th out of the 84 territories for emergency service capacity. There are 1.0 fire truck per 100,000 persons, which is the 7th lowest in the Philippines. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Wildfires expose 43.9% of the population and 42.3% of capital stock in NCR. NCR is also ranked highest in multi-hazard exposure. Investing in increased resources for the fire department can help reduce impacts from Wildfires and be leveraged for other response actions.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Governance

- Continue to work with local and international partners to achieve good governance related goals in the NCR. Focus efforts on increasing voter participation and decreasing organized violence.
- Voter participation in the NCR is estimated at only 79%. Organized violence is occurring at a rate of 15 incidents per 100,000 persons. Keep up efforts to actively seek public participation in government and incorporate feedback.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

NEGROS OCCIDENTAL

NDPBA PROVINCE PROFILE

THE PHILIPPINES

NEGROS OCCIDENTAL

CAPITAL: CITY OF BACOLOD

Area: 8,005 km²

Negros Occidental is a province in the Philippines located in the Western Visayas region. It occupies the northwestern half of the large island of Negros, and borders Negros Oriental, which comprises the southeastern half. Known as the “Sugarbowl of the Philippines”, it produces more than half the nation’s sugar output. The north and western parts of the province are largely composed of plains and gentle slopes. A mountain range lines the eastern part of the province, forming the basis of the border with Negros Oriental. Known as the “Sugarbowl of the Philippines”, the sugar industry is the lifeblood of the economy producing more than half of the country’s sugar.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.565 • Rank: 11/84



RESILIENCE (R) - Low
Score: 0.545 • Rank: 53/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.785 • Rank: 13/84



VULNERABILITY (V) - High
Score: 0.482 • Rank: 24/84



COPING CAPACITY (CC) - High
Score: 0.571 • Rank: 30/84



Population (2018)
2,955,697



Population in Poverty
14.7%



Literate population
98.0%



Access to improved water
88.4%



Average life expectancy
68.3 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 13 / 84 PROVINCES
SCORE: 0.785



MHE
0.785

Raw MHE
0.856

Relative MHE
0.714

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

90%

2,661,607
\$12.9 Billion



Tsunami

<1%

592
-



Flood

49%

1,462,677
\$7.6 Billion



Liquefaction

37%

1,103,855
\$5.5 Billion



Landslide

9%

253,823
\$573.2 Million



Volcano

2%

73,132
\$220.4 Million



Drought

-

-
-



Wildfire

41%

1,214,663
\$6.4 Billion



Storm Surge

25%

750,431
\$2.7 Billion



Typhoon Winds

100%

2,954,229
\$13.3 Billion



VULNERABILITY (V)

RANK: 24 / 84 PROVINCES ASSESSED
SCORE: 0.482

Vulnerability in Negros Occidental is primarily driven by Clean Water Access Vulnerability and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.525** **RANK: 29/84** PROVINCES ASSESSED

1.89 Livestock density
24.14 Barren land (per 10k hectares)
0.65% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.506** **RANK: 24/84** PROVINCES ASSESSED

5.9% Malnutrition among children (0 to 5 years old)
7.81 Infant mortality rate (per 1k live births)
57.06 Maternal mortality rate (per 100k live births)
68.34 Life expectancy
468 Disability (per 100k persons)

42.5 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
9.6 Intestinal disease mortality rate (per 100k persons)
1.2 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



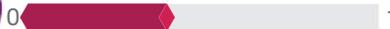
Clean Water Vulnerability

0  1 **SCORE: 0.569** **RANK: 19/84** PROVINCES ASSESSED

88.4% Households with improved safe water source
75.9% Households with sanitary toilet facility



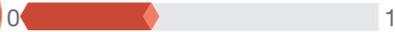
Information Access Vulnerability

0  1 **SCORE: 0.405** **RANK: 57/84** PROVINCES ASSESSED

98.02% Literacy rate (age 10 and older)
121.48% Gross primary school enrollment rate
5.45% Internet Access
62.16% Households with radio
64.15% Households with television



Economic Constraints



SCORE: 0.36

RANK: 47/84 PROVINCES ASSESSED

0.6
Economic
dependency
ratio

14.65%
Poverty
incidence



Gender Inequality



SCORE: 0.522

RANK: 25/84 PROVINCES ASSESSED

1.11
Female to male
secondary school
enrollment Rate

0.46
Labor force
participation ratio



Population Pressures



SCORE: 0.484

RANK: 19/84 PROVINCES ASSESSED

1.29
Population
growth rate
(2010-2015)

1.86
Average annual
urban population
growth rate

3.8%
Informal settlers



COPING CAPACITY (CC)

RANK: 30 / 84 PROVINCES ASSESSED
SCORE: 0.571

Negros Occidental exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.474 **RANK: 54/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

64.99%

Labor force participation rate

943.02

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.66 **RANK: 35/84 PROVINCES ASSESSED**

84.0%

Voter participation

7.99

Organized violence (per 100k persons)

25.06%

Garbage pickup



Environmental Capacity



SCORE: 0.661 **RANK: 5/84 PROVINCES ASSESSED**

29.58

Protected areas (per 1k ha)

35.0%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.549** **RANK: 46/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.344** **RANK: 71/84** PROVINCES ASSESSED

5.21	1.49	63.42%	11.15
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.572** **RANK: 27/84** PROVINCES ASSESSED

1.30	19.36
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.835** **RANK: 14/84** PROVINCES ASSESSED

6.3%	98.2%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.572** **RANK: 52/84** PROVINCES ASSESSED

76.8%	11.6%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.333** **RANK: 66/84** PROVINCES ASSESSED

18.78	1.16	1.71
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 53 / 84 PROVINCES ASSESSED
SCORE: 0.545

Negros Occidental's score and ranking are due to High Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Clean Water Access Vulnerability



Environmental Stress



Emergency Services Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 5 / 84 PROVINCES ASSESSED
SCORE: 0.397



Tsunami

RANK: 43 / 84 PROVINCES ASSESSED
SCORE: 0.059



Flood

RANK: 13 / 84 PROVINCES ASSESSED
SCORE: 0.298



Liquefaction

RANK: 19 / 84 PROVINCES ASSESSED
SCORE: 0.255



Landslide

RANK: 36 / 84 PROVINCES ASSESSED
SCORE: 0.246



Volcano

RANK: 14 / 84 PROVINCES ASSESSED
SCORE: 0.211



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

11 / 84
RANK WITHIN PROVINCES
Score: 0.565



Negros Occidental's score and ranking are due to Very High Multi-hazard exposure combined with High Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



NEGROS OCCIDENTAL RECOMMENDATIONS

1

Clean Water Access Vulnerability

- In Negros Occidental, access to clean water is a main driver of vulnerability. Focus on increasing clean water infrastructure, especially in rural and remote areas to reduce health risks.
- Nearly the entire population is exposed to typhoon winds and 49% are exposed to flooding. Negros Occidental is also vulnerable due to environmental stresses including forest cover loss and livestock density, which can exacerbate hazard impacts. Invest in improved water and sanitation infrastructure to increase resilience and reduce risks.

2

Environmental Stress

- Expand efforts to improve environmental conditions in Negros Occidental. Increase funding for reforestation projects and promote sustainable agricultural practices.
- Clean water access is also a leading driver of vulnerability. Continue to protect natural water sources through laws and regulations.

3

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- In Negros Occidental Wildfires expose 48.1% of the capital stock and 41.1% of the population. Invest in increased fire stations and fire trucks to mitigate Wildfire impacts.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

NEGROS ORIENTAL

NDPBA PROVINCE PROFILE

THE PHILIPPINES

NEGROS ORIENTAL

CAPITAL: CITY OF DUMAGUETE

Area: 5,421 km²

Negros Oriental is a province in the Philippines located in the Central Visayas region. It faces Cebu to the east across the Tañon Strait and Siquijor to the south-east (previously part of the province). It also includes Apo Island, a popular dive site for both local and foreign tourists. The province has been a major supplier of electricity to its neighboring provinces in the Visayas with its excess power capacity generated by the Palinpinon geothermal plant. The other main part of the economy is largely agriculture.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.533 • Rank: 25/84



RESILIENCE (R) - Low
Score: 0.516 • Rank: 64/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.633 • Rank: 37/84



VULNERABILITY (V) - High
Score: 0.481 • Rank: 25/84



COPING CAPACITY (CC) - Low
Score: 0.514 • Rank: 65/84



Population (2018)
1,400,645



Population in Poverty
19.2%



Literate population
97.7%



Access to improved water
87.8%



Average life expectancy
68.3 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 38 / 84 PROVINCES
SCORE: 0.633



MHE
0.633

Raw MHE
0.69

Relative MHE
0.576

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

92%

1,290,773
\$5.9 Billion



Tsunami

<1%

18
-



Flood

27%

381,859
\$1.9 Billion



Liquefaction

30%

422,084
\$1.9 Billion



Landslide

21%

291,221
\$1 Billion



Volcano

3%

36,535
\$51.4 Million



Drought

-

-
-



Wildfire

20%

276,307
\$1.5 Billion



Storm Surge

13%

185,054
\$426.1 Million



Typhoon Winds

96%

1,345,794
\$6 Billion



VULNERABILITY (V)

RANK: 25 / 84 PROVINCES ASSESSED
SCORE: 0.481

Vulnerability in Negros Oriental is primarily driven by Vulnerable Health Status and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.547** **RANK: 26/84** PROVINCES ASSESSED

3.64 Livestock density
6.83 Barren land (per 10k hectares)
-0.72% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.563** **RANK: 13/84** PROVINCES ASSESSED

5.6% Malnutrition among children (0 to 5 years old)
8.76 Infant mortality rate (per 1k live births)
115.65 Maternal mortality rate (per 100k live births)
68.31 Life expectancy
598 Disability (per 100k persons)

20.5 Tuberculosis mortality rate (per 100k persons)
0.2 HIV mortality rate (per 100k persons)
7.1 Intestinal disease mortality rate (per 100k persons)
2.3 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.529** **RANK: 23/84** PROVINCES ASSESSED

87.8% Households with improved safe water source
81.7% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.499** **RANK: 35/84** PROVINCES ASSESSED

97.72% Literacy rate (age 10 and older)
120.63% Gross primary school enrollment rate
4.98% Internet Access
59.50% Households with radio
42.80% Households with television



Economic Constraints



SCORE: 0.433

RANK: 38/84 PROVINCES ASSESSED

0.61

Economic dependency ratio

19.20%

Poverty incidence



Gender Inequality



SCORE: 0.483

RANK: 34/84 PROVINCES ASSESSED

1.16

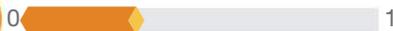
Female to male secondary school enrollment Rate

0.59

Labor force participation ratio



Population Pressures



SCORE: 0.316

RANK: 73/84 PROVINCES ASSESSED

0.99

Population growth rate (2010-2015)

5.6

Average annual urban population growth rate

1.5%

Informal settlers



COPING CAPACITY (CC)

RANK: 65 / 84 PROVINCES ASSESSED
SCORE: 0.514

Negros Oriental exhibits weaker Coping Capacity in the areas of Transportation Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.597 **RANK: 25/84 PROVINCES ASSESSED**

0.9

Purchasing power of the peso

69.36%

Labor force participation rate

1399.32

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.614 **RANK: 49/84 PROVINCES ASSESSED**

83.9%

Voter participation

8.08

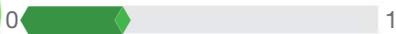
Organized violence (per 100k persons)

15.56%

Garbage pickup



Environmental Capacity



SCORE: 0.275 **RANK: 61/84 PROVINCES ASSESSED**

3.71

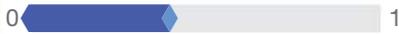
Protected areas (per 1k ha)

3.1%

Forest reserves



Infrastructure Capacity



SCORE: 0.412 RANK: 73/84 PROVINCES ASSESSED



Health Care Capacity

SCORE: 0.481 RANK: 44/84 PROVINCES ASSESSED

11.98

Hospital beds
(per 10k people)

1.97

Physicians per
10,000 people

60.74%

Vaccination
coverage

6.83

Average distance to nearest
hospital (km)



Transportation Capacity

SCORE: 0.245 RANK: 81/84 PROVINCES ASSESSED

0.73

Road density
(km per sq. km)

43.32

Average distance to
nearest port (km)



Communications Capacity

SCORE: 0.696 RANK: 41/84 PROVINCES ASSESSED

4.1%

Households with a landline

90.5%

Mobile coverage



Energy Capacity

SCORE: 0.373 RANK: 72/84 PROVINCES ASSESSED

56.3%

Households with electricity

9.6%

Households with gas



Emergency Services Capacity

SCORE: 0.402 RANK: 53/84 PROVINCES ASSESSED

21.42

Evacuation centers
(per 100k persons)

1.45

Fire Stations
(per 100k persons)

2.25

Fire Trucks
(per 100k persons)



RESILIENCE (R)

RANK: 64 / 84 PROVINCES ASSESSED
SCORE: 0.516

Negros Oriental's score and ranking are due to High Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Vulnerable Health Status



Environmental Stress



Transportation Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 18 / 84 PROVINCES ASSESSED
SCORE: 0.337



Tsunami

RANK: 52 / 84 PROVINCES ASSESSED
SCORE: 0.029



Flood

RANK: 46 / 84 PROVINCES ASSESSED
SCORE: 0.166



Liquefaction

RANK: 41 / 84 PROVINCES ASSESSED
SCORE: 0.189



Landslide

RANK: 7 / 84 PROVINCES ASSESSED
SCORE: 0.346



Volcano

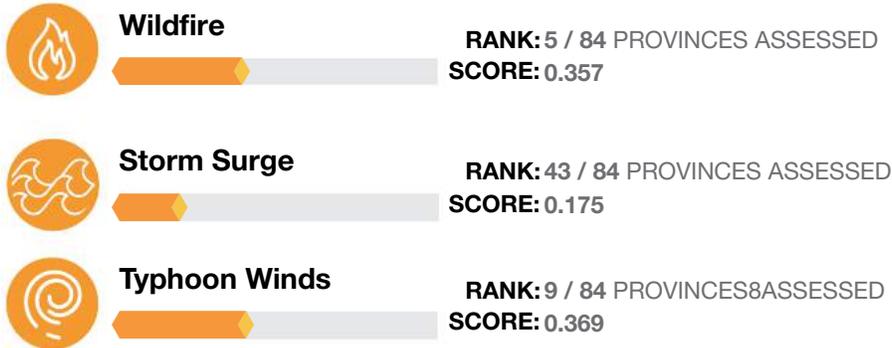
RANK: 18 / 84 PROVINCES ASSESSED
SCORE: 0.191



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

25 / 84

RANK WITHIN PROVINCES
Score: 0.533



Negros Oriental's score and ranking are due to Medium Multi-hazard exposure combined with High Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



NEGROS ORIENTAL RECOMMENDATIONS

1

Vulnerable Health Status

- Findings show that expanded efforts to reduce the spread and impact of infectious diseases are needed in Negros Oriental. The province is ranked as the 10th highest province for infectious disease mortality. Increase surveillance capabilities and access to specialty care to control infectious diseases, such as HIV and tuberculosis.
- Increase community health through outreach events, provision of resources, such as soap and clean water, and increased access to health care.

2

Environmental Stress

- In Negros Oriental, forest coverage between 2000 and 2010 was on a decreasing trend (-0.72%). Focus efforts on increasing forest cover, decreasing areas classified as barren land and promoting sustainable agriculture.
- Vulnerable health status is also a major driver of vulnerabilities in Negros Oriental. Efforts to enhance the natural and built environment can improve health outcomes by decreasing runoff, mitigating the impacts of climate change and enhancing other ecosystem services.

3

Transportation Capacity

- In Negros Oriental, the average distance between ports and populated places is 43.3 kilometers per square kilometer, which is the 4th highest in the Philippines. Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

NORTHERN SAMAR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

NORTHERN SAMAR

CAPITAL: CATARMAN

Area: 3,695 km²

Northern Samar is a province in the Philippines located in the Eastern Visayas region. Northern Samar is located at the northern portion of the island of Samar. Bordering the province to the south are the provinces of Samar and Eastern Samar. To the northwest, across the San Bernardino Strait is Sorsogon; to the east is the Philippine Sea and to the west is Samar Sea. The economy is largely agricultural with some tourism.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.588 • Rank: 3/84



RESILIENCE (R) - Very Low
Score: 0.433 • Rank: 78/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.631 • Rank: 39/84



VULNERABILITY (V) - Very High
Score: 0.558 • Rank: 7/84



COPING CAPACITY (CC) - Very Low
Score: 0.425 • Rank: 78/84



Population (2018)
608,890



Population in Poverty
27.4%



Literate population
97.2%



Access to improved water
76.5%



Average life expectancy
67.1 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 40 / 84 PROVINCES
SCORE: 0.631



MHE
0.631

Raw MHE
0.57

Relative MHE
0.693

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

79%

478,310
\$2.5 Billion



Tsunami

32%

197,737
\$512.1 Million



Flood

61%

373,810
\$1.8 Billion



Liquefaction

50%

305,475
\$1.3 Billion



Landslide

8%

48,537
\$314.3 Million



Volcano

<1%

1,268
\$5.2 Million



Drought

-

-

-



Wildfire

-

-

-



Storm Surge

31%

186,533
\$296.4 Million



Typhoon Winds

100%

606,932
\$2.7 Billion



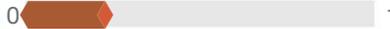
VULNERABILITY (V)

RANK: 7 / 84 PROVINCES ASSESSED
SCORE: 0.558

Vulnerability in Northern Samar is primarily driven by Economic Constraints and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.225** **RANK: 81/84 PROVINCES ASSESSED**

0.65 Livestock density
6.41 Barren land (per 10k hectares)
6.22% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.669** **RANK: 5/84 PROVINCES ASSESSED**

9.5% Malnutrition among children (0 to 5 years old)
3.59 Infant mortality rate (per 1k live births)
64.44 Maternal mortality rate (per 100k live births)
67.06 Life expectancy
832 Disability (per 100k persons)

30.8 Tuberculosis mortality rate (per 100k persons)
0.2 HIV mortality rate (per 100k persons)
14.2 Intestinal disease mortality rate (per 100k persons)
0.6 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.688** **RANK: 12/84 PROVINCES ASSESSED**

76.5% Households with improved safe water source
69.2% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.678** **RANK: 6/84 PROVINCES ASSESSED**

97.16% Literacy rate (age 10 and older)
116.95% Gross primary school enrollment rate
1.59% Internet Access
30.88% Households with radio
41.46% Households with television



Economic Constraints



SCORE: 0.692

RANK: 11/84 PROVINCES ASSESSED

0.73

Economic
dependency
ratio

27.39%

Poverty
incidence



Gender Inequality



SCORE: 0.521

RANK: 26/84 PROVINCES ASSESSED

1.13

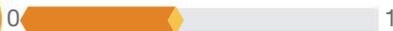
Female to male
secondary school
enrollment Rate

0.51

Labor force
participation ratio



Population Pressures



SCORE: 0.431

RANK: 34/84 PROVINCES ASSESSED

1.36

Population
growth rate
(2010-2015)

12.72

Average annual
urban population
growth rate

1.7%

Informal settlers



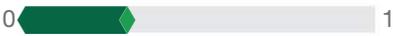
COPING CAPACITY (CC)

RANK: 78 / 84 PROVINCES ASSESSED
SCORE: 0.425

Northern Samar exhibits weaker Coping Capacity in the areas of Health Care Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.297 **RANK: 81/84 PROVINCES ASSESSED**

0.81

Purchasing power of the peso

58.74%

Labor force participation rate

1855.62

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.641 **RANK: 41/84 PROVINCES ASSESSED**

83.6%

Voter participation

5.8

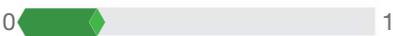
Organized violence (per 100k persons)

16.25%

Garbage pickup



Environmental Capacity



SCORE: 0.209 **RANK: 71/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

5.9%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.407** **RANK: 76/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.231** **RANK: 81/84** PROVINCES ASSESSED

3.3	1.07	54.51%	11.9
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.32** **RANK: 71/84** PROVINCES ASSESSED

0.48	28.94
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.42** **RANK: 73/84** PROVINCES ASSESSED

1.2%	78.2%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.525** **RANK: 61/84** PROVINCES ASSESSED

70.1%	12.6%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.541** **RANK: 28/84** PROVINCES ASSESSED

17.26	2.78	3.4
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 78 / 84 PROVINCES ASSESSED
SCORE: 0.433

Northern Samar's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Clean Water Access Vulnerability



Health Care Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 38 / 84 PROVINCES ASSESSED
SCORE: 0.276



Tsunami

RANK: 1 / 84 PROVINCES ASSESSED
SCORE: 0.538



Flood

RANK: 14 / 84 PROVINCES ASSESSED
SCORE: 0.288



Liquefaction

RANK: 18 / 84 PROVINCES ASSESSED
SCORE: 0.257



Landslide

RANK: 30 / 84 PROVINCES ASSESSED
SCORE: 0.255



Volcano

RANK: 36 / 84 PROVINCES ASSESSED
SCORE: 0.118



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

3 / 84

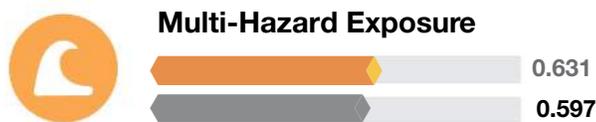
RANK WITHIN PROVINCES
Score: 0.588



Northern Samar's score and ranking are due to Medium Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



NORTHERN SAMAR RECOMMENDATIONS

1

Economic Constraints

- In Northern Samar, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Focus efforts on promoting industries that create gainful work, to prevent outmigration of the working age population. Invest in small and local businesses, especially in rural and remote areas.

2

Clean Water Access Vulnerability

- In Northern Samar, only 70% of households have access to sanitary toilet facilities. Focus on increasing clean water infrastructure especially in rural and remote areas to reduce health risks.
- The results show that in Northern Samar 61% of the population is exposed to flooding hazards. Invest in improved water and sanitation infrastructure to ensure safe access to water and increased resilience.

3

Health Care Capacity

- Health care capacity in Northern Samar ranks 79th out of 84 territories in the Philippines. There are 1.71 hospital beds per 10,000 persons, which is the 7th lowest in the country. Focus efforts on increasing the number of hospital beds and facilities readily available during normal conditions, as well as for surge capacity. Continue to work with local and international partners to increase funding and capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Economic Capacity

- Northern Samar ranked 81st out of the 84 territories in economic capacity. The labor force participation rate in Northern Samar is 58.7%, the 13th lowest in the Philippines. Continue to encourage programs that diversify the economy in Northern Samar to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- Stimulate economic growth by creating policies that promote competition, private sector investment and attract industries that create higher paying jobs.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

NUEVA ECIJA

NDPBA PROVINCE PROFILE

THE PHILIPPINES

NUEVA ECIJA

CAPITAL: CITY OF PALAYAN

Area: 5,690 km²

Nueva Ecija is a landlocked province in the Philippines located in the Central Luzon region. Nueva Ecija borders, from the south clockwise, Bulacan, Pampanga, Tarlac, Pangasinan, Nueva Vizcaya and Aurora. The province is nationally known as the Rice Granary of the Philippines, producing the largest rice yield in the country.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.529 • Rank: 26/84



RESILIENCE (R) - High
Score: 0.605 • Rank: 18/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.797 • Rank: 10/84



VULNERABILITY (V) - Low
Score: 0.376 • Rank: 62/84



COPING CAPACITY (CC) - High
Score: 0.586 • Rank: 25/84



Population (2018)
2,162,085



Population in Poverty
6.5%



Literate population
99.5%



Access to improved water
88.8%



Average life expectancy
69.7 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 10 / 84 PROVINCES
SCORE: 0.797



MHE
0.797

Raw MHE
0.756

Relative MHE
0.839

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

2,162,085
\$4.8 Billion



Tsunami

-

-

-



Flood

96%

2,075,376
\$4.6 Billion



Liquefaction

88%

1,913,346
\$4.2 Billion



Landslide

3%

60,171
\$102.3 Million



Volcano

<1%

5,590
\$12.4 Million



Drought

15%

323,555
\$673.1 Million



Wildfire

15%

332,219
\$709.5 Million



Storm Surge

-

-

-



Typhoon Winds

100%

2,162,085
\$4.8 Billion



VULNERABILITY (V)

RANK: 62 / 84 PROVINCES ASSESSED
SCORE: 0.376

Vulnerability in Nueva Ecija is primarily driven by Gender Inequality and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



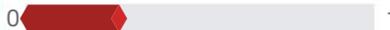
Environmental Stress

0  1 **SCORE: 0.44** **RANK: 50/84 PROVINCES ASSESSED**

1.86 Livestock density
23.13 Barren land (per 10k hectares)
4.17% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.266** **RANK: 78/84 PROVINCES ASSESSED**

7.4% Malnutrition among children (0 to 5 years old)
0.69 Infant mortality rate (per 1k live births)
6.92 Maternal mortality rate (per 100k live births)
69.69 Life expectancy
222 Disability (per 100k persons)

11.2 Tuberculosis mortality rate (per 100k persons)
0.1 HIV mortality rate (per 100k persons)
2.9 Intestinal disease mortality rate (per 100k persons)
0.5 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



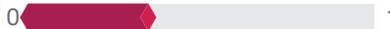
Clean Water Vulnerability

0  1 **SCORE: 0.465** **RANK: 33/84 PROVINCES ASSESSED**

88.8% Households with improved safe water source
87.0% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.351** **RANK: 67/84 PROVINCES ASSESSED**

99.46% Literacy rate (age 10 and older)
107.81% Gross primary school enrollment rate
5.43% Internet Access
65.79% Households with radio
84.87% Households with television



Economic Constraints



SCORE: 0.193

RANK: 72/84 PROVINCES ASSESSED

0.55

Economic
dependency
ratio

6.50%

Poverty
incidence



Gender Inequality



SCORE: 0.52

RANK: 27/84 PROVINCES ASSESSED

1.11

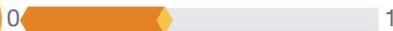
Female to male
secondary school
enrollment Rate

0.45

Labor force
participation ratio



Population Pressures



SCORE: 0.399

RANK: 46/84 PROVINCES ASSESSED

1.84

Population
growth rate
(2010-2015)

7.22

Average annual
urban population
growth rate

1.3%

Informal settlers



COPING CAPACITY (CC)

RANK: 25 / 84 PROVINCES ASSESSED
SCORE: 0.586

Nueva Ecija exhibits weaker Coping Capacity in the areas of Transportation Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.621 **RANK: 19/84 PROVINCES ASSESSED**

0.95

Purchasing power of the peso

63.99%

Labor force participation rate

1072.75

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.557 **RANK: 67/84 PROVINCES ASSESSED**

79.5%

Voter participation

9.65

Organized violence (per 100k persons)

28.01%

Garbage pickup



Environmental Capacity



SCORE: 0.576 **RANK: 10/84 PROVINCES ASSESSED**

6.37

Protected areas (per 1k ha)

45.6%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.582** **RANK: 33/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.481** **RANK: 45/84** PROVINCES ASSESSED

7.32	2.8	55.33%	5.27
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.37** **RANK: 66/84** PROVINCES ASSESSED

1.29	39.64
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.792** **RANK: 21/84** PROVINCES ASSESSED

3.9%	98.7%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.874** **RANK: 13/84** PROVINCES ASSESSED

90.5%	48.9%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.396** **RANK: 54/84** PROVINCES ASSESSED

12.94	1.57	2.51
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 18 / 84 PROVINCES ASSESSED
SCORE: 0.605

Nueva Ecija's score and ranking are due to Low Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Clean Water Access Vulnerability



Transportation Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 29 / 84 PROVINCES ASSESSED
SCORE: 0.307



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 6 / 84 PROVINCES ASSESSED
SCORE: 0.340



Liquefaction

RANK: 8 / 84 PROVINCES ASSESSED
SCORE: 0.326



Landslide

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.114



Volcano

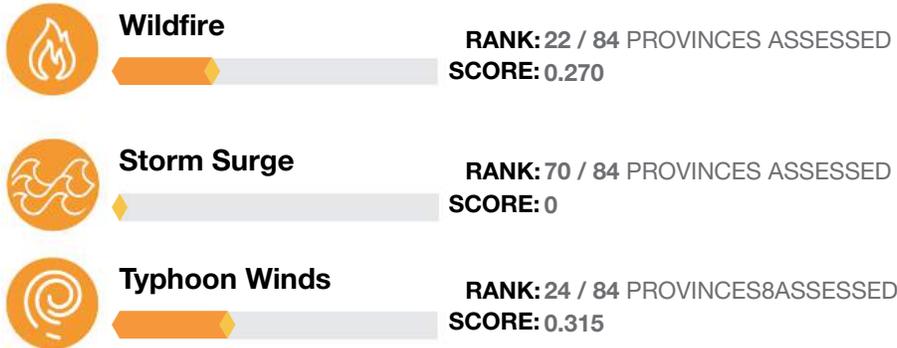
RANK: 42 / 84 PROVINCES ASSESSED
SCORE: 0.105



Drought

RANK: 41 / 84 PROVINCES ASSESSED
SCORE: 0.182

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

27 / 84

RANK WITHIN PROVINCES
Score: 0.529



Nueva Ecija’s score and ranking are due to Very High Multi-hazard exposure combined with Low Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



NUEVA ECIJA RECOMMENDATIONS

1

Gender Inequality

- Nueva Ecija ranked 7th highest in gender-based inequality for secondary school enrollment. Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on empowering women to continue their education.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Clean Water Access Vulnerability

- Focus efforts in Nueva Ecija on increasing clean water infrastructure especially in rural and remote areas to reduce health risks.
- Nearly 96% of the population in Nueva Ecija are exposed to flooding hazards. Increased access to safe water will reduce risks associated with the spread of waterborne illnesses and strengthen resilience.

3

Transportation Capacity

- Nueva Ecija is ranked the 10th highest in multi-hazard exposure. Being a landlocked province, roads and airports play key roles in connecting people and resources. Continue airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

NUEVA VIZCAYA

NDPBA PROVINCE PROFILE

THE PHILIPPINES

NUEVA VIZCAYA

CAPITAL: BAYOMBONG

Area: 4,814 km²

Nueva Vizcaya is a province in the Philippines located in the Cagayan Valley region in Luzon. Nueva Vizcaya is bordered by Benguet to the west, Ifugao to the north, Isabela to the northeast, Quirino to the east, Aurora to the southeast, Nueva Ecija to the south, and Pangasinan to the southwest. The economy is largely agricultural with the main crops being rice, corn, fruits, and vegetables.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.536 • Rank: 23/84



RESILIENCE (R) - High
Score: 0.593 • Rank: 25/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.792 • Rank: 11/84



VULNERABILITY (V) - Medium
Score: 0.425 • Rank: 47/84



COPING CAPACITY (CC) - High
Score: 0.610 • Rank: 17/84



Population (2018)
459,983



Population in Poverty
11.4%



Literate population
98.3%



Access to improved water
91.8%



Average life expectancy
69.1 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 11 / 84 PROVINCES
SCORE: 0.792



MHE
0.792

Raw MHE
0.583

Relative MHE
1

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

459,983

\$2.2 Billion



Tsunami

-

-

-



Flood

40%

185,877

\$1.4 Billion



Liquefaction

56%

255,905

\$1.7 Billion



Landslide

36%

163,829

\$369.1 Million



Volcano

-

-

-



Drought

99%

457,156

\$2.1 Billion



Wildfire

44%

202,153

\$790.8 Million



Storm Surge

-

-

-



Typhoon Winds

100%

459,983

\$2.2 Billion



VULNERABILITY (V)

RANK: 47 / 84 PROVINCES ASSESSED
SCORE: 0.425

Vulnerability in Nueva Vizcaya is primarily driven by Environmental Stress and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



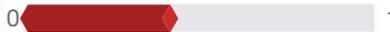
Environmental Stress

0  1 **SCORE: 0.583** **RANK: 24/84 PROVINCES ASSESSED**

1.8 Livestock density
66.35 Barren land (per 10k hectares)
0.50% Forest cover change



Vulnerable Health Status

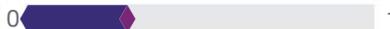
0  1 **SCORE: 0.415** **RANK: 54/84 PROVINCES ASSESSED**

6.8% Malnutrition among children (0 to 5 years old)
10.86 Infant mortality rate (per 1k live births)
34.65 Maternal mortality rate (per 100k live births)
69.12 Life expectancy
297 Disability (per 100k persons)

17 Tuberculosis mortality rate (per 100k persons)
0.2 HIV mortality rate (per 100k persons)
5 Intestinal disease mortality rate (per 100k persons)
1.7 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



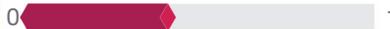
Clean Water Vulnerability

0  1 **SCORE: 0.29** **RANK: 63/84 PROVINCES ASSESSED**

91.8% Households with improved safe water source
95.0% Households with sanitary toilet facility



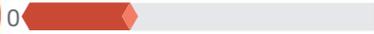
Information Access Vulnerability

0  1 **SCORE: 0.408** **RANK: 55/84 PROVINCES ASSESSED**

98.26% Literacy rate (age 10 and older)
116.52% Gross primary school enrollment rate
3.58% Internet Access
72.74% Households with radio
64.85% Households with television



Economic Constraints

0  1 **SCORE: 0.293** **RANK: 57/84** PROVINCES ASSESSED

0.58
Economic
dependency
ratio

11.40%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.578** **RANK: 16/84** PROVINCES ASSESSED

1.17
Female to male
secondary school
enrollment Rate

0.52
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.409** **RANK: 41/84** PROVINCES ASSESSED

1.36
Population
growth rate
(2010-2015)

17.25
Average annual
urban population
growth rate

1.1%
Informal settlers



COPING CAPACITY (CC)

RANK: 17 / 84 PROVINCES ASSESSED
SCORE: 0.610

Nueva Vizcaya exhibits weaker Coping Capacity in the areas of Transportation Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.678** **RANK: 12/84 PROVINCES ASSESSED**

0.92

Purchasing power of the peso

65.69%

Labor force participation rate

2550.01

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.622** **RANK: 48/84 PROVINCES ASSESSED**

81.9%

Voter participation

7

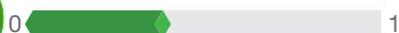
Organized violence (per 100k persons)

23.15%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.379** **RANK: 41/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

31.8%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.608** **RANK: 27/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.553** **RANK: 29/84** PROVINCES ASSESSED

13.07	3.03	66.31%	7.7
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.403** **RANK: 62/84** PROVINCES ASSESSED

0.63	24.83
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.686** **RANK: 44/84** PROVINCES ASSESSED

3.0%	92.4%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.7** **RANK: 28/84** PROVINCES ASSESSED

76.3%	32.4%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.697** **RANK: 16/84** PROVINCES ASSESSED

51.14	2.8	5.16
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 25 / 84 PROVINCES ASSESSED
SCORE: 0.593

Nueva Vizcaya's score and ranking are due to Medium Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Gender Inequality



Transportation Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 47 / 84 PROVINCES ASSESSED
SCORE: 0.255



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 45 / 84 PROVINCES ASSESSED
SCORE: 0.170



Liquefaction

RANK: 25 / 84 PROVINCES ASSESSED
SCORE: 0.227



Landslide

RANK: 28 / 84 PROVINCES ASSESSED
SCORE: 0.256



Volcano

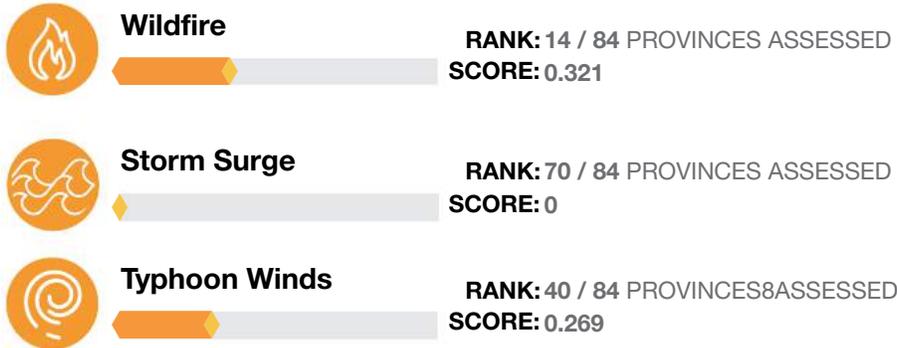
RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 20 / 84 PROVINCES ASSESSED
SCORE: 0.373

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

23 / 84

RANK WITHIN PROVINCES
Score: 0.536



Nueva Vizcaya’s score and ranking are due to Very High Multi-hazard exposure combined with Medium Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



NUEVA VIZCAYA RECOMMENDATIONS

1

Environmental Stress

- Findings show that nearly the entire population in Nueva Vizcaya is exposed to drought hazards. Floods and landslides also expose a large proportion of the population. Continue environmental conservation efforts from agricultural reforms to reforestation projects. Focus efforts on increasing forest cover, decreasing barren land and promoting sustainable agriculture.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Transportation Capacity

- Being a landlocked province, roads and airports play key roles in connecting people and resources in Nueva Vizcaya. Continue airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

OCCIDENTAL MINDORO

NDPBA PROVINCE PROFILE

THE PHILIPPINES OCCIDENTAL MINDORO

CAPITAL: MAMBURAO

Area: 5,851 km²

Oriental Mindoro the Philippines located on the island of Mindoro about 140 kilometers southwest of Manila. It covers a total are of 4,200 square kilometers on the eastern section of Mindoro Island. The western portion of the island is mountainous and rugged while the eastern portion contains flood plains and hills. The province has no distinct wet or dry season and is largely agriculture based with a large production of rice, corn, coconut, vegetables, and fruits such as bananas.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High

Score: 0.527 • Rank: 29/84



RESILIENCE (R) - Low

Score: 0.54 • Rank: 57/84



MULTI-HAZARD EXPOSURE (MHE) - High

Score: 0.660 • Rank: 28/84



VULNERABILITY (V) - Very High

Score: 0.535 • Rank: 12/84



COPING CAPACITY (CC) - Very High

Score: 0.615 • Rank: 16/84



Population (2018)

509,744



Population in Poverty

16.1%



Literate population

96.4%



Access to improved water

93.1%



Average life expectancy

66.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 28 / 84 PROVINCES
SCORE: 0.660



MHE
0.660

Raw MHE
0.505

Relative MHE
0.816

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

78%

396,699
\$1.1 Billion



Tsunami

1%

7,607
\$7.6 Million



Flood

86%

435,832
\$1.1 Billion



Liquefaction

50%

253,862
\$728.5 Million



Landslide

12%

61,925
\$129.2 Million



Volcano

<1%

366
\$637,485



Drought

<1%

1,776
\$3.5 Million



Wildfire

29%

145,385
\$444.9 Million



Storm Surge

44%

225,885
\$343.8 Million



Typhoon Winds

100%

508,887
\$1.2 Billion



VULNERABILITY (V)

RANK: 12 / 84 PROVINCES ASSESSED
SCORE: 0.535

Vulnerability in Occidental Mindoro is primarily driven by Vulnerable Health Status and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.613** **RANK: 13/84 PROVINCES ASSESSED**

1.67 Livestock density
115.6 Barren land (per 10k hectares)
0.31% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.682** **RANK: 3/84 PROVINCES ASSESSED**

6.9% Malnutrition among children (0 to 5 years old)
20.35 Infant mortality rate (per 1k live births)
65.11 Maternal mortality rate (per 100k live births)
66.61 Life expectancy
640 Disability (per 100k persons)

41.6 Tuberculosis mortality rate (per 100k persons)
0.4 HIV mortality rate (per 100k persons)
9.2 Intestinal disease mortality rate (per 100k persons)
1.4 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.504** **RANK: 27/84 PROVINCES ASSESSED**

93.1% Households with improved safe water source
77.5% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.558** **RANK: 21/84 PROVINCES ASSESSED**

96.35% Literacy rate (age 10 and older)
120.10% Gross primary school enrollment rate
2.64% Internet Access
47.98% Households with radio
54.89% Households with television



Economic Constraints



SCORE: 0.502 **RANK: 28/84** PROVINCES ASSESSED

0.69
Economic
dependency
ratio

16.06%
Poverty
incidence



Gender Inequality



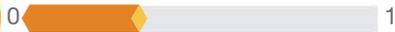
SCORE: 0.565 **RANK: 18/84** PROVINCES ASSESSED

1.1
Female to male
secondary school
enrollment Rate

0.41
Labor force
participation ratio



Population Pressures



SCORE: 0.32 **RANK: 71/84** PROVINCES ASSESSED

1.4
Population
growth rate
(2010-2015)

3.13
Average annual
urban population
growth rate

1.4%
Informal settlers



COPING CAPACITY (CC)

RANK: 16 / 84 PROVINCES ASSESSED
SCORE: 0.615

Occidental Mindoro exhibits weaker Coping Capacity in the areas of Health Care Capacity and Transportation Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.715** **RANK: 10/84 PROVINCES ASSESSED**

0.93

Purchasing power of the peso

68.01%

Labor force participation rate

2287.62

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.579** **RANK: 62/84 PROVINCES ASSESSED**

80.0%

Voter participation

4.16

Organized violence (per 100k persons)

15.10%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.796** **RANK: 1/84 PROVINCES ASSESSED**

322.84

Protected areas (per 1k ha)

21.1%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.492 RANK: 60/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.371 RANK: 69/84 PROVINCES ASSESSED

3.47	1.22	61.22%	6.78
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.417 RANK: 58/84 PROVINCES ASSESSED

0.45	18
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.659 RANK: 46/84 PROVINCES ASSESSED

1.3%	96.9%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.51 RANK: 62/84 PROVINCES ASSESSED

68.4%	12.5%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.501 RANK: 33/84 PROVINCES ASSESSED

17.26	1.6	4.21
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 57 / 84 PROVINCES ASSESSED
SCORE: 0.54

Occidental Mindoro's score and ranking are due to Very High Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Vulnerable Health Status



Environmental Stress



Health Care Capacity



Transportation Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 67 / 84 PROVINCES ASSESSED
SCORE: 0.200



Tsunami

RANK: 22 / 84 PROVINCES ASSESSED
SCORE: 0.132



Flood

RANK: 18 / 84 PROVINCES ASSESSED
SCORE: 0.285



Liquefaction

RANK: 33 / 84 PROVINCES ASSESSED
SCORE: 0.21



Landslide

RANK: 46 / 84 PROVINCES ASSESSED
SCORE: 0.205



Volcano

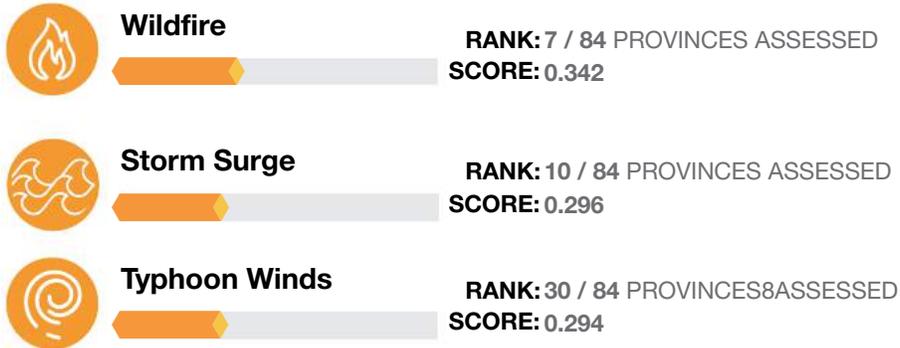
RANK: 61 / 84 PROVINCES ASSESSED
SCORE: 0.062



Drought

RANK: 55 / 84 PROVINCES ASSESSED
SCORE: 0.077

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

29 / 84
 RANK WITHIN PROVINCES
 Score: 0.527



Occidental Mindoro’s score and ranking are due to High Multi-hazard exposure combined with Very High Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



OCcidental MINDORO RECOMMENDATIONS

1

Vulnerable Health Status

- Occidental Mindoro ranked 3rd highest in vulnerable health status and 2nd highest in infectious disease vulnerability. Increase community surveillance and expand care for those suffering from communicable diseases.
- Work toward increasing the health of the population through community outreach, increased access to health care and other public health interventions.

2

Environmental Stress

- Occidental Mindoro ranked 8th highest in the Philippines for barren land vulnerability (115.6 hectares per 10,000 hectares). Focus efforts on increasing forest cover, decreasing areas classified as bar en land and promoting sustainable agriculture.
- Vulnerable health status is also a major driver of vulnerabilities in Occidental Mindoro. Efforts to enhance the natural and built environment can improve health outcomes by decreasing runoff, mitigating the impacts of climate change and enhancing other ecosystem services.

3

Health Care Capacity

- Findings show that the population of Occidental Mindoro is highly vulnerable to infectious diseases. Focus efforts on increasing community screens, public notifications and specialized care. Supply hospitals with proper resources to care for patients safely and effectively.
- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Transportation Capacity

- Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ORIENTAL MINDORO

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ORIENTAL MINDORO

CAPITAL: CITY OF CALAPAN

Area: 4,238 km²

Oriental Mindoro the Philippines located on the island of Mindoro about 140 kilometers southwest of Manila. It covers a total are of 4,200 square kilometers on the eastern section of Mindoro Island. The western portion of the island is mountainous and rugged while the eastern portion contains flood plains and hills. The province has no distinct wet or dry season and is largely agriculture based with a large production of rice, corn, coconut, vegetables, and fruits such as bananas.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.529 • Rank: 27/84



RESILIENCE (R) - High
Score: 0.58 • Rank: 32/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.745 • Rank: 18/84



VULNERABILITY (V) - Medium
Score: 0.423 • Rank: 48/84



COPING CAPACITY (CC) - High
Score: 0.582 • Rank: 27/84



Population (2018)
857,048



Population in Poverty
7.2%



Literate population
97.8%



Access to improved water
99.2%



Average life expectancy
68.3 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 18 / 84 PROVINCES
SCORE: 0.745



MHE
0.745

Raw MHE
 0.614

Relative MHE
 0.876

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

92%

791,583
\$2.2 Billion



Tsunami

<1%

1,086
\$266,754



Flood

84%

715,898
\$2.1 Billion



Liquefaction

61%

526,348
\$1.8 Billion



Landslide

10%

81,510
\$86.2 Million



Volcano

<1%

1,121
\$4.3 Million



Drought

37%

320,369
\$1.2 Billion



Wildfire

2%

16,041
\$31.3 Million



Storm Surge

24%

206,033
\$400 Million



Typhoon Winds

100%

856,419
\$2.2 Billion



VULNERABILITY (V)

RANK: 48 / 84 PROVINCES ASSESSED
SCORE: 0.423

Vulnerability in Oriental Mindoro is primarily driven by Information Access Vulnerability and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.536** **RANK: 27/84 PROVINCES ASSESSED**

1.54 Livestock density
28.11 Barren land (per 10k hectares)
-0.32% Forest cover change



Vulnerable Health Status

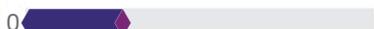
0  1 **SCORE: 0.425** **RANK: 49/84 PROVINCES ASSESSED**

7.3% Malnutrition among children (0 to 5 years old)
4.88 Infant mortality rate (per 1k live births)
6.34 Maternal mortality rate (per 100k live births)
68.25 Life expectancy
377 Disability (per 100k persons)

38.9 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.7 Intestinal disease mortality rate (per 100k persons)
1.5 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.272** **RANK: 68/84 PROVINCES ASSESSED**

99.2% Households with improved safe water source
84.5% Households with sanitary toilet facility



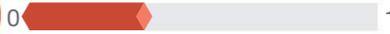
Information Access Vulnerability

0  1 **SCORE: 0.555** **RANK: 22/84 PROVINCES ASSESSED**

97.77% Literacy rate (age 10 and older)
115.18% Gross primary school enrollment rate
3.74% Internet Access
41.52% Households with radio
59.11% Households with television



Economic Constraints

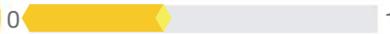
0  1 **SCORE: 0.335** **RANK: 50/84** PROVINCES ASSESSED

0.65
Economic
dependency
ratio

7.15%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.391** **RANK: 52/84** PROVINCES ASSESSED

1.05
Female to male
secondary school
enrollment Rate

0.47
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.448** **RANK: 28/84** PROVINCES ASSESSED

1.38
Population
growth rate
(2010-2015)

17.15
Average annual
urban population
growth rate

1.5%
Informal settlers



COPING CAPACITY (CC)

RANK: 27 / 84 PROVINCES ASSESSED
SCORE: 0.582

Oriental Mindoro exhibits weaker Coping Capacity in the areas of Health Care Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.489** **RANK: 49/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

60.85%

Labor force participation rate

1550.81

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.628** **RANK: 46/84 PROVINCES ASSESSED**

81.5%

Voter participation

4.66

Organized violence (per 100k persons)

19.99%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.775** **RANK: 2/84 PROVINCES ASSESSED**

105.49

Protected areas (per 1k ha)

40.1%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.566** **RANK: 39/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.447** **RANK: 53/84** PROVINCES ASSESSED

4.26	1.82	64.29%	5.74
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.571** **RANK: 29/84** PROVINCES ASSESSED

0.75	10.57
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.76** **RANK: 29/84** PROVINCES ASSESSED

2.8%	98.8%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.554** **RANK: 55/84** PROVINCES ASSESSED

68.7%	17.3%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.498** **RANK: 34/84** PROVINCES ASSESSED

68.68	1.5	2.65
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 32 / 84 PROVINCES ASSESSED
SCORE: 0.58

Oriental Mindoro’s score and ranking are due to Medium Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Information Access Vulnerability



Environmental Stress



Health Care Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 46 / 84 PROVINCES ASSESSED
SCORE: 0.256



Tsunami

RANK: 41 / 84 PROVINCES ASSESSED
SCORE: 0.064



Flood

RANK: 15 / 84 PROVINCES ASSESSED
SCORE: 0.288



Liquefaction

RANK: 17 / 84 PROVINCES ASSESSED
SCORE: 0.257



Landslide

RANK: 61 / 84 PROVINCES ASSESSED
SCORE: 0.162



Volcano

RANK: 53 / 84 PROVINCES ASSESSED
SCORE: 0.084



Drought

RANK: 31 / 84 PROVINCES ASSESSED
SCORE: 0.266

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

28 / 84

RANK WITHIN PROVINCES
Score: 0.529



Oriental Mindoro’s score and ranking are due to High Multi-hazard exposure combined with Medium Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



ORIENTAL MINDORO RECOMMENDATIONS

1

Information Access Vulnerability

- In Oriental Mindoro, many homes lack access to radios, television and internet. In particular, only 42% of households have access to radios, which is 6th lowest in the Philippines. Work with private and public partners to see areas of collaboration that can enhance access to communication devices within households.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

2

Environmental Stress

- The population in Oriental Mindoro is highly exposed to flood and drought hazards. With climate change, floods and droughts are projected to become more severe and frequent. Work with local communities and diverse partners to promote water and soil conservation through enhanced agricultural practices and reforestation efforts. Also, focus efforts on increasing forest cover, decreasing areas classified as barren land and reduced livestock densities.

3

Health Care Capacity

- Although health care capacity in Oriental Mindoro ranked relatively high, work to improve immunization coverage is needed. Only 57.5% of children in Oriental Mindoro are fully immunized. Increase community outreach and encourage utilization of vaccination services.
- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Economic Capacity

- Oriental Mindoro ranked 49th out of the 84 territories in economic capacity. Continue to encourage programs that diversify the economy in Oriental Mindoro to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

PALAWAN

NDPBA PROVINCE PROFILE

THE PHILIPPINES

PALAWAN

CAPITAL: CITY OF PUERTO PRINCESA

Area: 14,650 km²

Palawan is a province of the Philippines that is located in the region of Mimaropa. It is the largest province in the country. The islands of Palawan lie between the Sulu and South China Sea. The province contains Palawan island and a number of other smaller outlying islands. The province has two types of climate. The first, occurring in the northern and southern extremities and the entire western coast, has two distinct seasons – six months dry, and six months wet. The other climate, occurring on the eastern coast, has a short dry season of one to three months and no pronounced rainy period during the rest of the year. The economy is largely agricultural with three major crops being rice, corn, and coconut.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.483 • Rank: 54/84



RESILIENCE (R) - Low
Score: 0.516 • Rank: 65/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.48 • Rank: 69/84



VULNERABILITY (V) - Very High
Score: 0.539 • Rank: 10/84



COPING CAPACITY (CC) - High
Score: 0.571 • Rank: 31/84



Population (2018)
1,174,993



Population in Poverty
8.4%



Literate population
95.7%



Access to improved water
72.3%



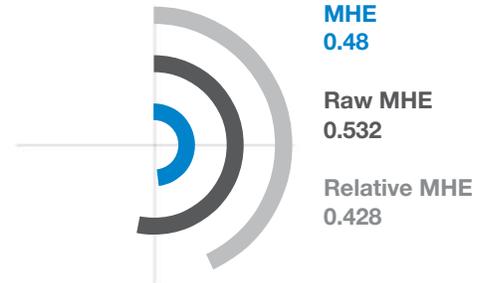
Average life expectancy
67.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 69 / 84 PROVINCES
SCORE: 0.48



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

0%

👤 -
-



Tsunami

2%

👤 28,707
\$10.2 Million



Flood

48%

👤 561,330
\$1.1 Billion



Liquefaction

34%

👤 395,160
\$679 Million



Landslide

12%

👤 140,555
\$310.1 Million



Volcano

-

👤 -
-



Drought

56%

👤 659,707
\$1.5 Billion



Wildfire

5%

👤 56,465
\$154 Million



Storm Surge

23%

👤 265,452
\$321 Million



Typhoon Winds

61%

👤 711,283
\$1.1 Billion



VULNERABILITY (V)

RANK: 10 / 84 PROVINCES ASSESSED
SCORE: 0.539

Vulnerability in Palawan is primarily driven by Clean Water Access Vulnerability and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.478** **RANK: 40/84 PROVINCES ASSESSED**

1.26 **12.41** **-0.59%**
 Livestock density Barren land (per 10k hectares) Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.531** **RANK: 19/84 PROVINCES ASSESSED**

12.4% **9.01** **114.87** **67.24** **465**
 Malnutrition among children (0 to 5 years old) Infant mortality rate (per 1k live births) Maternal mortality rate (per 100k live births) Life expectancy Disability (per 100k persons)

20.6 **0** **4** **0.9**
 Tuberculosis mortality rate (per 100k persons) HIV mortality rate (per 100k persons) Intestinal disease mortality rate (per 100k persons) Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.704** **RANK: 11/84 PROVINCES ASSESSED**

72.3% **69.5%**
 Households with improved safe water source Households with sanitary toilet facility



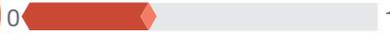
Information Access Vulnerability

0  1 **SCORE: 0.565** **RANK: 18/84 PROVINCES ASSESSED**

95.69% **125.00%** **2.45%** **53.63%** **41.56%**
 Literacy rate (age 10 and older) Gross primary school enrollment rate Internet Access Households with radio Households with television



Economic Constraints

0  1 **SCORE: 0.347** **RANK: 49/84** PROVINCES ASSESSED

0.65
Economic
dependency
ratio

8.43%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.584** **RANK: 13/84** PROVINCES ASSESSED

1.09
Female to male
secondary school
enrollment Rate

0.36
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.564** **RANK: 9/84** PROVINCES ASSESSED

2.23
Population
growth rate
(2010-2015)

7.32
Average annual
urban population
growth rate

2.8%
Informal settlers



COPING CAPACITY (CC)

RANK: 31 / 84 PROVINCES ASSESSED
SCORE: 0.571

Palawan exhibits weaker Coping Capacity in the areas of Health Care Capacity and Energy Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.596** **RANK: 26/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

69.87%

Labor force participation rate

1941.27

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.642** **RANK: 40/84 PROVINCES ASSESSED**

80.6%

Voter participation

3.07

Organized violence (per 100k persons)

22.65%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.724** **RANK: 3/84 PROVINCES ASSESSED**

533.06

Protected areas (per 1k ha)

6.9%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.423** **RANK: 69/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.294** **RANK: 75/84** PROVINCES ASSESSED

7.08 **0.9** **68.18%** **15.2**
 Hospital beds (per 10k people) Physicians per 10,000 people Vaccination coverage Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.393** **RANK: 65/84** PROVINCES ASSESSED

0.52 **22.59**
 Road density (km per sq. km) Average distance to nearest port (km)



Communications Capacity **SCORE: 0.69** **RANK: 42/84** PROVINCES ASSESSED

1.4% **98.6%**
 Households with a landline Mobile coverage



Energy Capacity **SCORE: 0.358** **RANK: 75/84** PROVINCES ASSESSED

53.2% **10.5%**
 Households with electricity Households with gas



Emergency Services Capacity **SCORE: 0.382** **RANK: 57/84** PROVINCES ASSESSED

36.37 **0.96** **2.43**
 Evacuation centers (per 100k persons) Fire Stations (per 100k persons) Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 65 / 84 PROVINCES ASSESSED
SCORE: 0.516

Palawan’s score and ranking are due to Very High Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Clean Water Access Vulnerability



Gender Inequality



Health Care Capacity



Energy Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 79 / 84 PROVINCES ASSESSED
SCORE: 0.000



Tsunami

RANK: 12 / 84 PROVINCES ASSESSED
SCORE: 0.163



Flood

RANK: 33 / 84 PROVINCES ASSESSED
SCORE: 0.211



Liquefaction

RANK: 45 / 84 PROVINCES ASSESSED
SCORE: 0.175



Landslide

RANK: 24 / 84 PROVINCES ASSESSED
SCORE: 0.262



Volcano

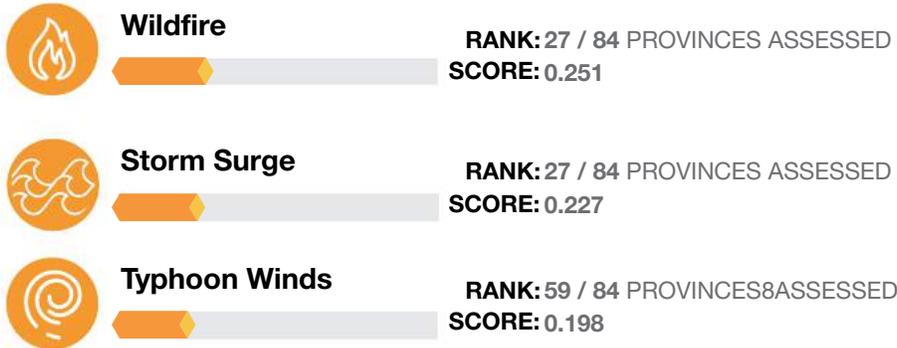
RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 22 / 84 PROVINCES ASSESSED
SCORE: 0.356

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

53 / 84

RANK WITHIN PROVINCES
Score: 0.483



Palawan’s score and ranking are due to Very Low Multi-hazard exposure combined with Very High Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



PALAWAN RECOMMENDATIONS

1

Clean Water Access Vulnerability

- Focus efforts in Palawan on improved water and sanitation infrastructure, as clean water access is a major driver of vulnerability.
- The results show that in Palawan 56% of the population is exposed to drought hazards and 48% are exposed to floods. Droughts and floods negatively impact surface water availability and quality. Invest in improved drinking water and sanitation infrastructure, especially in rural and remote areas to reduce health risks.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Energy Capacity

- Palawan ranked 75th out of the 84 territories for energy capacity, with only 53.2% of households having access to electricity. Additionally, only 10.5% of households have access to liquid petroleum gas lines. Invest in energy infrastructure and expand access to homes. Energy lines should be carefully engineered to be resilient to coastal, as well as inland hazards. With backup mechanisms put in place to increase redundancy in the system.
- Work with local and international partners to ensure energy expansion projects provide affordable and equitable access, especially in rural communities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

PAMPANGA

NDPBA PROVINCE PROFILE

THE PHILIPPINES

PAMPANGA

CAPITAL: CITY OF SAN FERNANDO

Area: 2,001 km²

Pampanga is a province in the Central Luzon region of the Philippines located on the northern shore of Manila Bay and bordered by Tarlac to the north, Nueva Ecija to the northeast, Bulacan to the east. It has two distinct climates – rainy and dry – with the rainy season running from May through October. The two main industries are farming and fishing. Major crops are rice, corn, sugarcane, and tilapia.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium

Score: 0.5 • Rank: 44/84



RESILIENCE (R) - Very High

Score: 0.649 • Rank: 8/84



MULTI-HAZARD EXPOSURE (MHE) - Very High

Score: 0.799 • Rank: 9/84



VULNERABILITY (V) - Very Low

Score: 0.328 • Rank: 75/84



COPING CAPACITY (CC) - Very High

Score: 0.625 • Rank: 13/84



Population (2018)

2,394,061



Population in Poverty

1.9%



Literate population

99.4%



Access to improved water

93.9%



Average life expectancy

70.9 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 9 / 84 PROVINCES
SCORE: 0.799



MHE
0.799

Raw MHE
 0.775

Relative MHE
 0.822

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

2,394,038
\$5.5 Billion



Tsunami

<1%

17,077
\$5.8 Million



Flood

99%

2,369,805
\$5.5 Billion



Liquefaction

95%

2,272,356
\$4.9 Billion



Landslide

<1%

18,317
\$25.4 Million



Volcano

1%

25,369
\$74.8 Million



Drought

-

-
-



Wildfire

16%

392,777
\$682.8 Million



Storm Surge

2%

41,754
\$16 Million



Typhoon Winds

100%

2,394,057
\$5.5 Billion



VULNERABILITY (V)

RANK: 75 / 84 PROVINCES ASSESSED
SCORE: 0.328

Vulnerability in Pampanga is primarily driven by Population Pressures and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



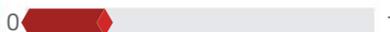
Environmental Stress

0  1 **SCORE: 0.517** **RANK: 30/84 PROVINCES ASSESSED**

1.76 **59.37** **3.01%**
 Livestock density Barren land (per 10k hectares) Forest cover change



Vulnerable Health Status

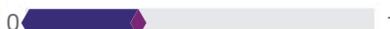
0  1 **SCORE: 0.22** **RANK: 84/84 PROVINCES ASSESSED**

4.8% **1.86** **27.42** **70.86** **101**
 Malnutrition among children (0 to 5 years old) Infant mortality rate (per 1k live births) Maternal mortality rate (per 100k live births) Life expectancy Disability (per 100k persons)

15 **0.1** **2.4** **1**
 Tuberculosis mortality rate (per 100k persons) HIV mortality rate (per 100k persons) Intestinal disease mortality rate (per 100k persons) Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



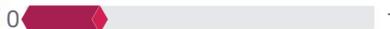
Clean Water Vulnerability

0  1 **SCORE: 0.318** **RANK: 58/84 PROVINCES ASSESSED**

93.9% **92.5%**
 Households with improved safe water source Households with sanitary toilet facility



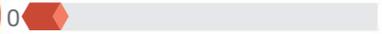
Information Access Vulnerability

0  1 **SCORE: 0.205** **RANK: 82/84 PROVINCES ASSESSED**

99.41% **107.36%** **13.87%** **71.18%** **94.03%**
 Literacy rate (age 10 and older) Gross primary school enrollment rate Internet Access Households with radio Households with television



Economic Constraints

0  1 **SCORE: 0.091** **RANK: 81/84** PROVINCES ASSESSED

0.52
Economic
dependency
ratio

1.94%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.39** **RANK: 55/84** PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.49
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.552** **RANK: 10/84** PROVINCES ASSESSED

3.1
Population
growth rate
(2010-2015)

5.44
Average annual
urban population
growth rate

1.8%
Informal settlers



COPING CAPACITY (CC)

RANK: 13 / 84 PROVINCES ASSESSED
SCORE: 0.625

Pampanga exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.414** **RANK: 71/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

61.04%

Labor force participation rate

1012.08

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.766** **RANK: 6/84 PROVINCES ASSESSED**

82.5%

Voter participation

3.8

Organized violence (per 100k persons)

66.26%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.596** **RANK: 9/84 PROVINCES ASSESSED**

17.54

Protected areas (per 1k ha)

27.5%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.705 RANK: 7/84 PROVINCES ASSESSED**



Health Care Capacity **SCORE: 0.658 RANK: 9/84 PROVINCES ASSESSED**

9.64	3.97	65.60%	2.73
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.817 RANK: 3/84 PROVINCES ASSESSED**

3.96	12.2
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.803 RANK: 19/84 PROVINCES ASSESSED**

8.2%	93.5%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.979 RANK: 2/84 PROVINCES ASSESSED**

96.2%	75.5%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.267 RANK: 71/84 PROVINCES ASSESSED**

10.98	0.92	1.72
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 8 / 84 PROVINCES ASSESSED
SCORE: 0.649

Pampanga's score and ranking are due to Very Low Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Population Pressures



Environmental Stress



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 33 / 84 PROVINCES ASSESSED
SCORE: 0.281



Tsunami

RANK: 30 / 84 PROVINCES ASSESSED
SCORE: 0.098



Flood

RANK: 10 / 84 PROVINCES ASSESSED
SCORE: 0.319



Liquefaction

RANK: 11 / 84 PROVINCES ASSESSED
SCORE: 0.306



Landslide

RANK: 82 / 84 PROVINCES ASSESSED
SCORE: 0.046



Volcano

RANK: 28 / 84 PROVINCES ASSESSED
SCORE: 0.133



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

45 / 84
RANK WITHIN PROVINCES
Score: 0.5



Pampanga’s score and ranking are due to Very High Multi-hazard exposure combined with Very Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



PAMPANGA RECOMMENDATIONS

1

Population Pressures

- Ranked 4th in the Philippines, Pampanga’s population grew at a rate of 3.1 between 2010 and 2015. Continue to monitor the growth of the population and plan resource allocation appropriately. Work with diverse partners to help stimulate the economy to support increased public demands. Ensure equitable distribution of resources and services.
- Environmental stress is already leading to vulnerabilities in Pampanga. Enforce building codes and environmental protection laws to ensure expansion is sustainable. Also, focus efforts on bringing in funds and innovations for enhancing the built environment.

2

Environmental Stress

- Population pressures are also a major driver of vulnerability in Pampanga. Promoting sustainable agriculture and protection of natural areas will ensure resource production can keep up with increased demands as the population grows. Focus efforts on increasing forest cover, decreasing areas classified as barren land and promoting sustainable agriculture.

3

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Pampanga ranked 71st out of the 84 territories in economic capacity. Continue to encourage programs that diversify the economy in Pampanga to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- As the population grows, there will be increases in the demands for emergency services and public programs. Work with stakeholders and partners to expand emergency service capacities by training community members and generating funds to support response activities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

PANGASINAN

NDPBA PROVINCE PROFILE

THE PHILIPPINES

PANGASINAN

CAPITAL: LINGAYEN

Area: 5,451 km²

Pangasinan is a province in the Philippines located in the Ilocos Region of Luzon. It is on the western area of the island of Luzon along the Lingayen Gulf and West Philippine Sea. The province is mostly flat with few hills or mountainous zones. Due to the flat land the economy is largely agricultural growing coconut, rice, mango, and eggplant.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.541 • Rank: 19/84



RESILIENCE (R) - High
Score: 0.603 • Rank: 20/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.830 • Rank: 6/84



VULNERABILITY (V) - Very Low
Score: 0.352 • Rank: 70/84



COPING CAPACITY (CC) - Medium
Score: 0.558 • Rank: 43/84



Population (2018)
3,017,739



Population in Poverty
9.2%



Literate population
99.4%



Access to improved water
97.3%



Average life expectancy
68.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 6 / 84 PROVINCES
SCORE: 0.830



MHE
0.830

Raw MHE
0.881

Relative MHE
0.778

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

96%

2,901,032
\$14.7 Billion



Tsunami

<1%

2,779
\$7.9 Million



Flood

84%

2,519,870
\$12.6 Billion



Liquefaction

83%

2,493,193
\$12.5 Billion



Landslide

1%

33,433
\$166.8 Million



Volcano

<1%

5,270
\$26.3 Million



Drought

-

-
-



Wildfire

10%

288,385
\$1.7 Billion



Storm Surge

14%

418,948
\$1.9 Billion



Typhoon Winds

100%

3,012,852
\$14.9 Billion



VULNERABILITY (V)

RANK: 70 / 84 PROVINCES ASSESSED
SCORE: 0.352

Vulnerability in Pangasinan is primarily driven by Environmental Stress and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



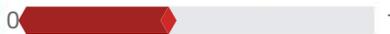
Environmental Stress

0  1 **SCORE: 0.516** **RANK: 31/84 PROVINCES ASSESSED**

2.89 Livestock density
47.35 Barren land (per 10k hectares)
4.50% Forest cover change



Vulnerable Health Status

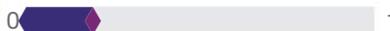
0  1 **SCORE: 0.415** **RANK: 55/84 PROVINCES ASSESSED**

5.9% Malnutrition among children (0 to 5 years old)
5.86 Infant mortality rate (per 1k live births)
53.49 Maternal mortality rate (per 100k live births)
68.64 Life expectancy
291 Disability (per 100k persons)

24 Tuberculosis mortality rate (per 100k persons)
0.1 HIV mortality rate (per 100k persons)
5.4 Intestinal disease mortality rate (per 100k persons)
1.1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



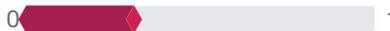
Clean Water Vulnerability

0  1 **SCORE: 0.194** **RANK: 78/84 PROVINCES ASSESSED**

97.3% Households with improved safe water source
94.6% Households with sanitary toilet facility



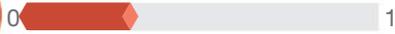
Information Access Vulnerability

0  1 **SCORE: 0.314** **RANK: 74/84 PROVINCES ASSESSED**

99.35% Literacy rate (age 10 and older)
112.01% Gross primary school enrollment rate
5.32% Internet Access
73.68% Households with radio
82.45% Households with television



Economic Constraints



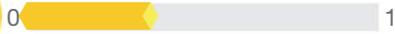
SCORE: 0.303 **RANK: 56/84** PROVINCES ASSESSED

0.61
Economic
dependency
ratio

9.17%
Poverty
incidence



Gender Inequality



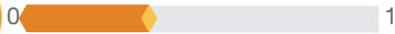
SCORE: 0.362 **RANK: 58/84** PROVINCES ASSESSED

1.04
Female to male
secondary school
enrollment Rate

0.48
Labor force
participation ratio



Population Pressures



SCORE: 0.358 **RANK: 59/84** PROVINCES ASSESSED

1.18
Population
growth rate
(2010-2015)

8.91
Average annual
urban population
growth rate

1.4%
Informal settlers



COPING CAPACITY (CC)

RANK: 43 / 84 PROVINCES ASSESSED
SCORE: 0.558

Pangasinan exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.484** **RANK: 51/84 PROVINCES ASSESSED**

0.91

Purchasing power of the peso

60.22%

Labor force participation rate

1081.54

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.69** **RANK: 27/84 PROVINCES ASSESSED**

85.1%

Voter participation

6.06

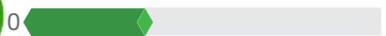
Organized violence (per 100k persons)

20.59%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.331** **RANK: 51/84 PROVINCES ASSESSED**

0.18

Protected areas (per 1k ha)

17.6%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.576** **RANK: 35/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.577** **RANK: 21/84** PROVINCES ASSESSED

7.53	2.89	68.72%	4.65
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.577** **RANK: 26/84** PROVINCES ASSESSED

1.65	22.64
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.532** **RANK: 63/84** PROVINCES ASSESSED

5.8%	74.7%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.829** **RANK: 17/84** PROVINCES ASSESSED

90.5%	34.4%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.367** **RANK: 61/84** PROVINCES ASSESSED

13.1	1.39	2.28
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 20 / 84 PROVINCES ASSESSED
SCORE: 0.603

Pangasinan’s score and ranking are due to Very Low Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Vulnerable Health Status



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 8 / 84 PROVINCES ASSESSED
SCORE: 0.377



Tsunami

RANK: 32 / 84 PROVINCES ASSESSED
SCORE: 0.097



Flood

RANK: 2 / 84 PROVINCES ASSESSED
SCORE: 0.366



Liquefaction

RANK: 3 / 84 PROVINCES ASSESSED
SCORE: 0.368



Landslide

RANK: 78 / 84 PROVINCES ASSESSED
SCORE: 0.088



Volcano

RANK: 39 / 84 PROVINCES ASSESSED
SCORE: 0.113



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

19 / 84

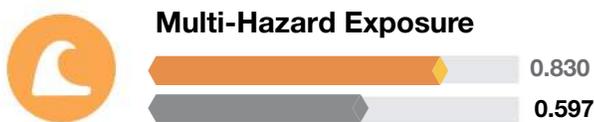
RANK WITHIN PROVINCES
Score: 0.541



Pangasinan’s score and ranking are due to Very High Multi-hazard exposure combined with Very Low Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



PANGASINAN RECOMMENDATIONS

1

Environmental Stress

- Mitigation potential hazard impacts by promoting environmental protection and restoration. Focus efforts on increasing forest cover, decreasing areas classified as barren land and promoting sustainable agriculture.
- Vulnerable health status is also a major driver of vulnerabilities in Pangasinan. Efforts to enhance the natural and built environment can improve health outcomes by decreasing runoff, mitigating the impacts of climate change and enhancing other ecosystem services.

2

Vulnerable Health Status

- Continue efforts to increase the health and well-being of the population in Pangasinan. Ensure community monitoring of infectious diseases and health care is available throughout the province.
- Expand partnerships to boost economic development and resources that can be used for public health interventions. Ensure health care is financially and physically accessible, as well as equipped to be able to accommodate patients with various health conditions.

3

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Pangasinan ranked 51st out of 84 territories in economic capacity. Continue to encourage programs that diversify the economy in Pangasinan to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

QUEZON

NDPBA PROVINCE PROFILE

THE PHILIPPINES

QUEZON

CAPITAL: CITY OF LUCENA

Area: 8,744 km²

Quezon is a province in the Philippines located in the southern tip of the Calabarzon region in Luzon. Farming and fishing are the main sources of livelihood in the province. The province is the leading producer of coconut products and produces other major crops such as coffee, banana, corn, and rice. Because of the long coastline of Quezon fishing and aquaculture is also a major contributor to the economy.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.518 • Rank: 30/84



RESILIENCE (R) - Low
Score: 0.544 • Rank: 54/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.641 • Rank: 36/84



VULNERABILITY (V) - High
Score: 0.472 • Rank: 29/84



COPING CAPACITY (CC) - Medium
Score: 0.561 • Rank: 40/84



Population (2018)
2,136,397



Population in Poverty
9.3%



Literate population
99.2%



Access to improved water
68.0%



Average life expectancy
69.1 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 36 / 84 PROVINCES
SCORE: 0.641



MHE
0.641

Raw MHE
0.701

Relative MHE
0.582

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

92%

1,955,329
\$4.5 Billion



Tsunami

<1%

3,464
\$524,593



Flood

41%

884,634
\$2 Billion



Liquefaction

24%

521,237
\$1.2 Billion



Landslide

10%

208,036
\$490.4 Million



Volcano

4%

93,193
\$269.7 Million



Drought

11%

236,848
\$558.7 Million



Wildfire

2%

37,286
\$66.3 Million



Storm Surge

23%

492,684
\$733.4 Million



Typhoon Winds

100%

2,133,751
\$4.8 Billion



VULNERABILITY (V)

RANK: 29 / 84 PROVINCES ASSESSED
SCORE: 0.472

Vulnerability in Quezon is primarily driven by Clean Water Access Vulnerability and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.496** **RANK: 36/84** PROVINCES ASSESSED

1.45 Livestock density
15.9 Barren land (per 10k hectares)
-0.20% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.423** **RANK: 52/84** PROVINCES ASSESSED

7.7% Malnutrition among children (0 to 5 years old)
5.65 Infant mortality rate (per 1k live births)
15.27 Maternal mortality rate (per 100k live births)
69.13 Life expectancy
315 Disability (per 100k persons)

26.3 Tuberculosis mortality rate (per 100k persons)
0.1 HIV mortality rate (per 100k persons)
7.3 Intestinal disease mortality rate (per 100k persons)
2 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



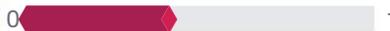
Clean Water Vulnerability

0  1 **SCORE: 0.753** **RANK: 7/84** PROVINCES ASSESSED

68.0% Households with improved safe water source
62.8% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.417** **RANK: 53/84** PROVINCES ASSESSED

99.15% Literacy rate (age 10 and older)
114.63% Gross primary school enrollment rate
4.81% Internet Access
56.08% Households with radio
70.13% Households with television



Economic Constraints



SCORE: 0.311 **RANK: 53/84** PROVINCES ASSESSED

0.61
Economic
dependency
ratio

9.31%
Poverty
incidence



Gender Inequality



SCORE: 0.451 **RANK: 40/84** PROVINCES ASSESSED

1.08
Female to male
secondary school
enrollment Rate

0.47
Labor force
participation ratio



Population Pressures



SCORE: 0.453 **RANK: 25/84** PROVINCES ASSESSED

1.36
Population
growth rate
(2010-2015)

6.57
Average annual
urban population
growth rate

2.6%
Informal settlers



COPING CAPACITY (CC)

RANK: 40 / 84 PROVINCES ASSESSED
SCORE: 0.561

Quezon exhibits weaker Coping Capacity in the areas of Energy Capacity and Transportation Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.522 **RANK: 36/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

67.98%

Labor force participation rate

1275.18

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.659 **RANK: 36/84 PROVINCES ASSESSED**

83.3%

Voter participation

8.83

Organized violence (per 100k persons)

32.75%

Garbage pickup



Environmental Capacity



SCORE: 0.522 **RANK: 18/84 PROVINCES ASSESSED**

11.36

Protected areas (per 1k ha)

18.3%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.514** **RANK: 57/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.442** **RANK: 55/84** PROVINCES ASSESSED

6.84	2.18	56.74%	6.1
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.416** **RANK: 59/84** PROVINCES ASSESSED

0.78	27.09
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.783** **RANK: 24/84** PROVINCES ASSESSED

5.6%	95.0%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.367** **RANK: 73/84** PROVINCES ASSESSED

81.7%	0.9%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.561** **RANK: 24/84** PROVINCES ASSESSED

42.95	1.74	4.04
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0.544

Quezon's score and ranking are due to High Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Clean Water Access Vulnerability



Environmental Stress



Energy Capacity



Transportation Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 25 / 84 PROVINCES ASSESSED
SCORE: 0.314



Tsunami

RANK: 36 / 84 PROVINCES ASSESSED
SCORE: 0.083



Flood

RANK: 35 / 84 PROVINCES ASSESSED
SCORE: 0.207



Liquefaction

RANK: 50 / 84 PROVINCES ASSESSED
SCORE: 0.16



Landslide

RANK: 27 / 84 PROVINCES ASSESSED
SCORE: 0.257



Volcano

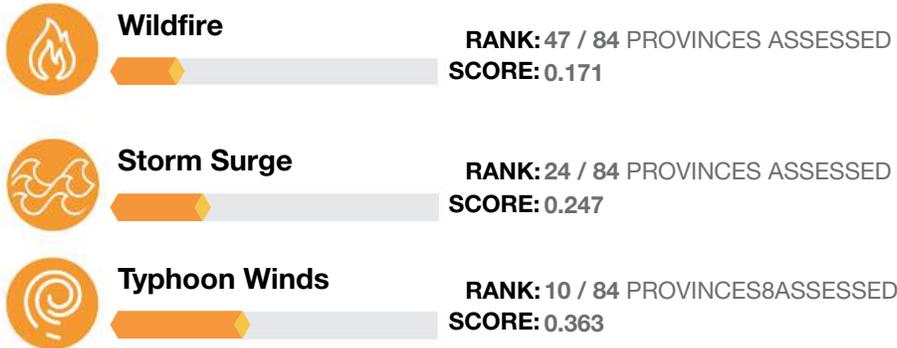
RANK: 10 / 84 PROVINCES ASSESSED
SCORE: 0.253



Drought

RANK: 40 / 84 PROVINCES ASSESSED
SCORE: 0.198

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

31 / 84

RANK WITHIN PROVINCES
Score: 0.518



Quezon’s score and ranking are due to Medium Multi-hazard exposure combined with High Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



QUEZON RECOMMENDATIONS

1

Clean Water Access Vulnerability

- Quezon is ranked 7th out of 84, for access to clean water vulnerability. Focus on increasing clean water infrastructure especially in rural and remote areas to reduce health risks.
- Nearly the entire population is exposed to typhoon winds and 41% are exposed to flooding. With large portions of the population exposed to hazards, there is a need to improve and expand water infrastructure in Quezon to improve resilience and reduce the risk of waterborne illness.

2

Environmental Stress

- Continue efforts to increase forest cover, decrease barren land and promoting sustainable agriculture.
- Encourage expanded efforts to improve environmental conditions in Quezon ensuring protection of ground and source water sources. Clean water access is also a leading driver of vulnerability and deterioration of water sources will amplify already existing vulnerabilities. Restoration of watersheds and forested areas, along with decreased livestock density will strengthen resilience in Quezon.

3

Energy Capacity

- Quezon ranked 73rd out of the 84 territories for energy capacity, with 81.7% of households having access to electricity. Less than 1% of households have access to liquid petroleum gas lines, which is the lowest in the Philippines. Expand energy infrastructure and access to homes.
- Invest in renewable energy infrastructure such as solar and wind to increase capacity while being environmentally conscious. Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access, especially in rural communities.

4

Transportation Capacity

- Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

QUIRINO

NDPBA PROVINCE PROFILE

THE PHILIPPINES QUIRINO

CAPITAL: CABARROGUIS

Area: 2,320 km²

Quirino is a landlocked province in the Philippines located in the Cagayan Valley region in Luzon. The Sierra Madre mountain range provides a natural barrier on the eastern and southern border. The economy of Quirino is largely based on agriculture with rice and corn being the major crops.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.483 • Rank: 53/84



RESILIENCE (R) - Medium
Score: 0.566 • Rank: 42/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.581 • Rank: 51/84



VULNERABILITY (V) - Medium
Score: 0.417 • Rank: 50/84



COPING CAPACITY (CC) - Medium
Score: 0.550 • Rank: 48/84



Population (2018)
203,826



Population in Poverty
8.9%



Literate population
98.1%



Access to improved water
67.0%



Average life expectancy
68.3 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 52 / 84 PROVINCES
SCORE: 0.581



MHE
0.581

Raw MHE
0.372

Relative MHE
0.791

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

203,826

\$693.5 Million



Tsunami

-

-

-



Flood

25%

51,332

\$161.3 Million



Liquefaction

41%

83,029

\$309.4 Million



Landslide

20%

41,530

\$159.3 Million



Volcano

-

-

-



Drought

100%

203,826

\$693.5 Million



Wildfire

6%

11,494

\$58.9 Million



Storm Surge

-

-

-



Typhoon Winds

100%

203,826

\$693.5 Million



VULNERABILITY (V)

RANK: 50 / 84 PROVINCES ASSESSED
SCORE: 0.417

Vulnerability in Quirino is primarily driven by Environmental Stress and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



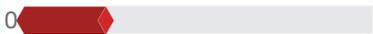
Environmental Stress

0  1 **SCORE: 0.633** **RANK: 10/84 PROVINCES ASSESSED**

1.38 Livestock density	24.61 Barren land (per 10k hectares)	-9.25% Forest cover change
----------------------------------	--	--------------------------------------



Vulnerable Health Status

0  1 **SCORE: 0.237** **RANK: 82/84 PROVINCES ASSESSED**

3.8% Malnutrition among children (0 to 5 years old)	0 Infant mortality rate (per 1k live births)	0 Maternal mortality rate (per 100k live births)	68.33 Life expectancy	220 Disability (per 100k persons)
9.2 Tuberculosis mortality rate (per 100k persons)	0 HIV mortality rate (per 100k persons)	4.1 Intestinal disease mortality rate (per 100k persons)	0.5 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)	



Clean Water Vulnerability

0  1 **SCORE: 0.488** **RANK: 30/84 PROVINCES ASSESSED**

67.0% Households with improved safe water source	93.1% Households with sanitary toilet facility
--	--



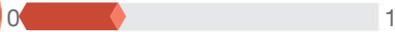
Information Access Vulnerability

0  1 **SCORE: 0.452** **RANK: 47/84 PROVINCES ASSESSED**

98.08% Literacy rate (age 10 and older)	113.34% Gross primary school enrollment rate	2.17% Internet Access	75.58% Households with radio	60.09% Households with television
---	--	---------------------------------	--	---



Economic Constraints



SCORE: 0.267 **RANK: 64/84** PROVINCES ASSESSED

0.58
Economic
dependency
ratio

8.85%
Poverty
incidence



Gender Inequality



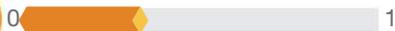
SCORE: 0.51 **RANK: 30/84** PROVINCES ASSESSED

1.13
Female to male
secondary school
enrollment Rate

0.5
Labor force
participation ratio



Population Pressures



SCORE: 0.332 **RANK: 66/84** PROVINCES ASSESSED

1.28
Population
growth rate
(2010-2015)

12.01
Average annual
urban population
growth rate

0.7%
Informal settlers



COPING CAPACITY (CC)

RANK: 48 / 84 PROVINCES ASSESSED
SCORE: 0.550

Quirino exhibits weaker Coping Capacity in the areas of Transportation Capacity and Governance. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.751 **RANK: 8/84 PROVINCES ASSESSED**

0.89

Purchasing power of the peso

71.57%

Labor force participation rate

4713.76

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.452 **RANK: 74/84 PROVINCES ASSESSED**

78.5%

Voter participation

6.17

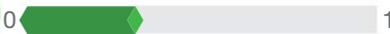
Organized violence (per 100k persons)

6.68%

Garbage pickup



Environmental Capacity



SCORE: 0.315 **RANK: 58/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

17.2%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.526** **RANK: 55/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.536** **RANK: 35/84** PROVINCES ASSESSED

5.65	1.66	79.79%	6.5
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.324** **RANK: 70/84** PROVINCES ASSESSED

0.38	24.55
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.552** **RANK: 59/84** PROVINCES ASSESSED

0.6%	95.5%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.61** **RANK: 46/84** PROVINCES ASSESSED

73.3%	19.6%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.606** **RANK: 22/84** PROVINCES ASSESSED

13.24	3.11	4.67
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 42 / 84 PROVINCES ASSESSED
SCORE: 0.566

Quirino's score and ranking are due to Medium Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Gender Inequality



Transportation Capacity



Governance



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 50 / 84 PROVINCES ASSESSED
SCORE: 0.248



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 64 / 84 PROVINCES ASSESSED
SCORE: 0.081



Liquefaction

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0.147



Landslide

RANK: 41 / 84 PROVINCES ASSESSED
SCORE: 0.220



Volcano

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 18 / 84 PROVINCES ASSESSED
SCORE: 0.382

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

53 / 84

RANK WITHIN PROVINCES
Score: 0.483



Quirino's score and ranking are due to Low Multi-hazard exposure combined with Medium Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



QUIRINO RECOMMENDATIONS

1

Environmental Stress

- Continue efforts to increase forest cover, decrease areas classified as barren land and promoting sustainable agriculture.
- Findings show that the entire province is exposed to drought hazards. Rice and corn are major agricultural crops, which require large amounts of water to sustain. Efforts to conserve water and introduce drought resistant crops will benefit the province into the future.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Transportation Capacity

- Road density in Quirino is 0.38 kilometers per square kilometer, which is the 4th lowest in the Philippines. Limited road infrastructure greatly impacts transportation in Quirino, as it is a landlocked province. Continue airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Governance

- In Quirino only 7% of households reported having garbage collection services. Focus efforts on expanding public services especially in rural and remote areas.
- Expand government outreach to promote greater public participation, especially amongst marginalized groups such as women.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holopono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

RIZAL

NDPBA PROVINCE PROFILE

THE PHILIPPINES

RIZAL

CAPITAL: CITY OF ANTIPOLO

Area: 1,183 km²

Rizal is a province in the Philippines located in the Calabarzon region in Luzon and is approximately 10 miles east of Manila. It also lies on the northern shores of Laguna de Bay-the largest lake in the Philippines. It is a mountainous province located along the southern portion of the Sierra Madre mountain range covering approximately 1,200 square kilometers. Due to its proximity to metro Manila the province has a low poverty rate and is largely urban based.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.5326 • Rank: 22/84



RESILIENCE (R) - High
Score: 0.602 • Rank: 22/84



MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.812 • Rank: 8/84



VULNERABILITY (V) - Very Low
Score: 0.355 • Rank: 69/84



COPING CAPACITY (CC) - Medium
Score: 0.559 • Rank: 42/84



Population (2018)
2,811,239



Population in Poverty
3.3%



Literate population
99.7%



Access to improved water
96.8%



Average life expectancy
70.5 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 8 / 84 PROVINCES
SCORE: 0.812



MHE
0.812

Raw MHE
 0.858

Relative MHE
 0.766

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%
 2,811,239
 \$12.6 Billion



Tsunami

-
 -
 -



Flood

44%
 1,242,672
 \$9.5 Billion



Liquefaction

41%
 1,146,852
 \$7.7 Billion



Landslide

10%
 285,629
 \$346.5 Million



Volcano

<1%
 8,444
 \$37.8 Million



Drought

10%
 277,644
 \$62.8 Million



Wildfire

58%
 1,621,368
 \$8.5 Billion



Storm Surge

-
 -
 -



Typhoon Winds

100%
 2,811,239
 \$12.6 Billion



VULNERABILITY (V)

RANK: 69 / 84 PROVINCES ASSESSED
SCORE: 0.355

Vulnerability in Rizal is primarily driven by Environmental Stress and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



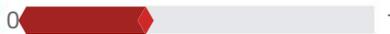
Environmental Stress

0  1 **SCORE: 0.717** **RANK: 2/84 PROVINCES ASSESSED**

15.76 **43.73** **2.44%**
 Livestock density Barren land (per 10k hectares) Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.348** **RANK: 69/84 PROVINCES ASSESSED**

9.0% **7.92** **60.34** **70.45** **60**
 Malnutrition among children (0 to 5 years old) Infant mortality rate (per 1k live births) Maternal mortality rate (per 100k live births) Life expectancy Disability (per 100k persons)

33.4 **0.6** **2.7** **1.7**
 Tuberculosis mortality rate (per 100k persons) HIV mortality rate (per 100k persons) Intestinal disease mortality rate (per 100k persons) Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



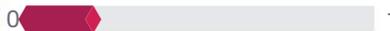
Clean Water Vulnerability

0  1 **SCORE: 0.288** **RANK: 64/84 PROVINCES ASSESSED**

96.8% **90.8%**
 Households with improved safe water source Households with sanitary toilet facility



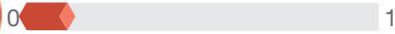
Information Access Vulnerability

0  1 **SCORE: 0.195** **RANK: 83/84 PROVINCES ASSESSED**

99.73% **106.57%** **14.91%** **71.57%** **88.45%**
 Literacy rate (age 10 and older) Gross primary school enrollment rate Internet Access Households with radio Households with television



Economic Constraints



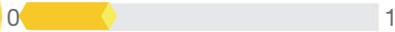
SCORE: 0.119 **RANK: 79/84** PROVINCES ASSESSED

0.52
Economic
dependency
ratio

3.33%
Poverty
incidence



Gender Inequality



SCORE: 0.241 **RANK: 78/84** PROVINCES ASSESSED

1.04
Female to male
secondary school
enrollment Rate

0.58
Labor force
participation ratio



Population Pressures



SCORE: 0.576 **RANK: 8/84** PROVINCES ASSESSED

2.88
Population
growth rate
(2010-2015)

3.22
Average annual
urban population
growth rate

2.7%
Informal settlers



COPING CAPACITY (CC)

RANK: 42 / 84 PROVINCES ASSESSED
SCORE: 0.559

Rizal exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.506** **RANK: 42/84 PROVINCES ASSESSED**

0.91

Purchasing power of the peso

63.05%

Labor force participation rate

994.81

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.56** **RANK: 65/84 PROVINCES ASSESSED**

72.0%

Voter participation

4.44

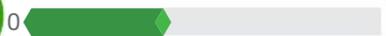
Organized violence (per 100k persons)

82.75%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.385** **RANK: 40/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

33.7%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.668** **RANK: 16/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.488** **RANK: 41/84** PROVINCES ASSESSED

5.66	1.68	58.52%	2.05
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.829** **RANK: 2/84** PROVINCES ASSESSED

4.18	11.89
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.898** **RANK: 4/84** PROVINCES ASSESSED

15.8%	95.7%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.929** **RANK: 9/84** PROVINCES ASSESSED

93.1%	63.1%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.196** **RANK: 77/84** PROVINCES ASSESSED

11.5	0.66	1.19
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 22 / 84 PROVINCES ASSESSED
SCORE: 0.602

Rizal's score and ranking are due to Very Low Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Population Pressures



Emergency Services Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 10 / 84 PROVINCES ASSESSED
SCORE: 0.373



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 19 / 84 PROVINCES ASSESSED
SCORE: 0.276



Liquefaction

RANK: 15 / 84 PROVINCES ASSESSED
SCORE: 0.258



Landslide

RANK: 47 / 84 PROVINCES ASSESSED
SCORE: 0.204



Volcano

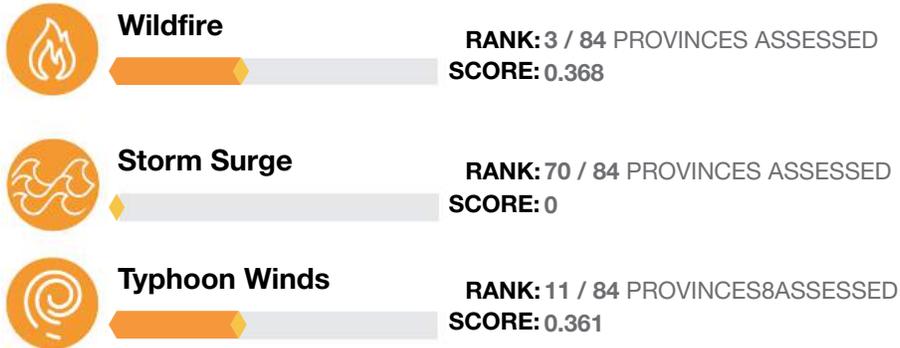
RANK: 33 / 84 PROVINCES ASSESSED
SCORE: 0.124



Drought

RANK: 48 / 84 PROVINCES ASSESSED
SCORE: 0.138

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

22 / 84
 RANK WITHIN PROVINCES
 Score: 0.536

Rizal’s score and ranking are due to Very High Multi-hazard exposure combined with Very Low Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



RIZAL RECOMMENDATIONS

1

Environmental Stress

- Focus efforts on increasing forest cover, decreasing areas classified as barren land and reduced livestock density.
- Population pressures are a major driver of vulnerability in Rizal. Promoting sustainable agriculture and protection of natural areas will ensure resource production can keep up with increased demands as the population grows.

2

Population Pressures

- Ranked 5th in the Philippines, Rizal's population grew at a rate of 2.88 between 2010 and 2015. Continue to monitor the growth of the population and plan resource allocation appropriately. Work with diverse partners to help stimulate the economy to support increased demands. Ensure equitable distribution of resources and services.
- Environmental stress is already leading to vulnerabilities in Rizal. Enforce building codes and environmental protection laws to ensure expansion is sustainable. Also, focus efforts on bringing in funds and innovations for enhancing the built environment.

3

Emergency Services Capacity

- Rizal is ranked 77th out of the 84 territories for emergency service capacity. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- In Rizal Wildfires expose 67.7% of the province's capital stock and 57.7% of the population. Findings also show that there are only 0.66 fire stations per 100,000 persons, which is the lowest in the Philippines. Invest in increased fire stations and fire trucks to mitigate Wildfire impacts.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Health Care Capacity

- Health care capacity in Rizal is ranked 75th out of the 84 territories in the Philippines. Hospital bed capacity (3.02 per 10,000 persons) and average distance between hospitals and populated places (9.98 kilometers) contributed to the low capacity score. Focus efforts on increasing the number of hospitals and hospital beds to improve access and surge capacity.
- As the population in Rizal increases, the demand on the already limited health care resources will be exacerbated. Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ROMBLON

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ROMBLON

CAPITAL: ROMBLON

Area: 1,533 km²

Romblon is an archipelagic province of the Philippines located in the Mimaropa region. Its main islands include Tablas, Sibuyan, smaller island municipalities of Corcuera, Banton, Concepcion, San Jose, and Romblon. The province is geographically part of the Visayas and is surrounded by deep waters. The islands are dispersed and accessible only via sea except for Tablas Island. Agriculture is the main industry with coconut being the most cultivated crop. Livestock and poultry are also produced within the province.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.470 • Rank: 65/84



RESILIENCE (R) - Low
Score: 0.535 • Rank: 60/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.481 • Rank: 68/84



VULNERABILITY (V) - High
Score: 0.476 • Rank: 27/84



COPING CAPACITY (CC) - Medium
Score: 0.546 • Rank: 50/84



Population (2018)
288,053



Population in Poverty
19.6%



Literate population
98.9%



Access to improved water
93.5%



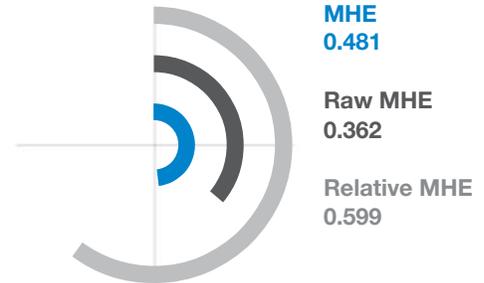
Average life expectancy
67.0 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 68 / 84 PROVINCES
SCORE: 0.481



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

 Earthquake
52%
 148,804
 \$439.4 Million

 Tsunami
<1%
 1,133
 -

 Flood
73%
 210,867
 \$592.6 Million

 Liquefaction
16%
 46,478
 \$145.5 Million

 Landslide
27%
 77,317
 \$161.4 Million

 Volcano
 -
 -
 -

 Drought
 -
 -
 -

 Wildfire
6%
 16,695
 \$48.4 Million

 Storm Surge
38%
 108,131
 \$171.4 Million

 Typhoon Winds
100%
 287,995
 \$726.2 Million



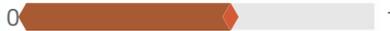
VULNERABILITY (V)

RANK: 27 / 84 PROVINCES ASSESSED
SCORE: 0.476

Vulnerability in Romblon is primarily driven by Environmental Stress and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.596** **RANK: 17/84 PROVINCES ASSESSED**

2.07 Livestock density
12.3 Barren land (per 10k hectares)
-3.76% Forest cover change



Vulnerable Health Status

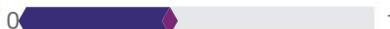
0  1 **SCORE: 0.51** **RANK: 22/84 PROVINCES ASSESSED**

6.5% Malnutrition among children (0 to 5 years old)
1.84 Infant mortality rate (per 1k live births)
122.5 Maternal mortality rate (per 100k live births)
67.02 Life expectancy
526 Disability (per 100k persons)

43 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.1 Intestinal disease mortality rate (per 100k persons)
0.3 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.419** **RANK: 43/84 PROVINCES ASSESSED**

93.5% Households with improved safe water source
86.2% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.509** **RANK: 32/84 PROVINCES ASSESSED**

98.85% Literacy rate (age 10 and older)
119.68% Gross primary school enrollment rate
1.49% Internet Access
56.35% Households with radio
48.08% Households with television



Economic Constraints

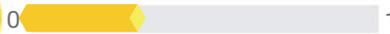
0  1 **SCORE: 0.571** **RANK: 20/84** PROVINCES ASSESSED

0.71
Economic
dependency
ratio

19.57%
Poverty
incidence



Gender Inequality

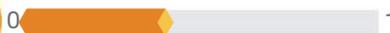
0  1 **SCORE: 0.324** **RANK: 65/84** PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.55
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.406** **RANK: 43/84** PROVINCES ASSESSED

0.59
Population
growth rate
(2010-2015)

42.13
Average annual
urban population
growth rate

0.4%
Informal settlers



COPING CAPACITY (CC)

RANK: 50 / 84 PROVINCES ASSESSED
SCORE: 0.546

Romblon exhibits weaker Coping Capacity in the areas of Health Care Capacity and Energy Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.584 **RANK: 27/84 PROVINCES ASSESSED**

0.9

Purchasing power of the peso

62.52%

Labor force participation rate

2350.2

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.634 **RANK: 43/84 PROVINCES ASSESSED**

82.2%

Voter participation

0.34

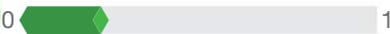
Organized violence (per 100k persons)

9.83%

Garbage pickup



Environmental Capacity



SCORE: 0.214 **RANK: 68/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

6.2%

Forest reserves



Infrastructure Capacity



SCORE: 0.53 RANK: 52/84 PROVINCES ASSESSED



Health Care Capacity SCORE: 0.293 RANK: 76/84 PROVINCES ASSESSED

3.02	1.55	56.47%	9.98
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.595 RANK: 23/84 PROVINCES ASSESSED

0.83	9.67
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.649 RANK: 49/84 PROVINCES ASSESSED

1.4%	95.4%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.404 RANK: 67/84 PROVINCES ASSESSED

68.1%	5.7%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.709 RANK: 14/84 PROVINCES ASSESSED

98.76	2.36	5.06
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 60 / 84 PROVINCES ASSESSED
SCORE: 0.535

Romblon's score and ranking are due to High Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Economic Constraints



Health Care Capacity



Energy Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 77 / 84 PROVINCES ASSESSED
SCORE: 0.066



Tsunami

RANK: 40 / 84 PROVINCES ASSESSED
SCORE: 0.069



Flood

RANK: 25 / 84 PROVINCES ASSESSED
SCORE: 0.240



Liquefaction

RANK: 66 / 84 PROVINCES ASSESSED
SCORE: 0.086



Landslide

RANK: 31 / 84 PROVINCES ASSESSED
SCORE: 0.255



Volcano

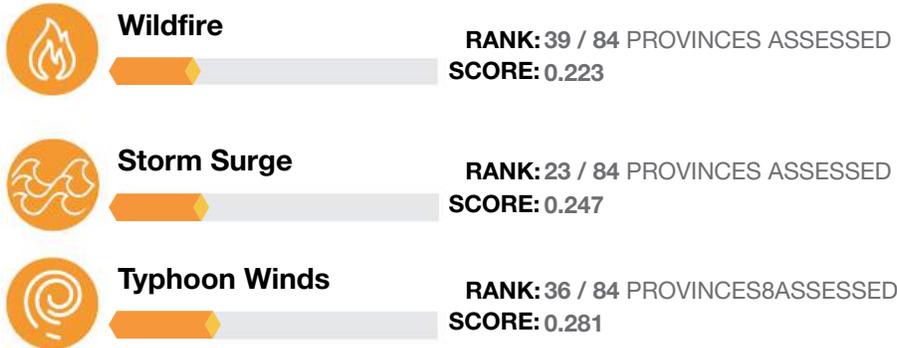
RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

65 / 84
 RANK WITHIN PROVINCES
 Score: 0.470



Romblon’s score and ranking are due to Very Low Multi-hazard exposure combined with High Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
 COUNTRY SCORE



ROMBLON RECOMMENDATIONS

1

Environmental Stress

- Romblon is ranked 4th highest in the Philippines for forest cover change. Between 2000 and 2010 forest cover decreased by 3.76 percent. Continued reforestation projects and expanded protection of forested areas from illegal logging are needed. Investing in sustainable agriculture and forestry practices can also increase economic capacity through the creation of jobs and expanded eco-tourism.

2

Economic Constraints

- In Romblon, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Focus efforts on promoting industries that create gainful work, to prevent outmigration of the working age population. Invest in small and local businesses, especially in rural and remote areas.

3

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Energy Capacity

- Romblon ranked 67th out of the 84 territories for energy capacity, with 68.1% of households having access to electricity. Additionally, 5.7% of households have access to liquid petroleum gas lines. Continue to invest in energy infrastructure and access to homes.
- Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access, especially in rural communities. Increasing energy capacity will also make the business market more attractive and can help stimulate the creation of jobs.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

SAMAR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

SAMAR

CAPITAL: CITY OF CATBALOGAN

Area: 6,048 km²

Samar is the third largest island in the Philippines. Located in central Philippines, Eastern Visayas. The island is divided into three provinces: Samar, Northern Samar, and Eastern Samar. On the island of Samar is the Samar Island Natural Park. To the south of Samar is Leyte Gulf. Leyte Gulf opens out into the Philippines Sea.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.567 • Rank: 10/84



RESILIENCE (R) - Very Low
Score: 0.46 • Rank: 75/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.622 • Rank: 42/84



VULNERABILITY (V) - Very High
Score: 0.53 • Rank: 14/84



COPING CAPACITY (CC) - Very Low
Score: 0.449 • Rank: 74/84



Population (2018)
740,131



Population in Poverty
22.1%



Literate population
95.6%



Access to improved water
64.8%



Average life expectancy
67.9 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 43 / 84 PROVINCES
SCORE: 0.622



MHE
0.622

Raw MHE
0.602

Relative MHE
0.641

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

68%

501,950
\$3.1 Billion



Tsunami

14%

101,922
\$301 Million



Flood

46%

340,311
\$1.8 Billion



Liquefaction

26%

192,242
\$899.5 Million



Landslide

21%

157,081
\$921.3 Million



Volcano

<1%

2,443
\$11 Million



Drought

14%

102,190
\$661.1 Million



Wildfire

4%

28,223
\$168.6 Million



Storm Surge

34%

251,540
\$631.2 Million



Typhoon Winds

100%

738,537
\$3.6 Billion



VULNERABILITY (V)

RANK: 14 / 84 PROVINCES ASSESSED
SCORE: 0.53

Vulnerability in Samar is primarily driven by Clean Water Access Vulnerability and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.351** **RANK: 67/84 PROVINCES ASSESSED**

0.84 Livestock density
1.87 Barren land (per 10k hectares)
-0.71% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.447** **RANK: 40/84 PROVINCES ASSESSED**

5.1% Malnutrition among children (0 to 5 years old)
1.67 Infant mortality rate (per 1k live births)
27.84 Maternal mortality rate (per 100k live births)
67.87 Life expectancy
632 Disability (per 100k persons)

16.9 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
5.9 Intestinal disease mortality rate (per 100k persons)
0.4 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.727** **RANK: 9/84 PROVINCES ASSESSED**

64.8% Households with improved safe water source
70.3% Households with sanitary toilet facility



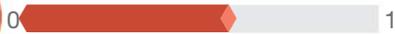
Information Access Vulnerability

0  1 **SCORE: 0.675** **RANK: 7/84 PROVINCES ASSESSED**

95.58% Literacy rate (age 10 and older)
117.11% Gross primary school enrollment rate
2.26% Internet Access
29.41% Households with radio
48.96% Households with television



Economic Constraints



SCORE: 0.59

RANK: 17/84 PROVINCES ASSESSED

0.7

Economic
dependency
ratio

22.10%

Poverty
incidence



Gender Inequality



SCORE: 0.525

RANK: 24/84 PROVINCES ASSESSED

1.1

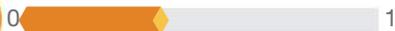
Female to male
secondary school
enrollment Rate

0.45

Labor force
participation ratio



Population Pressures



SCORE: 0.392

RANK: 47/84 PROVINCES ASSESSED

1.19

Population
growth rate
(2010-2015)

9.2

Average annual
urban population
growth rate

1.8%

Informal settlers



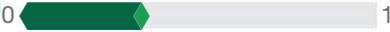
COPING CAPACITY (CC)

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.449

Samar exhibits weaker Coping Capacity in the areas of Health Care Capacity and Transportation Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.333 **RANK: 80/84 PROVINCES ASSESSED**

0.82

Purchasing power of the peso

61.14%

Labor force participation rate

1639.65

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.668 **RANK: 31/84 PROVINCES ASSESSED**

86.2%

Voter participation

6.57

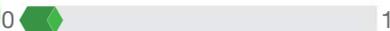
Organized violence (per 100k persons)

13.57%

Garbage pickup



Environmental Capacity



SCORE: 0.08 **RANK: 73/84 PROVINCES ASSESSED**

1.56

Protected areas (per 1k ha)

0.1%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.468 RANK: 63/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.314 RANK: 73/84 PROVINCES ASSESSED

2.2	0.39	78.38%	12.28
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.281 RANK: 77/84 PROVINCES ASSESSED

0.46	32.33
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.648 RANK: 50/84 PROVINCES ASSESSED

2.9%	89.6%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.601 RANK: 48/84 PROVINCES ASSESSED

78.4%	13.1%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.552 RANK: 26/84 PROVINCES ASSESSED

12.83	2.63	4.14
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 75 / 84 PROVINCES ASSESSED
SCORE: 0.46

Samar's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Clean Water Access Vulnerability



Information Access Vulnerability



Health Care Capacity



Transportation Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.227



Tsunami

RANK: 5 / 84 PROVINCES ASSESSED
SCORE: 0.395



Flood

RANK: 29 / 84 PROVINCES ASSESSED
SCORE: 0.231



Liquefaction

RANK: 48 / 84 PROVINCES ASSESSED
SCORE: 0.164



Landslide

RANK: 6 / 84 PROVINCES ASSESSED
SCORE: 0.366



Volcano

RANK: 29 / 84 PROVINCES ASSESSED
SCORE: 0.133



Drought

RANK: 35 / 84 PROVINCES ASSESSED
SCORE: 0.242

(HAZARD-SPECIFIC RISK CONTINUED)



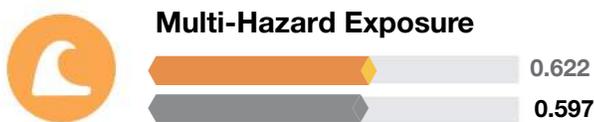
MULTI-HAZARD RISK (MHR)

10 / 84
RANK WITHIN PROVINCES
Score: 0.567

Samar's score and ranking are due to Medium Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



SAMAR RECOMMENDATIONS

1

Clean Water Access Vulnerability

- Focus efforts in Samar on improved water and sanitation infrastructure, as clean water access is a major driver of vulnerability.
- In Samar drought, flood and landslide hazards impact a large proportion of the population. Focus on increasing clean water infrastructure especially in rural and remote areas to reduce health risks.

2

Information Access Vulnerability

- Samar is ranked the 7th highest province in the Philippines for access to information vulnerability. In Samar, only 29% of households have radios, the lowest in the Philippines. Work with private and public partners to see areas of collaboration that can enhance access to communication devices within households.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

3

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Transportation Capacity

- Samar is ranked 77th out of the 84 territories in the Philippines for transportation capacity. Road density is 0.46 kilometers and the average distance between ports and populated places is 32.33 kilometers per square kilometer. Findings also show that Samar is ranked 10th highest for multi-hazard risk. Continue seaport airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

SARANGANI

NDPBA PROVINCE PROFILE

THE PHILIPPINES

SARANGANI

CAPITAL: ALABEL

Area: 3,642 km²

Siquijor is an island province of the Philippines located in the Central Visayas region. To the north of Siquijor is Cebu, to the west is Negros, northeast is Bohol, and to the south, across the Bohol Sea, is Mindanao. It is predominantly hilly with precipitous cliffs. At the center of the island is Mount Malabahoc approximately 620 meters tall. The island is largely based on tourism due to the landscape of the island.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.564 • Rank: 13/84



RESILIENCE (R) - Very Low
Score: 0.426 • Rank: 79/84



MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.543 • Rank: 59/84



VULNERABILITY (V) - Very High
Score: 0.553 • Rank: 8/84



COPING CAPACITY (CC) - Very Low
Score: 0.404 • Rank: 79/84



Population (2018)
548,195



Population in Poverty
36.0%



Literate population
92.0%



Access to improved water
85.8%



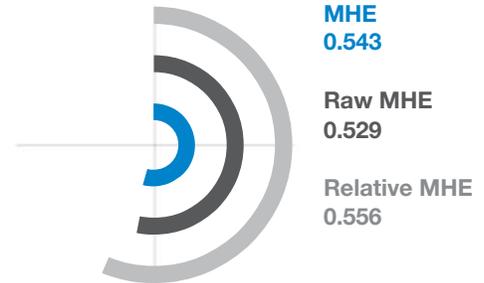
Average life expectancy
68.3 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 60 / 84 PROVINCES
SCORE: 0.543



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

92%

504,734
\$2.6 Billion



Tsunami

<1%

2,679
\$4.5 Million



Flood

17%

93,217
\$387 Million



Liquefaction

3%

14,434
\$66.8 Million



Landslide

40%

221,982
\$1.2 Billion



Volcano

2%

9,764
\$37.3 Million



Drought

81%

443,575
\$2.3 Billion



Wildfire

30%

164,175
\$1.3 Billion



Storm Surge

16%

88,903
\$359.8 Million



Typhoon Winds

-

-

-



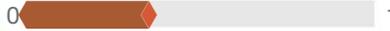
VULNERABILITY (V)

RANK: 8 / 84 PROVINCES ASSESSED
SCORE: 0.553

Vulnerability in Sarangani is primarily driven by Gender Inequality and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



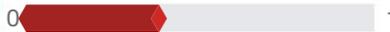
Environmental Stress

0  1 **SCORE: 0.357** **RANK: 65/84 PROVINCES ASSESSED**

1.1 Livestock density
6.85 Barren land (per 10k hectares)
2.74% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.387** **RANK: 64/84 PROVINCES ASSESSED**

2.4% Malnutrition among children (0 to 5 years old)
1.98 Infant mortality rate (per 1k live births)
72.16 Maternal mortality rate (per 100k live births)
68.28 Life expectancy
344 Disability (per 100k persons)

15.2 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.3 Intestinal disease mortality rate (per 100k persons)
3.9 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.515** **RANK: 26/84 PROVINCES ASSESSED**

85.8% Households with improved safe water source
85.0% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.651** **RANK: 8/84 PROVINCES ASSESSED**

92.04% Literacy rate (age 10 and older)
121.69% Gross primary school enrollment rate
0.54% Internet Access
54.43% Households with radio
38.30% Households with television



Economic Constraints

0  1 **SCORE: 0.708** **RANK: 9/84** PROVINCES ASSESSED

0.66
Economic
dependency
ratio

36.02%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.776** **RANK: 7/84** PROVINCES ASSESSED

1.15
Female to male
secondary school
enrollment Rate

0.3
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.474** **RANK: 22/84** PROVINCES ASSESSED

1.67
Population
growth rate
(2010-2015)

5.09
Average annual
urban population
growth rate

2.7%
Informal settlers



COPING CAPACITY (CC)

RANK: 79 / 84 PROVINCES ASSESSED
SCORE: 0.404

Sarangani exhibits weaker Coping Capacity in the areas of Energy Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.482 **RANK: 53/84 PROVINCES ASSESSED**

0.86

Purchasing power of the peso

65.46%

Labor force participation rate

1712.24

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.42 **RANK: 79/84 PROVINCES ASSESSED**

75.1%

Voter participation

6.33

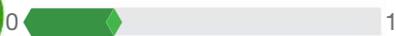
Organized violence (per 100k persons)

10.77%

Garbage pickup



Environmental Capacity



SCORE: 0.241 **RANK: 66/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

8.2%

Forest reserves



Infrastructure Capacity



SCORE: 0.363 RANK: 80/84 PROVINCES ASSESSED



Health Care Capacity SCORE: 0.255 RANK: 79/84 PROVINCES ASSESSED

7.59

Hopital beds
(per 10k people)

0.82

Physicians per
10,000 people

52.02%

Vaccination
coverage

11.98

Average distance to nearest
hospital (km)



Transportation Capacity SCORE: 0.506 RANK: 41/84 PROVINCES ASSESSED

0.45

Road density
(km per sq. km)

9.05

Average distance to
nearest port (km)



Communications Capacity SCORE: 0.355 RANK: 75/84 PROVINCES ASSESSED

0.3%

Households with a landline

83.7%

Mobile coverage



Energy Capacity SCORE: 0.268 RANK: 79/84 PROVINCES ASSESSED

57.7%

Households with electricity

3.9%

Households with gas



Emergency Services Capacity SCORE: 0.371 RANK: 60/84 PROVINCES ASSESSED

27.6

Evacuation centers
(per 100k persons)

1.25

Fire Stations
(per 100k persons)

1.78

Fire Trucks
(per 100k persons)



RESILIENCE (R)

RANK: 79 / 84 PROVINCES ASSESSED
SCORE: 0.426

Sarangani's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Economic Constraints



Energy Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 19 / 84 PROVINCES ASSESSED
SCORE: 0.335



Tsunami

RANK: 21 / 84 PROVINCES ASSESSED
SCORE: 0.133



Flood

RANK: 61 / 84 PROVINCES ASSESSED
SCORE: 0.098



Liquefaction

RANK: 77 / 84 PROVINCES ASSESSED
SCORE: 0.044



Landslide

RANK: 1 / 84 PROVINCES ASSESSED
SCORE: 0.459



Volcano

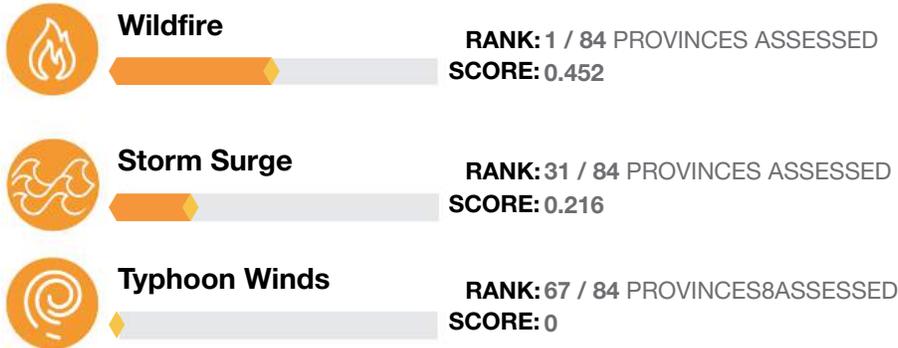
RANK: 16 / 84 PROVINCES ASSESSED
SCORE: 0.202



Drought

RANK: 3 / 84 PROVINCES ASSESSED
SCORE: 0.484

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

13 / 84
 RANK WITHIN PROVINCES
 Score: 0.564

Sarangani’s score and ranking are due to Low Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
 COUNTRY SCORE



SARANGANI RECOMMENDATIONS

1

Gender Inequality

- Sarangani is ranked 3rd highest for gender-based inequalities in labor force participation. Focus efforts on enforcing equal employment opportunities and promoting continued education. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals, to continuously monitor and reduce gender-based discrimination and bias.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Economic Constraints

- In Sarangani, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Focus efforts on promoting industries that create gainful work, to prevent outmigration of the working age population. Invest in small and local businesses, especially in rural and remote areas.

3

Energy Capacity

- Sarangani ranked 77th out of the 84 territories for energy capacity, with only 57.7% of households having access to electricity. Additionally, only 3.95% of households have access to liquid petroleum gas lines. Invest in energy infrastructure and expand access to homes. Energy lines should be carefully engineered to be resilient to coastal, as well as inland hazards. With backup mechanisms put in place to increase redundancy in the system.
- Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access, especially in rural communities. Increasing energy capacity will also make the business market more attractive and can help stimulate the creation of jobs.

4

Health Care Capacity

- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

SIQUIJOR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

SIQUIJOR

CAPITAL: SQUIJOR

Area: 337 km²

Siquijor is an island province of the Philippines located in the Central Visayas region. To the north of Siquijor is Cebu, to the west is Negros, northeast is Bohol, and to the south, across the Bohol Sea, is Mindanao. It is predominantly hilly with precipitous cliffs. At the center of the island is Mount Malabahoc approximately 620 meters tall. The island is largely based on tourism due to the landscape of the island.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.267 • Rank: 83/84



RESILIENCE (R) - Very High
Score: 0.668 • Rank: 4/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.137 • Rank: 81/84



VULNERABILITY (V) - Very Low
Score: 0.309 • Rank: 80/84



COPING CAPACITY (CC) - Very High
Score: 0.646 • Rank: 9/84



Population (2018)
96,872



Population in Poverty
7.2%



Literate population
98.8%



Access to improved water
100.0%



Average life expectancy
67.9 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 81 / 84 PROVINCES
SCORE: 0.137



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

 <p>Earthquake</p> <p>0%</p> <p>👤 -</p> <p>-</p>	 <p>Tsunami</p> <p>-</p> <p>👤 -</p> <p>-</p>
 <p>Flood</p> <p>1%</p> <p>👤 1,177</p> <p>\$441,582</p>	 <p>Liquefaction</p> <p>-</p> <p>👤 -</p> <p>-</p>
 <p>Landslide</p> <p>17%</p> <p>👤 16,465</p> <p>\$64 Million</p>	 <p>Volcano</p> <p>-</p> <p>👤 -</p> <p>-</p>
 <p>Drought</p> <p>14%</p> <p>👤 13,350</p> <p>\$89.3 Million</p>	 <p>Wildfire</p> <p>-</p> <p>👤 -</p> <p>-</p>
 <p>Storm Surge</p> <p>10%</p> <p>👤 9,271</p> <p>\$2.7 Million</p>	 <p>Typhoon Winds</p> <p>100%</p> <p>👤 96,746</p> <p>\$427.2 Million</p>



VULNERABILITY (V)

RANK: 80 / 84 PROVINCES ASSESSED
SCORE: 0.309

Vulnerability in Siquijor is primarily driven by Environmental Stress and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.512** **RANK: 33/84** PROVINCES ASSESSED

8.44 Livestock density
21.02 Barren land (per 10k hectares)
7.00% Forest cover change



Vulnerable Health Status

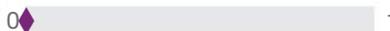
0  1 **SCORE: 0.476** **RANK: 29/84** PROVINCES ASSESSED

9.0% Malnutrition among children (0 to 5 years old)
2.51 Infant mortality rate (per 1k live births)
0 Maternal mortality rate (per 100k live births)
67.9 Life expectancy
432 Disability (per 100k persons)

31.9 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
14.4 Intestinal disease mortality rate (per 100k persons)
3.1 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0** **RANK: 83/84** PROVINCES ASSESSED

100.0% Households with improved safe water source
95.9% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.459** **RANK: 45/84** PROVINCES ASSESSED

98.82% Literacy rate (age 10 and older)
115.03% Gross primary school enrollment rate
3.60% Internet Access
62.63% Households with radio
57.15% Households with television



Economic Constraints

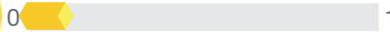
0  1 **SCORE: 0.248** **RANK: 67/84** PROVINCES ASSESSED

0.58
Economic
dependency
ratio

7.23%
Poverty
incidence



Gender Inequality

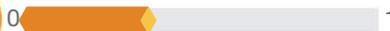
0  1 **SCORE: 0.114** **RANK: 82/84** PROVINCES ASSESSED

1.01
Female to male
secondary school
enrollment Rate

0.64
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.356** **RANK: 60/84** PROVINCES ASSESSED

1.01
Population
growth rate
(2010-2015)

23.75
Average annual
urban population
growth rate

0.4%
Informal settlers



COPING CAPACITY (CC)

RANK: 9 / 84 PROVINCES ASSESSED
SCORE: 0.646

Siquijor exhibits weaker Coping Capacity in the areas of Health Care Capacity and Energy Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.672 **RANK: 14/84 PROVINCES ASSESSED**

0.91

Purchasing power of the peso

60.63%

Labor force participation rate

4634.01

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.732 **RANK: 12/84 PROVINCES ASSESSED**

89.9%

Voter participation

2.02

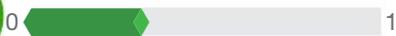
Organized violence (per 100k persons)

6.25%

Garbage pickup



Environmental Capacity



SCORE: 0.321 **RANK: 54/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

18.3%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.641** **RANK: 19/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.48** **RANK: 46/84** PROVINCES ASSESSED

3.94	1.44	70.76%	4.78
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.76** **RANK: 7/84** PROVINCES ASSESSED

2.48	10.49
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.77** **RANK: 27/84** PROVINCES ASSESSED

3.9%	97.0%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.467** **RANK: 64/84** PROVINCES ASSESSED

70.7%	7.8%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.953** **RANK: 2/84** PROVINCES ASSESSED

98.02	6.13	7.15
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 4 / 84 PROVINCES ASSESSED
SCORE: 0.668

Siquijor's score and ranking are due to Very Low Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Vulnerable Health Status



Health Care Capacity



Energy Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 79 / 84 PROVINCES ASSESSED
SCORE: 0.000



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 72 / 84 PROVINCES ASSESSED
SCORE: 0.003



Liquefaction

RANK: 81 / 84 PROVINCES ASSESSED
SCORE: 0



Landslide

RANK: 67 / 84 PROVINCES ASSESSED
SCORE: 0.140



Volcano

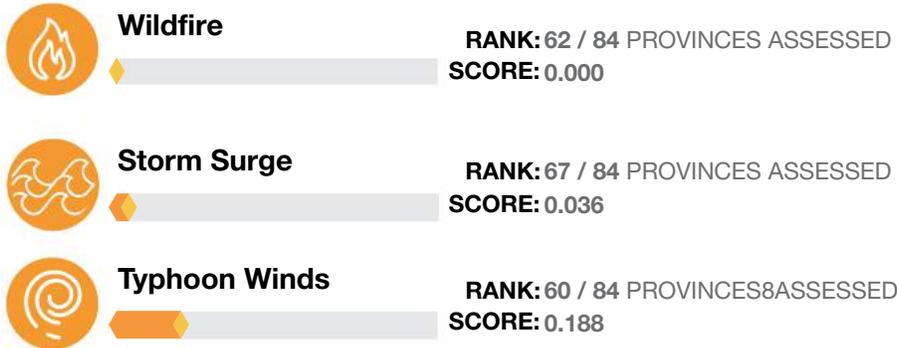
RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 52 / 84 PROVINCES ASSESSED
SCORE: 0.122

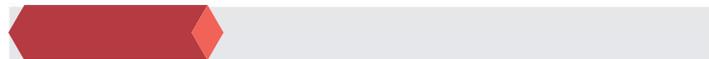
(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

83 / 84

RANK WITHIN PROVINCES
Score: 0.267



Siquijor’s score and ranking are due to Very Low Multi-hazard exposure combined with Very Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



SIQUIJOR RECOMMENDATIONS

1

Environmental Stress

- Siquijor is ranked 4th highest in the Philippines for livestock density, which requires large amounts of land to sustain animals. Work with farmers and provide them with the necessary tools and knowledge to be able to rear livestock sustainably.
- Vulnerable health status is also a major driver of vulnerabilities in Siquijor. Efforts to enhance the natural and built environment can improve health outcomes by decreasing runoff, mitigating the impacts of climate change and enhancing other ecosystem services.

2

Vulnerable Health Status

- Continue efforts to increase the health and well-being of the population in Siquijor. Ensure community monitoring of infectious diseases and health care is available throughout the province.
- Expand partnerships and engagements to allocate resources for increased health care infrastructure in Siquijor. Ensure health care is financially and physically accessible, as well as equipped to be able to accommodate patients with various health conditions.

3

Health Care Capacity

- Although health care capacity in Siquijor ranked relatively high, work to improve immunization coverage is needed. Only 56.1% of children in Siquijor are fully immunized. Increase community outreach and encourage utilization of vaccination services.
- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

4

Energy Capacity

- Siquijor ranked 64th out of the 84 territories for energy capacity, with 70.7% of households having access to electricity. Additionally, only 7.8% of households have access to liquid petroleum gas lines. Invest in energy infrastructure and expand access to homes.
- Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access, especially in rural communities. Focus efforts on expanding infrastructure that promotes sustainable energy such as solar power to reduce environmental impacts.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holopono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

SORSOGON

NDPBA PROVINCE PROFILE

THE PHILIPPINES

SORSOGON

CAPITAL: CITY OF SORSOGON

Area: 2,119 km²

South Cotabato is located in the southern portion of Mindanao. It is bounded by the provinces of Sultan Kudarat and Sarangani. South Cotabato also has sea access through the Sarangani Bay which opens to the Celebes Sea. The province is most flat with some hills and mountains scattered throughout. The location of South Cotabato makes it ideal to be part of the gateway that leads to the Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area. The ports also provide a means to capitalize on the fishing industry and international shipping. The province is a melting pot of cultures. In recent news, instability and conflict has displaced families within South Cotabato.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium

Score: 0.494 • Rank: 47/84



RESILIENCE (R) - High

Score: 0.583 • Rank: 29/84



MULTI-HAZARD EXPOSURE (MHE) - High

Score: 0.648 • Rank: 32/84



VULNERABILITY (V) - Medium

Score: 0.456 • Rank: 38/84



COPING CAPACITY (CC) - Very High

Score: 0.621 • Rank: 14/84



Population (2018)

785,870



Population in Poverty

19.5%



Literate population

99.1%



Access to improved water

95.8%



Average life expectancy

67.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 32 / 84 PROVINCES
SCORE: 0.648



MHE
0.648

Raw MHE
0.605

Relative MHE
0.692

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

85%

664,773
\$2.8 Billion



Tsunami

18%

144,042
\$667.3 Million



Flood

-

-
-



Liquefaction

33%

258,804
\$1.5 Billion



Landslide

7%

57,282
\$171.3 Million



Volcano

14%

113,273
\$365.1 Million



Drought

52%

406,095
\$2 Billion



Wildfire

-

-
-



Storm Surge

32%

249,893
\$855.9 Million



Typhoon Winds

100%

784,861
\$3.1 Billion



VULNERABILITY (V)

RANK: 38 / 84 PROVINCES ASSESSED
SCORE: 0.456

Vulnerability in Sorsogon is primarily driven by Economic Constraints and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0 1 **SCORE: 0.464** **RANK: 46/84** PROVINCES ASSESSED

0.74 Livestock density
31.02 Barren land (per 10k hectares)
0.08% Forest cover change



Vulnerable Health Status

0 1 **SCORE: 0.475** **RANK: 30/84** PROVINCES ASSESSED

4.5% Malnutrition among children (0 to 5 years old)
5.06 Infant mortality rate (per 1k live births)
78.33 Maternal mortality rate (per 100k live births)
67.61 Life expectancy
493 Disability (per 100k persons)

30.5 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.8 Intestinal disease mortality rate (per 100k persons)
0.8 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0 1 **SCORE: 0.428** **RANK: 40/84** PROVINCES ASSESSED

95.8% Households with improved safe water source
80.8% Households with sanitary toilet facility



Information Access Vulnerability

0 1 **SCORE: 0.459** **RANK: 46/84** PROVINCES ASSESSED

99.09% Literacy rate (age 10 and older)
117.34% Gross primary school enrollment rate
2.46% Internet Access
58.19% Households with radio
59.50% Households with television



Economic Constraints

0  1 **SCORE: 0.546** **RANK: 22/84** PROVINCES ASSESSED

0.69
Economic
dependency
ratio

19.49%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.409** **RANK: 48/84** PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.47
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.412** **RANK: 40/84** PROVINCES ASSESSED

1.3
Population
growth rate
(2010-2015)

12.88
Average annual
urban population
growth rate

1.5%
Informal settlers



COPING CAPACITY (CC)

RANK: 14 / 84 PROVINCES ASSESSED
SCORE: 0.621

Sorsogon exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.615** **RANK: 21/84 PROVINCES ASSESSED**

0.94

Purchasing power of the peso

61.36%

Labor force participation rate

1561.16

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.704** **RANK: 22/84 PROVINCES ASSESSED**

85.6%

Voter participation

7.39

Organized violence (per 100k persons)

25.51%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.566** **RANK: 13/84 PROVINCES ASSESSED**

18.49

Protected areas (per 1k ha)

19.9%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.564** **RANK: 41/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.633** **RANK: 11/84** PROVINCES ASSESSED

14.19	2.33	74.68%	4.51
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.632** **RANK: 19/84** PROVINCES ASSESSED

1.59	16.37
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.631** **RANK: 54/84** PROVINCES ASSESSED

1.2%	95.4%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.62** **RANK: 44/84** PROVINCES ASSESSED

80.3%	13.4%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.458** **RANK: 43/84** PROVINCES ASSESSED

23.36	1.84	2.58
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 29 / 84 PROVINCES ASSESSED
SCORE: 0.583

Sorsogon's score and ranking are due to Medium Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Vulnerable Health Status



Emergency Services Capacity



Health Care Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 60 / 84 PROVINCES ASSESSED
SCORE: 0.220



Tsunami

RANK: 3 / 84 PROVINCES ASSESSED
SCORE: 0.41



Flood

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 46 / 84 PROVINCES ASSESSED
SCORE: 0.17



Landslide

RANK: 60 / 84 PROVINCES ASSESSED
SCORE: 0.163



Volcano

RANK: 7 / 84 PROVINCES ASSESSED
SCORE: 0.338



Drought

RANK: 30 / 84 PROVINCES ASSESSED
SCORE: 0.295

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

47 / 84

RANK WITHIN PROVINCES
Score: 0.494



Sorsogon’s score and ranking are due to High Multi-hazard exposure combined with Medium Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



SORSOGON RECOMMENDATIONS

1

Economic Constraints

- In Sorsogon, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Focus efforts on promoting industries that create gainful work, to prevent outmigration of the working age population. Invest in small and local businesses, especially in rural and remote areas.

2

Vulnerable Health Status

- In Sorsogon, vulnerable health status is a major driver of vulnerability. Work toward increasing the health of the population through community outreach, increased access to health care and other public health interventions. Continue monitoring for and providing care for those suffering from communicable diseases.
- Expand partnerships and engagements to allocate resources for increased health care infrastructure in Sorsogon. Ensure health care is financially and physically accessible, as well as equipped to be able to accommodate patients with various health conditions.

3

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Health Care Capacity

- Although health care capacity in Sorsogon ranked relatively high, work to improve immunization coverage is needed. Only 55.7% of children in Sorsogon are fully immunized. Increase community outreach and encourage utilization of vaccination services.
- Continue to work with local and international partners to increase health care capacity. Invest in new and improved infrastructure, as well as the provision of medical supplies and increased skilled care personnel.
- Expand efforts to remove barriers to health care access, such as cost and distance. Importantly, ensure that all efforts reach rural and remote areas.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

SOUTH COTABATO

NDPBA PROVINCE PROFILE

THE PHILIPPINES

SOUTH COTABATO

CAPITAL: CITY OF KORONADAL

Area: 3,794 km²

South Cotabato is located in the southern portion of Mindanao. It is bounded by the provinces of Sultan Kudarat and Sarangani. South Cotabato also has sea access through the Sarangani Bay which opens to the Celebes Sea. The province is most flat with some hills and mountains scattered throughout. The location of South Cotabato makes it ideal to be part of the gateway that leads to the Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area. The ports also provide a means to capitalize on the fishing industry and international shipping. The province is a melting pot of cultures. In recent news, instability and conflict has displaced families within South Cotabato.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.484 • Rank: 52/84



RESILIENCE (R) - Medium
Score: 0.574 • Rank: 37/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.601 • Rank: 46/84



VULNERABILITY (V) - Low
Score: 0.413 • Rank: 52/84



COPING CAPACITY (CC) - Medium
Score: 0.560 • Rank: 41/84



Population (2018)
1,503,497



Population in Poverty
13.7%



Literate population
96.5%



Access to improved water
95.6%



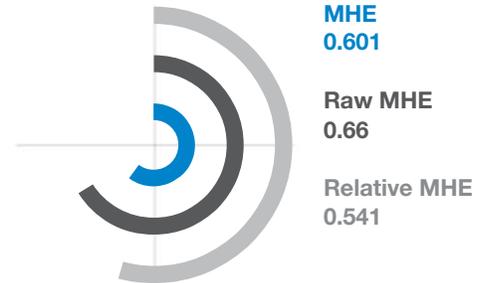
Average life expectancy
68.9 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>

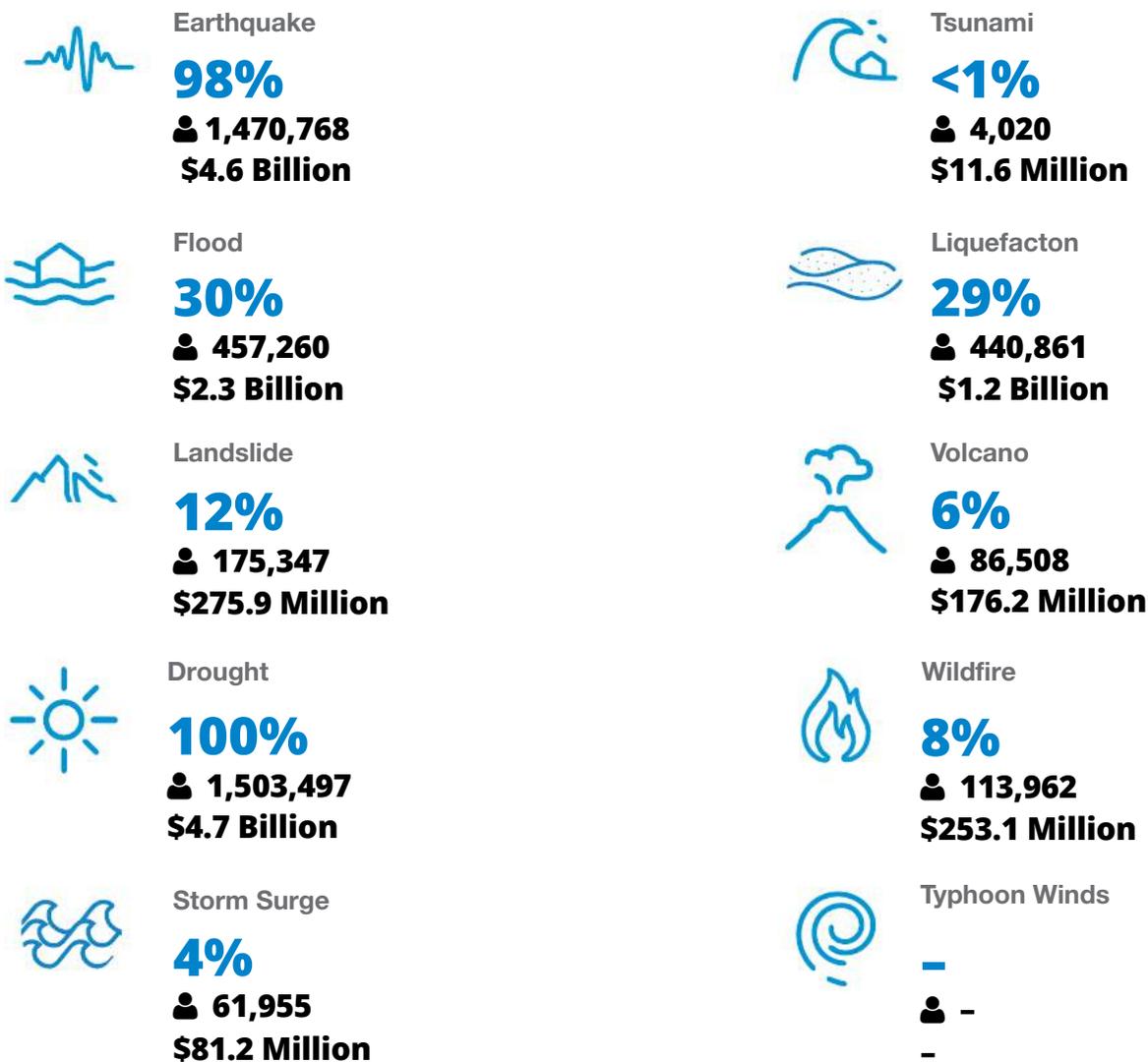


MULTI-HAZARD EXPOSURE (MHE)

RANK: 47 / 84 PROVINCES
SCORE: 0.601



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

RANK: 52 / 84 PROVINCES ASSESSED
SCORE: 0.413

Vulnerability in South Cotabato is primarily driven by Population Pressures and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



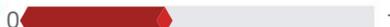
Environmental Stress

0  1 **SCORE: 0.423** **RANK: 55/84** PROVINCES ASSESSED

1.99 Livestock density
6.45 Barren land (per 10k hectares)
2.13% Forest cover change



Vulnerable Health Status

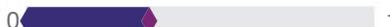
0  1 **SCORE: 0.399** **RANK: 61/84** PROVINCES ASSESSED

7.6% Malnutrition among children (0 to 5 years old)
10.93 Infant mortality rate (per 1k live births)
61.58 Maternal mortality rate (per 100k live births)
68.94 Life expectancy
212 Disability (per 100k persons)

20.6 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
4.2 Intestinal disease mortality rate (per 100k persons)
3.9 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.354** **RANK: 53/84** PROVINCES ASSESSED

95.6% Households with improved safe water source
88.2% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.468** **RANK: 42/84** PROVINCES ASSESSED

96.45% Literacy rate (age 10 and older)
120.25% Gross primary school enrollment rate
4.43% Internet Access
55.84% Households with radio
66.97% Households with television



Economic Constraints

0  1 **SCORE: 0.325** **RANK: 52/84** PROVINCES ASSESSED

0.58
Economic
dependency
ratio

13.67%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.435** **RANK: 44/84** PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.44
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.483** **RANK: 20/84** PROVINCES ASSESSED

1.93
Population
growth rate
(2010-2015)

3.35
Average annual
urban population
growth rate

2.7%
Informal settlers



COPING CAPACITY (CC)

RANK: 41 / 84 PROVINCES ASSESSED
SCORE: 0.560

South Cotabato exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.513** **RANK: 39/84 PROVINCES ASSESSED**

0.91

Purchasing power of the peso

63.69%

Labor force participation rate

994.42

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.664** **RANK: 33/84 PROVINCES ASSESSED**

82.3%

Voter participation

6.47

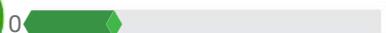
Organized violence (per 100k persons)

31.82%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.241** **RANK: 66/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

8.2%

Forest reserves



Infrastructure Capacity



SCORE: 0.609 RANK: 26/84 PROVINCES ASSESSED



Health Care Capacity

SCORE: 0.427 RANK: 59/84 PROVINCES ASSESSED

8.28

Hopital beds
(per 10k people)

1.91

Physicians per
10,000 people

55.68%

Vaccination
coverage

6.55

Average distance to nearest
hospital (km)



Transportation Capacity

SCORE: 0.685 RANK: 14/84 PROVINCES ASSESSED

1.88

Road density
(km per sq. km)

13.64

Average distance to
nearest port (km)



Communications Capacity

SCORE: 0.789 RANK: 22/84 PROVINCES ASSESSED

3.8%

Households with a landline

98.7%

Mobile coverage



Energy Capacity

SCORE: 0.638 RANK: 40/84 PROVINCES ASSESSED

82.9%

Households with electricity

13.0%

Households with gas



Emergency Services Capacity

SCORE: 0.298 RANK: 69/84 PROVINCES ASSESSED

25.88

Evacuation centers
(per 100k persons)

0.83

Fire Stations
(per 100k persons)

1.6

Fire Trucks
(per 100k persons)



RESILIENCE (R)

RANK: 37 / 84 PROVINCES ASSESSED
SCORE: 0.574

South Cotabato's score and ranking are due to Low Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Population Pressures



Information Access Vulnerability



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 28 / 84 PROVINCES ASSESSED
SCORE: 0.308



Tsunami

RANK: 23 / 84 PROVINCES ASSESSED
SCORE: 0.114



Flood

RANK: 43 / 84 PROVINCES ASSESSED
SCORE: 0.175



Liquefaction

RANK: 51 / 84 PROVINCES ASSESSED
SCORE: 0.152



Landslide

RANK: 42 / 84 PROVINCES ASSESSED
SCORE: 0.214



Volcano

RANK: 12 / 84 PROVINCES ASSESSED
SCORE: 0.23



Drought

RANK: 9 / 84 PROVINCES ASSESSED
SCORE: 0.411

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

52 / 84

RANK WITHIN PROVINCES
Score: 0.484



South Cotabato's score and ranking are due to Medium Multi-hazard exposure combined with Low Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



SOUTH COTABATO RECOMMENDATIONS

1

Population Pressures

- Continue to monitor the growth of the population and plan resource allocation appropriately. Enforce building codes and environmental protection laws to ensure expansion is sustainable.
- Work with diverse partners to help stimulate the economy to support increased public demands. Ensure equitable distribution of resources and services.

2

Information Access Vulnerability

- In South Cotabato, many homes lack access to radios, television and internet. Work with private and public partners to ensure communities are able to receive critical information and communicate their needs during a disaster.
- Population pressures are further increasing the need to enhance community access to information. As the population grows, so does the need to expand public messaging and capacity to communicate needs.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

3

Emergency Services Capacity

- Although South Cotabato ranked relatively high for emergency services capacity, there are only 0.83 fire stations per 100,000 persons. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Continue to encourage programs that diversify the economy in South Cotabato to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

SOUTHERN LEYTE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

SOUTHERN LEYTE

CAPITAL: CITY OF MAASIN

Area: 1,801 km²

Sultan Kudarat is a province in the Philippines located in the Soccsksargen region in Mindanao. The province is situated on the southwestern section of central Mindanao. Two major mountain ranges are located within the province- The Alip Mountain Range and Daguma Mountain Range. The province has an irregular coastline of 132 kilometers in its three towns facing the Celebes sea which are prone to Tsunamis originating in Celebes Sea. Heavy rainfall occurs from April to November however the province is located outside the Typhoon belt and rarely effected by typhoons in the region. The economy in the region is predominantly agriculture. The crops produced in the region are rice, corn, coconuts, coffee, bananas, mangoes, durians, and African palm. Fishing is also an industry in the three coastal towns with tuna caught being exported to Japan and Europe.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium

Score: 0.505 • Rank: 39/84



RESILIENCE (R) - High

Score: 0.602 • Rank: 23/84



MULTI-HAZARD EXPOSURE (MHE) - High

Score: 0.718 • Rank: 22/84



VULNERABILITY (V) - Low

Score: 0.365 • Rank: 65/84



COPING CAPACITY (CC) - Medium

Score: 0.569 • Rank: 34/84



Population (2018)

379,274



Population in Poverty

17.2%



Literate population

98.7%



Access to improved water

94.8%



Average life expectancy

68.1 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 22 / 84 PROVINCES
SCORE: 0.718



MHE
0.718

Raw MHE
0.542

Relative MHE
0.894

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

77%

290,402
\$1.7 Billion



Tsunami

<1%

2,954
\$495,777



Flood

63%

240,090
\$1.3 Billion



Liquefaction

32%

119,956
\$671.3 Million



Landslide

30%

113,022
\$648.1 Million



Volcano

12%

46,941
\$415.6 Million



Drought

83%

312,977
\$1.7 Billion



Wildfire

10%

38,600
\$205.9 Million



Storm Surge

31%

118,086
\$234.1 Million



Typhoon Winds

100%

378,093
\$2 Billion



VULNERABILITY (V)

RANK: 65 / 84 PROVINCES ASSESSED
SCORE: 0.365

Vulnerability in Southern Leyte is primarily driven by Information Access Vulnerability and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.204** **RANK: 82/84** PROVINCES ASSESSED

1.02 Livestock density
1.22 Barren land (per 10k hectares)
5.83% Forest cover change



Vulnerable Health Status

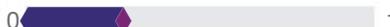
0  1 **SCORE: 0.464** **RANK: 34/84** PROVINCES ASSESSED

3.2% Malnutrition among children (0 to 5 years old)
1.48 Infant mortality rate (per 1k live births)
42.23 Maternal mortality rate (per 100k live births)
68.05 Life expectancy
490 Disability (per 100k persons)

39.5 Tuberculosis mortality rate (per 100k persons)
0.3 HIV mortality rate (per 100k persons)
4.8 Intestinal disease mortality rate (per 100k persons)
0.6 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.278** **RANK: 67/84** PROVINCES ASSESSED

94.8% Households with improved safe water source
93.6% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.507** **RANK: 33/84** PROVINCES ASSESSED

98.69% Literacy rate (age 10 and older)
107.57% Gross primary school enrollment rate
3.84% Internet Access
57.96% Households with radio
60.54% Households with television



Economic Constraints

0  1 **SCORE: 0.428** **RANK: 39/84** PROVINCES ASSESSED

0.62
Economic
dependency
ratio

17.24%
Poverty
incidence



Gender Inequality

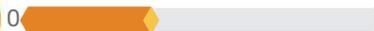
0  1 **SCORE: 0.317** **RANK: 67/84** PROVINCES ASSESSED

0.99
Female to male
secondary school
enrollment Rate

0.45
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.36** **RANK: 58/84** PROVINCES ASSESSED

1.05
Population
growth rate
(2010-2015)

15.32
Average annual
urban population
growth rate

1.0%
Informal settlers



COPING CAPACITY (CC)

RANK: 34 / 84 PROVINCES ASSESSED
SCORE: 0.569

Southern Leyte exhibits weaker Coping Capacity in the areas of Transportation Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.42** **RANK: 68/84 PROVINCES ASSESSED**

0.84

Purchasing power of the peso

59.91%

Labor force participation rate

2521.63

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.767** **RANK: 5/84 PROVINCES ASSESSED**

86.1%

Voter participation

2.07

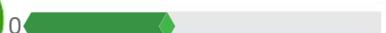
Organized violence (per 100k persons)

22.37%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.396** **RANK: 38/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

37.5%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.577** **RANK: 34/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.453** **RANK: 52/84** PROVINCES ASSESSED

7.84	1.73	62.73%	6.84
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.279** **RANK: 79/84** PROVINCES ASSESSED

0.82	41.67
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.756** **RANK: 30/84** PROVINCES ASSESSED

2.7%	98.8%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.687** **RANK: 29/84** PROVINCES ASSESSED

86.0%	15.5%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.738** **RANK: 10/84** PROVINCES ASSESSED

124.6	3.25	4.42
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 23 / 84 PROVINCES ASSESSED
SCORE: 0.602

Southern Leyte’s score and ranking are due to Low Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Information Access Vulnerability



Vulnerable Health Status



Transportation Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 71 / 84 PROVINCES ASSESSED
SCORE: 0.166



Tsunami

RANK: 37 / 84 PROVINCES ASSESSED
SCORE: 0.075



Flood

RANK: 39 / 84 PROVINCES ASSESSED
SCORE: 0.191



Liquefaction

RANK: 59 / 84 PROVINCES ASSESSED
SCORE: 0.126



Landslide

RANK: 22 / 84 PROVINCES ASSESSED
SCORE: 0.264



Volcano

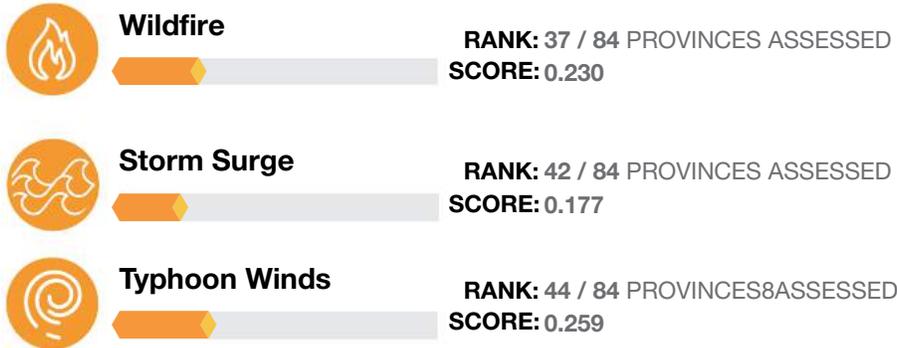
RANK: 6 / 84 PROVINCES ASSESSED
SCORE: 0.347



Drought

RANK: 24 / 84 PROVINCES ASSESSED
SCORE: 0.329

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

40 / 84
 RANK WITHIN PROVINCES
 Score: 0.505



Southern Leyte’s score and ranking are due to High Multi-hazard exposure combined with Low Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



SOUTHERN LEYTE RECOMMENDATIONS

1

Information Access Vulnerability

- In Southern Leyte, many homes lack access to radios, television and internet. Invest in communications infrastructure and households' access to communications devices, which can also boost economic capacity in Southern Leyte.
- promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

2

Vulnerable Health Status

- In Southern Leyte, vulnerable health status is a major driver of vulnerability. Focus efforts on increasing the health of the population through community outreach, increased access to health care and other public health interventions. Continue monitoring for and providing care for those suffering from communicable diseases.

3

Transportation Capacity

- Southern Leyte has the 6th highest distance between ports and populated places in the Philippines (41.7 kilometers per square kilometer). Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Economic Capacity

- Southern Leyte ranked 68th out of the 84 territories in economic capacity. Purchasing power of the peso in Southern Leyte is 0.84, the 12th lowest in the Philippines. Continue to encourage programs that diversify the economy in Southern Leyte to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

SULTAN KUDARAT

NDPBA PROVINCE PROFILE

THE PHILIPPINES

SULTAN KUDARAT

CAPITAL: ISULAN

Area: 5,364 km²

Sultan Kudarat is a province in the Philippines located in the Soccsksargen region in Mindanao. The province is situated on the southwestern section of central Mindanao. Two major mountain ranges are located within the province- The Alip Mountain Range and Daguma Mountain Range. The province has an irregular coastline of 132 kilometers in its three towns facing the Celebes sea which are prone to Tsunamis originating in Celebes Sea. Heavy rainfall occurs from April to November however the province is located outside the Typhoon belt and rarely effected by typhoons in the region. The economy in the region is predominantly agriculture. The crops produced in the region are rice, corn, coconuts, coffee, bananas, mangoes, durians, and African palm. Fishing is also an industry in the three coastal towns with tuna caught being exported to Japan and Europe.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High

Score: 0.568 • Rank: 8/84



RESILIENCE (R) - Very Low

Score: 0.462 • Rank: 73/84



MULTI-HAZARD EXPOSURE (MHE) - Medium

Score: 0.627 • Rank: 41/84



VULNERABILITY (V) - High

Score: 0.504 • Rank: 17/84



COPING CAPACITY (CC) - Very Low

Score: 0.427 • Rank: 77/84



Population (2018)

867,712



Population in Poverty

24.2%



Literate population

93.5%



Access to improved water

92.6%



Average life expectancy

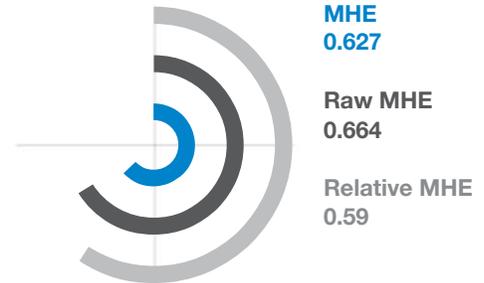
68.7 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 42 / 84 PROVINCES
SCORE: 0.627



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

95%

823,207
\$6.6 Billion



Tsunami

-

-
-



Flood

25%

219,999
\$1.8 Billion



Liquefaction

64%

553,632
\$5.7 Billion



Landslide

15%

130,834
\$312.8 Million



Volcano

<1%

2,389
\$22 Million



Drought

87%

757,604
\$6.3 Billion



Wildfire

9%

80,046
\$369.7 Million



Storm Surge

8%

67,005
\$203.1 Million



Typhoon Winds

-

-
-



VULNERABILITY (V)

RANK: 17 / 84 PROVINCES ASSESSED
SCORE: 0.504

Vulnerability in Sultan Kudarat is primarily driven by Information Access Vulnerability and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.329** **RANK: 70/84 PROVINCES ASSESSED**

0.86 Livestock density
2.65 Barren land (per 10k hectares)
0.96% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.446** **RANK: 41/84 PROVINCES ASSESSED**

6.9% Malnutrition among children (0 to 5 years old)
8.81 Infant mortality rate (per 1k live births)
100.43 Maternal mortality rate (per 100k live births)
68.69 Life expectancy
380 Disability (per 100k persons)

12.1 Tuberculosis mortality rate (per 100k persons)
0.1 HIV mortality rate (per 100k persons)
2.6 Intestinal disease mortality rate (per 100k persons)
2 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.465** **RANK: 34/84 PROVINCES ASSESSED**

92.6% Households with improved safe water source
83.0% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.698** **RANK: 5/84 PROVINCES ASSESSED**

93.46% Literacy rate (age 10 and older)
104.92% Gross primary school enrollment rate
1.53% Internet Access
52.42% Households with radio
47.00% Households with television



Economic Constraints



SCORE: 0.499

RANK: 30/84 PROVINCES ASSESSED

0.61

Economic
dependency
ratio

24.20%

Poverty
incidence



Gender Inequality



SCORE: 0.691

RANK: 8/84 PROVINCES ASSESSED

1.14

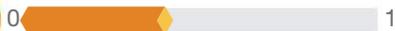
Female to male
secondary school
enrollment Rate

0.37

Labor force
participation ratio



Population Pressures



SCORE: 0.4

RANK: 45/84 PROVINCES ASSESSED

1.6

Population
growth rate
(2010-2015)

3.65

Average annual
urban population
growth rate

2.1%

Informal settlers



COPING CAPACITY (CC)

RANK: 77 / 84 PROVINCES ASSESSED
SCORE: 0.427

Sultan Kudarat exhibits weaker Coping Capacity in the areas of Energy Capacity and Emergency Services Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.492** **RANK: 47/84 PROVINCES ASSESSED**

0.87

Purchasing power of the peso

65.53%

Labor force participation rate

1515.92

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.403** **RANK: 80/84 PROVINCES ASSESSED**

76.3%

Voter participation

8.82

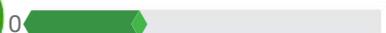
Organized violence (per 100k persons)

9.45%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.315** **RANK: 57/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

17.2%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.423** **RANK: 70/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.184** **RANK: 83/84** PROVINCES ASSESSED

2.28	0.47	44.66%	8.5
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.456** **RANK: 51/84** PROVINCES ASSESSED

0.73	21.87
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.527** **RANK: 64/84** PROVINCES ASSESSED

1.5%	85.1%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.336** **RANK: 76/84** PROVINCES ASSESSED

59.8%	5.8%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.344** **RANK: 64/84** PROVINCES ASSESSED

9.99	1.33	2.29
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 73 / 84 PROVINCES ASSESSED
SCORE: 0.462

Sultan Kudarat's score and ranking are due to High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Information Access Vulnerability



Gender Inequality



Energy Capacity



Emergency Services Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 9 / 84 PROVINCES ASSESSED
SCORE: 0.375



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 49 / 84 PROVINCES ASSESSED
SCORE: 0.160



Liquefaction

RANK: 2 / 84 PROVINCES ASSESSED
SCORE: 0.376



Landslide

RANK: 23 / 84 PROVINCES ASSESSED
SCORE: 0.263



Volcano

RANK: 23 / 84 PROVINCES ASSESSED
SCORE: 0.144



Drought

RANK: 2 / 84 PROVINCES ASSESSED
SCORE: 0.492

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

8 / 84
RANK WITHIN PROVINCES
Score: 0.568



Sultan Kudarat’s score and ranking are due to Medium Multi-hazard exposure combined with High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



SULTAN KUDARAT RECOMMENDATIONS

1

Information Access Vulnerability

- Sultan Kudarat is ranked the 5th highest province in the Philippines for access to information vulnerability. Investments in education and distribution of household communication devices will enhance public dissemination of information, as well as ensure communities are able to understand and respond appropriately.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Energy Capacity

- Sultan Kudarat ranked 76th out of 84 territories for energy capacity, with only 59.8% of households having access to electricity. Additionally, only 5.8% of households have access to liquid petroleum gas lines. Invest in reinforced and redundant energy infrastructure, as well as increased access for homes.
- Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access, especially in rural communities.

4

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



© 2014 Hesham T. Abol

THE PHILIPPINES

SULU

NDPBA PROVINCE PROFILE

THE PHILIPPINES

SULU

CAPITAL: JOLO

Area: 4,547 km²

Surigao del Norte is a province in the Philippines located in the Caraga region in Mindanao. The province comprises two major islands—Siargao and Bucas Grande—in the Philippine Sea, plus a small area at the northeastern tip of mainland Mindanao and other surrounding islands and islets. This mainland portion borders Agusan del Norte, and Surigao del Sur to the south. Surigao del Norte is the second northernmost of the Mindanao provinces and is an important transportation hub between Visayas and Mindanao. Numerous ferries cross the Surigao Strait between Surigao and the island of Leyte carrying vehicles and passengers between Liloan in Southern Leyte and Surigao City. The province is located at the rim of the Asian continental shelf.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very High
Score: 0.557 • Rank: 15/84



RESILIENCE (R) - Very Low
Score: 0.23 • Rank: 84/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.131 • Rank: 82/84



VULNERABILITY (V) - Very High
Score: 0.757 • Rank: 2/84



COPING CAPACITY (CC) - Very Low
Score: 0.218 • Rank: 84/84



Population (2018)
507,160



Population in Poverty
74.3%



Literate population
83.0%



Access to improved water
70.5%



Average life expectancy
59.8 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>

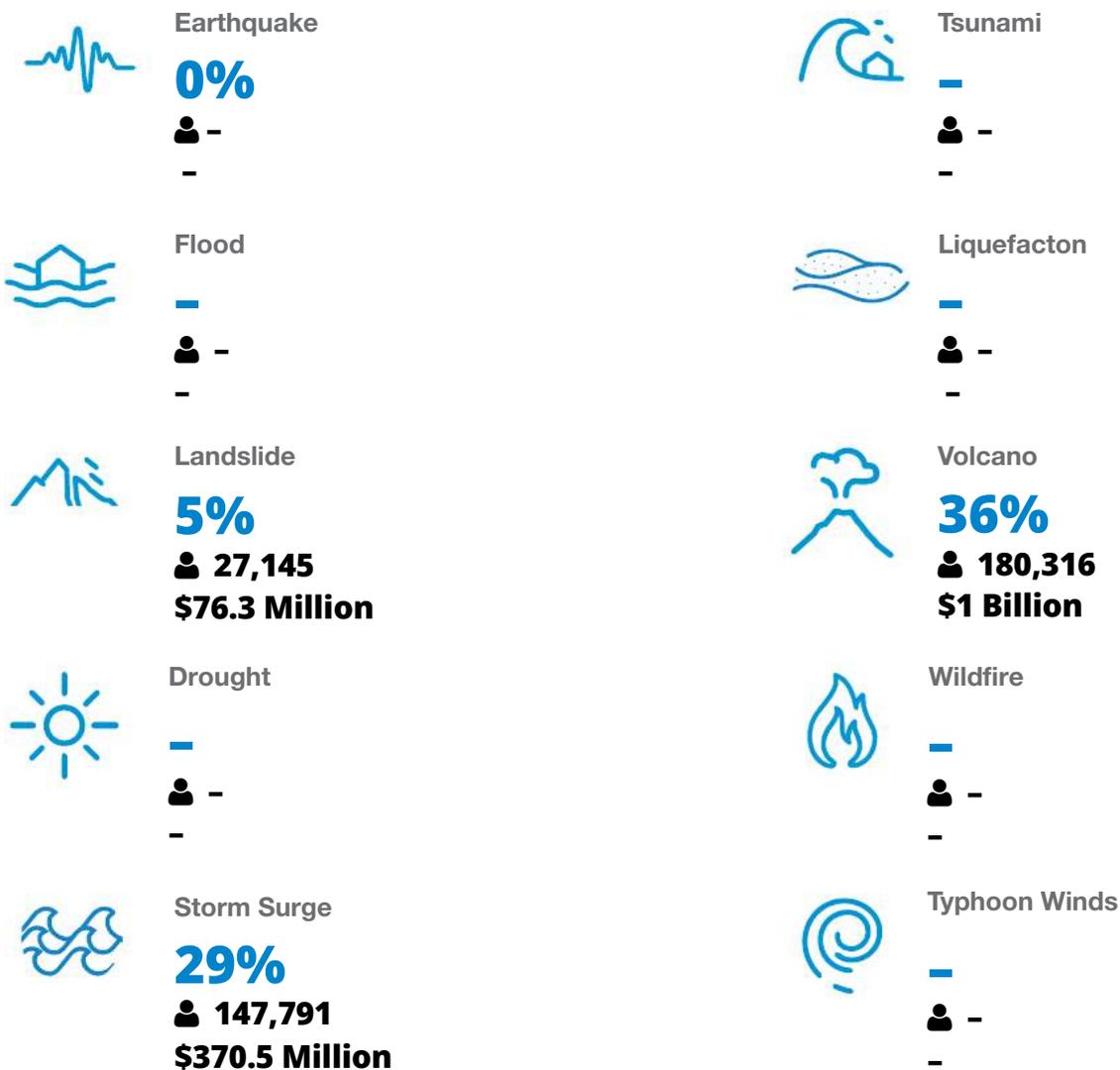


MULTI-HAZARD EXPOSURE (MHE)

RANK: 82 / 84 PROVINCES
SCORE: 0.131



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

RANK: 2 / 84 PROVINCES ASSESSED
SCORE: 0.757

Vulnerability in Sulu is primarily driven by Economic Constraints and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.556** **RANK: 25/84 PROVINCES ASSESSED**

3.47 Livestock density
53.79 Barren land (per 10k hectares)
3.82% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.556** **RANK: 14/84 PROVINCES ASSESSED**

14.2% Malnutrition among children (0 to 5 years old)
13.26 Infant mortality rate (per 1k live births)
49.65 Maternal mortality rate (per 100k live births)
59.84 Life expectancy
364 Disability (per 100k persons)

3.7 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
2.3 Intestinal disease mortality rate (per 100k persons)
0.5 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.885** **RANK: 3/84 PROVINCES ASSESSED**

70.5% Households with improved safe water source
14.1% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.886** **RANK: 1/84 PROVINCES ASSESSED**

82.99% Literacy rate (age 10 and older)
66.58% Gross primary school enrollment rate
0.26% Internet Access
58.78% Households with radio
33.31% Households with television



Economic Constraints

0  1 **SCORE: 0.936** **RANK: 3/84** PROVINCES ASSESSED

0.78
Economic
dependency
ratio

74.30%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.934** **RANK: 2/84** PROVINCES ASSESSED

1.27
Female to male
secondary school
enrollment Rate

0.35
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.549** **RANK: 11/84** PROVINCES ASSESSED

2.66
Population
growth rate
(2010-2015)

9.88
Average annual
urban population
growth rate

1.8%
Informal settlers



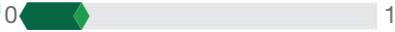
COPING CAPACITY (CC)

RANK: 84 / 84 PROVINCES ASSESSED
SCORE: 0.218

Sulu exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Energy Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

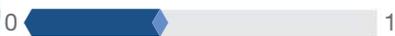


SCORE: 0.158 **RANK: 84/84** PROVINCES ASSESSED

- Purchasing power of the peso
- 42.31%** Labor force participation rate
- 1184.81** Local government annual regular income per capita (Philippine Peso)



Governance

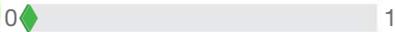


SCORE: 0.374 **RANK: 82/84** PROVINCES ASSESSED

- 85.5%** Voter participation
- 27.28** Organized violence (per 100k persons)
- 9.94%** Garbage pickup



Environmental Capacity



SCORE: 0.07 **RANK: 74/84** PROVINCES ASSESSED

- 1.41** Protected areas (per 1k ha)
- 0.0%** Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.171** **RANK: 84/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.507** **RANK: 40/84** PROVINCES ASSESSED

7.74	1.82	68.22%	5.82
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.454** **RANK: 52/84** PROVINCES ASSESSED

0.41	12.58
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.119** **RANK: 83/84** PROVINCES ASSESSED

0.5%	62.0%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.056** **RANK: 84/84** PROVINCES ASSESSED

38.6%	2.7%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.041** **RANK: 84/84** PROVINCES ASSESSED

0	0.82	0.7
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 84 / 84 PROVINCES ASSESSED
SCORE: 0.23

Sulu's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Gender Inequality



Emergency Services Capacity



Energy Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 79 / 84 PROVINCES ASSESSED
SCORE: 0.000



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 81 / 84 PROVINCES ASSESSED
SCORE: 0



Landslide

RANK: 38 / 84 PROVINCES ASSESSED
SCORE: 0.227



Volcano

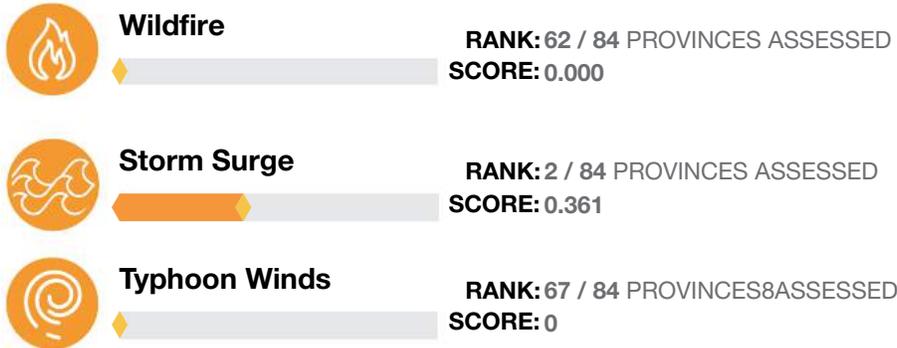
RANK: 1 / 84 PROVINCES ASSESSED
SCORE: 0.748



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

15 / 84
 RANK WITHIN PROVINCES
 Score: 0.557

Sulu's score and ranking are due to Very Low Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



SULU RECOMMENDATIONS

1

Economic Constraints

- Sulu is ranked 3rd highest in the Philippines for economic constraints vulnerability. In Sulu, poverty rate is 74%, ranked highest in the country. Focus efforts on engaging local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Continue promoting industries that create gainful work, to encourage growth of the working age population. Promote equal opportunity job growth and empower women to join the labor force.

2

Gender Inequality

- Sulu is ranked 2nd highest in the Philippines for gender inequality. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals, to continuously monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education.
- Economic constraints also greatly influence vulnerabilities in Sulu. Expand gainful employment opportunities for women to increase the size of the labor force and decrease poverty rates.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Emergency Services Capacity

- Emergency services capacity in Sulu is ranked lowest the Philippines. There are no government run evacuation centers and 0.82 fire stations per 100,000 persons, the 2nd lowest in the country. Similarly, there are only 0.7 fire trucks per 100,000 persons. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Focus on establishing evacuation centers, as well as increasing the number of fire stations and fire trucks to serve the population and increase emergency service capacity.

- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Energy Capacity

- Sulu is ranked lowest in energy capacity, with only 38.6% of households having access to electricity. Additionally, only 2.7% of households have access to liquid petroleum gas lines. Invest in energy infrastructure that increases access to homes, businesses and essential services.
- Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access, especially in rural communities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

SURIGAO DEL NORTE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

SURIGAO DEL NORTE

CAPITAL: CITY OF SURIGAO

Area: 1,953 km²

Surigao del Norte is a province in the Philippines located in the Caraga region in Mindanao. The province comprises two major islands—Siargao and Bucas Grande—in the Philippine Sea, plus a small area at the northeastern tip of mainland Mindanao and other surrounding islands and islets. This mainland portion borders Agusan del Norte, and Surigao del Sur to the south. Surigao del Norte is the second northernmost of the Mindanao provinces and is an important transportation hub between Visayas and Mindanao. Numerous ferries cross the Surigao Strait between Surigao and the island of Leyte carrying vehicles and passengers between Liloan in Southern Leyte and Surigao City. The province is located at the rim of the Asian continental shelf.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium

Score: 0.501 • Rank: 43/84



RESILIENCE (R) - Low

Score: 0.55 • Rank: 51/84



MULTI-HAZARD EXPOSURE (MHE) - Medium

Score: 0.605 • Rank: 44/84



VULNERABILITY (V) - High

Score: 0.492 • Rank: 20/84



COPING CAPACITY (CC) - High

Score: 0.593 • Rank: 24/84



Population (2018)

463,665



Population in Poverty

27.4%



Literate population

98.9%



Access to improved water

99.3%



Average life expectancy

66.2 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 44 / 84 PROVINCES
SCORE: 0.605



MHE
0.605

Raw MHE
0.582

Relative MHE
0.628

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

67%

311,803
\$3.1 Billion



Tsunami

6%

28,845
\$117.3 Million



Flood

61%

284,219
\$2.9 Billion



Liquefaction

46%

211,763
\$2.3 Billion



Landslide

8%

38,221
\$466.6 Million



Volcano

<1%

1,120
\$9.9 Million



Drought

-
-
-



Wildfire

-
-
-



Storm Surge

40%

183,854
\$1 Billion



Typhoon Winds

100%

462,408
\$4.5 Billion



VULNERABILITY (V)

RANK: 20 / 84 PROVINCES ASSESSED
SCORE: 0.492

Vulnerability in Surigao del Norte is primarily driven by Vulnerable Health Status and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.533** **RANK: 28/84** PROVINCES ASSESSED

0.93 Livestock density
157.3 Barren land (per 10k hectares)
2.23% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.73** **RANK: 1/84** PROVINCES ASSESSED

12.3% Malnutrition among children (0 to 5 years old)
3.31 Infant mortality rate (per 1k live births)
23.65 Maternal mortality rate (per 100k live births)
66.17 Life expectancy
856 Disability (per 100k persons)

35 Tuberculosis mortality rate (per 100k persons)
0.6 HIV mortality rate (per 100k persons)
6.9 Intestinal disease mortality rate (per 100k persons)
3.3 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.215** **RANK: 76/84** PROVINCES ASSESSED

99.3% Households with improved safe water source
88.5% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.476** **RANK: 40/84** PROVINCES ASSESSED

98.85% Literacy rate (age 10 and older)
120.22% Gross primary school enrollment rate
3.64% Internet Access
46.01% Households with radio
61.37% Households with television



Economic Constraints

0  1 **SCORE: 0.557** **RANK: 21/84 PROVINCES ASSESSED**

0.62
Economic
dependency
ratio

27.40%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.482** **RANK: 35/84 PROVINCES ASSESSED**

1.06
Female to male
secondary school
enrollment Rate

0.41
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.45** **RANK: 27/84 PROVINCES ASSESSED**

1.76
Population
growth rate
(2010-2015)

5.8
Average annual
urban population
growth rate

2.2%
Informal settlers



COPING CAPACITY (CC)

RANK: 24 / 84 PROVINCES ASSESSED
SCORE: 0.593

Surigao del Norte exhibits weaker Coping Capacity in the areas of Transportation Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.488** **RANK: 50/84 PROVINCES ASSESSED**

0.9

Purchasing power of the peso

55.65%

Labor force participation rate

2039.91

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.707** **RANK: 20/84 PROVINCES ASSESSED**

85.8%

Voter participation

7.65

Organized violence (per 100k persons)

26.86%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.48** **RANK: 27/84 PROVINCES ASSESSED**

3.06

Protected areas (per 1k ha)

28.7%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.621** **RANK: 22/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.478** **RANK: 47/84** PROVINCES ASSESSED

4.92	2.27	73.06%	8.6
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.476** **RANK: 44/84** PROVINCES ASSESSED

0.85	22.21
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.723** **RANK: 35/84** PROVINCES ASSESSED

2.9%	95.5%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.718** **RANK: 25/84** PROVINCES ASSESSED

86.8%	18.6%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.681** **RANK: 17/84** PROVINCES ASSESSED

46.25	3.39	4.39
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 51 / 84 PROVINCES ASSESSED
SCORE: 0.55

Surigao del Norte's score and ranking are due to High Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Vulnerable Health Status



Economic Constraints



Transportation Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 73 / 84 PROVINCES ASSESSED
SCORE: 0.149



Tsunami

RANK: 10 / 84 PROVINCES ASSESSED
SCORE: 0.225



Flood

RANK: 27 / 84 PROVINCES ASSESSED
SCORE: 0.235



Liquefaction

RANK: 37 / 84 PROVINCES ASSESSED
SCORE: 0.208



Landslide

RANK: 45 / 84 PROVINCES ASSESSED
SCORE: 0.206



Volcano

RANK: 45 / 84 PROVINCES ASSESSED
SCORE: 0.102



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

44 / 84

RANK WITHIN PROVINCES
Score: 0.501



Surigao del Norte's score and ranking are due to Medium Multi-hazard exposure combined with High Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



SURIGAO DEL NORTE RECOMMENDATIONS

1

Vulnerable Health Status

- Findings show that Surigao del Norte is ranked highest in the Philippines for vulnerable health status. Additionally, infectious disease mortality in Surigao del Norte is also the highest in country. Increase public screenings, as well as treatment resources to reduce transmission and mortality rates.
- Expand partnerships and engagements to allocate resources for increased health care infrastructure in Surigao del Norte. Ensure health care is financially and physically accessible, as well as equipped to be able to accommodate patients with various health conditions.

2

Economic Constraints

- In Surigao del Norte, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Focus efforts on promoting industries that create gainful work, to prevent outmigration of the working age population. Invest in small and local businesses, especially in rural and remote areas.

3

Transportation Capacity

- Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increase access to markets and enhance social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.

- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Economic Capacity

- The labor force participation rate in Surigao del Norte 55.7%, which is the 9th lowest in the Philippines. Focus efforts on expanding the labor market through investments in businesses that will create gainful work.
- Continue to encourage programs that diversify the economy in Surigao del Norte to generate public revenue. Pursue policies that balance inflation rates and create equal opportunities for employment.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holopono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

SURIGAO DEL SUR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

SURIGAO DEL SUR

CAPITAL: CITY OF TANDAG

Area: 4,933 km²

Surigao del Sur is a province in the Philippines located in the Caraga region in Mindanao. It is situated at the eastern coast of Mindanao and faces the Philippine Sea to the east. The climate is characterized by rainfall distributed throughout the year with a distinct rainy season from November through March. Surigao del Sur is one of the suppliers of rice, bananas, and other tropical fruits. Copper, Chromite, and Silver are also found in this region. Due to its location the primary economy within the province is seafood and seafood by-products.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.538 • Rank: 20/84



RESILIENCE (R) - Low
Score: 0.517 • Rank: 63/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.649 • Rank: 31/84



VULNERABILITY (V) - High
Score: 0.49 • Rank: 21/84



COPING CAPACITY (CC) - Low
Score: 0.523 • Rank: 61/84



Population (2018)
591,480



Population in Poverty
19.0%



Literate population
97.9%



Access to improved water
91.7%



Average life expectancy
65.6 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 31 / 84 PROVINCES
SCORE: 0.649



MHE
0.649

Raw MHE
0.633

Relative MHE
0.664

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

94%

558,067
\$5.6 Billion



Tsunami

14%

84,663
\$375.8 Million



Flood

40%

235,147
\$1.9 Billion



Liquefaction

46%

271,206
\$2.1 Billion



Landslide

15%

90,435
\$629 Million



Volcano

<1%

366
\$5.8 Million



Drought

6%

35,119
\$200.3 Million



Wildfire

-
-
-



Storm Surge

43%

253,037
\$2 Billion



Typhoon Winds

100%

590,637
\$5.7 Billion



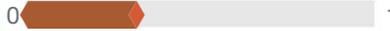
VULNERABILITY (V)

RANK: 21 / 84 PROVINCES ASSESSED
SCORE: 0.49

Vulnerability in Surigao del Sur is primarily driven by Vulnerable Health Status and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.317** **RANK: 71/84 PROVINCES ASSESSED**

0.45 Livestock density
20.14 Barren land (per 10k hectares)
3.44% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.684** **RANK: 2/84 PROVINCES ASSESSED**

9.4% Malnutrition among children (0 to 5 years old)
3.94 Infant mortality rate (per 1k live births)
69.52 Maternal mortality rate (per 100k live births)
65.64 Life expectancy
909 Disability (per 100k persons)

32.6 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
3.8 Intestinal disease mortality rate (per 100k persons)
1.8 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.481** **RANK: 31/84 PROVINCES ASSESSED**

91.7% Households with improved safe water source
82.6% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.554** **RANK: 23/84 PROVINCES ASSESSED**

97.89% Literacy rate (age 10 and older)
125.02% Gross primary school enrollment rate
3.05% Internet Access
34.87% Households with radio
51.75% Households with television



Economic Constraints

0  1 **SCORE: 0.498** **RANK: 31/84 PROVINCES ASSESSED**

0.66
Economic
dependency
ratio

19.03%
Poverty
incidence



Gender Inequality

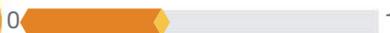
0  1 **SCORE: 0.506** **RANK: 31/84 PROVINCES ASSESSED**

1.06
Female to male
secondary school
enrollment Rate

0.38
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.39** **RANK: 48/84 PROVINCES ASSESSED**

1.03
Population
growth rate
(2010-2015)

3.12
Average annual
urban population
growth rate

2.7%
Informal settlers



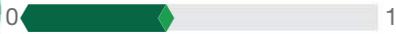
COPING CAPACITY (CC)

RANK: 61 / 84 PROVINCES ASSESSED
SCORE: 0.523

Surigao del Sur exhibits weaker Coping Capacity in the areas of Transportation Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.402 **RANK: 74/84 PROVINCES ASSESSED**

0.84

Purchasing power of the peso

61.21%

Labor force participation rate

1941.56

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.692 **RANK: 25/84 PROVINCES ASSESSED**

84.5%

Voter participation

7.54

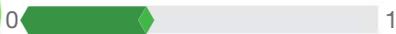
Organized violence (per 100k persons)

30.18%

Garbage pickup



Environmental Capacity



SCORE: 0.344 **RANK: 47/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

22.8%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.536** **RANK: 50/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.666** **RANK: 8/84** PROVINCES ASSESSED

10.49	3.71	74.23%	4.92
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.343** **RANK: 69/84** PROVINCES ASSESSED

0.57	29.46
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.632** **RANK: 53/84** PROVINCES ASSESSED

1.6%	93%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.558** **RANK: 54/84** PROVINCES ASSESSED

76.8%	10.5%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.667** **RANK: 18/84** PROVINCES ASSESSED

61.18	2.81	4.3
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 63 / 84 PROVINCES ASSESSED
SCORE: 0.517

Surigao del Sur's score and ranking are due to High Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Vulnerable Health Status



Information Access Vulnerability



Transportation Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 23 / 84 PROVINCES ASSESSED
SCORE: 0.318



Tsunami

RANK: 6 / 84 PROVINCES ASSESSED
SCORE: 0.348



Flood

RANK: 44 / 84 PROVINCES ASSESSED
SCORE: 0.172



Liquefaction

RANK: 36 / 84 PROVINCES ASSESSED
SCORE: 0.209



Landslide

RANK: 20 / 84 PROVINCES ASSESSED
SCORE: 0.266



Volcano

RANK: 51 / 84 PROVINCES ASSESSED
SCORE: 0.089



Drought

RANK: 44 / 84 PROVINCES ASSESSED
SCORE: 0.165

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

20 / 84

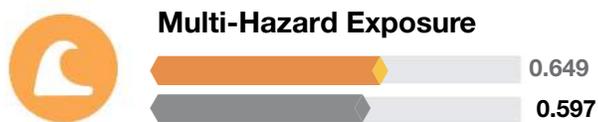
RANK WITHIN PROVINCES
Score: 0.538



Surigao del Sur's score and ranking are due to High Multi-hazard exposure combined with High Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



SURIGAO DEL SUR RECOMMENDATIONS

1

Vulnerable Health Status

- In Surigao del Sur, vulnerable health status is a major driver of vulnerability. Focus efforts on increasing the health of the population through community outreach, increased access to health care and other public health interventions. Continue monitoring for and providing care for those suffering from communicable diseases.
- In Surigao del Sur there are 909 disabled persons per 100,000 population, which is the 2nd highest in the Philippines. Work to ensure disaster management plans incorporate provisions for the special needs of disabled persons during disasters, including evacuation, shelter, and medical care.

2

Information Access Vulnerability

- Invest in education and distribution of household communication devices to enhance public dissemination of information, as well as ensure communities are able to understand and respond appropriately.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

3

Transportation Capacity

- Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increased access to markets and enhanced social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

4

Economic Capacity

- Surigao del Sur ranked 74th out of the 84 territories in economic capacity. Purchasing power of the peso in Surigao del Sur is 0.84, the 12th lowest score in the Philippines. Focus efforts on expanding the labor market through investments in businesses that will create gainful positions.
- Surigao del Sur to generate public revenue. Pursue policies that balance inflation rates and create equal opportunities for employment.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

TARLAC

NDPBA PROVINCE PROFILE

THE PHILIPPINES

TARLAC

CAPITAL: CITY OF TARLAC

Area: 3,046 km²

Tarlac is a landlocked province in the Philippines located in the Central Luzon region. Tarlac is bounded on the north by the province of Pangasinan, Nueva Ecija on the east, Zambales on the west and Pampanga in the south. The landlocked province is situated at the center of the central plains of Luzon. Approximately 75% of the province is plains while the remaining 25% is hilly. The economy of Tarlac is predominantly agricultural. It is among the biggest producers of rice and sugarcane in Central Luzon. Other major crops are corn and coconuts, bananas, calamansi, mangoes, eggplants, garlic and onions. Because the province is landlocked, its fish production is limited to fish pens, but it has vast river systems and irrigation. On the Zambales boundary to its west, forest land provides timber for the logging industry. Mineral reserves such as manganese and iron can also be found along the western section of Tarlac. Tarlac has its own rice and corn mills, sawmills and logging outfits



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium
Score: 0.496 • Rank: 45/84



RESILIENCE (R) - High
Score: 0.614 • Rank: 17/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.717 • Rank: 23/84



VULNERABILITY (V) - Very Low
Score: 0.336 • Rank: 72/84



COPING CAPACITY (CC) - Medium
Score: 0.564 • Rank: 37/84



Population (2018)
1,299,765



Population in Poverty
7.6%



Literate population
99.0%



Access to improved water
94.4%



Average life expectancy
69.8 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 23 / 84 PROVINCES
SCORE: 0.717



MHE
0.717

Raw MHE
0.666

Relative MHE
0.768

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

100%

1,299,765
\$3.3 Billion



Tsunami

-

-

-



Flood

95%

1,236,906
\$3.2 Billion



Liquefaction

73%

952,919
\$2.6 Billion



Landslide

1%

14,055
\$37.7 Million



Volcano

<1%

6,798
\$15.1 Million



Drought

-

-

-



Wildfire

16%

207,648
\$342.6 Million



Storm Surge

-

-

-



Typhoon Winds

100%

1,299,765
\$3.3 Billion



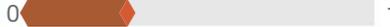
VULNERABILITY (V)

RANK: 72 / 84 PROVINCES ASSESSED
SCORE: 0.336

Vulnerability in Tarlac is primarily driven by Gender Inequality and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



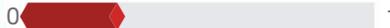
Environmental Stress

0  1 **SCORE: 0.29** **RANK: 76/84 PROVINCES ASSESSED**

4.45 Livestock density
0 Barren land (per 10k hectares)
6.00% Forest cover change



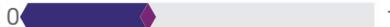
Vulnerable Health Status

0  1 **SCORE: 0.26** **RANK: 79/84 PROVINCES ASSESSED**

6.1% Malnutrition among children (0 to 5 years old)
2.49 Infant mortality rate (per 1k live births)
21.32 Maternal mortality rate (per 100k live births)
69.79 Life expectancy
17.7 Tuberculosis mortality rate (per 100k persons)
3.3 Intestinal disease mortality rate (per 100k persons)
0.3 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)
Disability (per 100k persons)



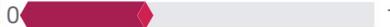
Clean Water Vulnerability

0  1 **SCORE: 0.35** **RANK: 54/84 PROVINCES ASSESSED**

94.4% Households with improved safe water source
90.2% Households with sanitary toilet facility



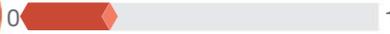
Information Access Vulnerability

0  1 **SCORE: 0.342** **RANK: 69/84 PROVINCES ASSESSED**

99.03% Literacy rate (age 10 and older)
110.47% Gross primary school enrollment rate
5.90% Internet Access
66.78% Households with radio
86.30% Households with television



Economic Constraints

0  1 **SCORE: 0.238** **RANK: 68/84** PROVINCES ASSESSED

0.57
Economic
dependency
ratio

7.57%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.438** **RANK: 43/84** PROVINCES ASSESSED

1.08
Female to male
secondary school
enrollment Rate

0.47
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.435** **RANK: 32/84** PROVINCES ASSESSED

1.35
Population
growth rate
(2010-2015)

6.39
Average annual
urban population
growth rate

2.4%
Informal settlers



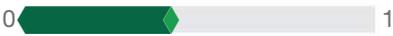
COPING CAPACITY (CC)

RANK: 37 / 84 PROVINCES ASSESSED
SCORE: 0.564

Tarlac exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.425 **RANK: 65/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

60.63%

Labor force participation rate

1154.95

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.772 **RANK: 4/84 PROVINCES ASSESSED**

85.0%

Voter participation

3.09

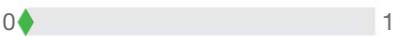
Organized violence (per 100k persons)

35.49%

Garbage pickup



Environmental Capacity



SCORE: 0.001 **RANK: 76/84 PROVINCES ASSESSED**

0.01

Protected areas (per 1k ha)

0.0%

Forest reserves



Infrastructure Capacity

0  1 **SCORE: 0.683** **RANK: 12/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.212** **RANK: 82/84** PROVINCES ASSESSED

3.06	0.6	65.36%	22.35
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.682** **RANK: 15/84** PROVINCES ASSESSED

1.52	10.56
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.822** **RANK: 16/84** PROVINCES ASSESSED

4.4%	100.0%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.883** **RANK: 12/84** PROVINCES ASSESSED

92.8%	45.1%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.364** **RANK: 62/84** PROVINCES ASSESSED

14.22	1.35	2.21
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 17 / 84 PROVINCES ASSESSED
SCORE: 0.614

Tarlac's score and ranking are due to Very Low Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Population Pressures



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 42 / 84 PROVINCES ASSESSED
SCORE: 0.273



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 12 / 84 PROVINCES ASSESSED
SCORE: 0.301



Liquefaction

RANK: 14 / 84 PROVINCES ASSESSED
SCORE: 0.263



Landslide

RANK: 79 / 84 PROVINCES ASSESSED
SCORE: 0.063



Volcano

RANK: 40 / 84 PROVINCES ASSESSED
SCORE: 0.109



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

46 / 84

RANK WITHIN PROVINCES
Score: 0.496



Tarlac's score and ranking are due to High Multi-hazard exposure combined with Very Low Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



TARLAC RECOMMENDATIONS

1

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Population Pressures

- Continue to monitor the growth of the population and plan resource allocation appropriately. Enforce building codes and environmental protection laws to ensure expansion is sustainable.
- Work with diverse partners to help stimulate the economy to support increased demands. Ensure equitable distribution of resources and services.

3

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- Tarlac ranked 65th out of the 84 territories in economic capacity. Continue to encourage programs that diversify the economy in Tarlac to generate public revenue and create new job opportunities. Pursue policies that balance inflation rates and create equal opportunities for employment.
- As the population grows, there will be increases in the demands for emergency services and public programs. Work with stakeholders and partners to expand emergency service capacities by training community members and generating funds to support response activities.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holopono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

TAWI-TAWI

NDPBA PROVINCE PROFILE

THE PHILIPPINES

TAWI-TAWI

CAPITAL: BONGAO

Area: 3,627 km²

Tawi-Tawi, island, is located on the southwestern Sulu archipelago, Philippines and lies between the Celebes Sea (southeast) and the Sulu Sea (northwest). The westernmost tip of Tawi-Tawi is only 40 miles (64 km) east of Borneo. Tawi-Tawi is 34 miles (55 km) long and from 6 to 14 miles (10 to 23 km) wide and is hilly and heavily wooded. The inhabitants are primarily Sama, a people speaking Sama-Bajau languages of the Austronesian family. The largest settlement on the island is Bato-Bato. The climate is warm and moist, and coconut, tobacco, sugarcane, and kapok are the major commercial crops grown in the island's fertile volcanic soils. Rice, corn, citrus fruits, root crops, vegetables, cacao, and coffee are also grown. Shells for mother-of-pearl, capiz shells, and reptile skins are collected. Fishing is of great importance, and the inhabitants are accomplished boatbuilders.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.438 • Rank: 76/84



RESILIENCE (R) - Very Low
Score: 0.344 • Rank: 81/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.002 • Rank: 84/84



VULNERABILITY (V) - Very High
Score: 0.648 • Rank: 5/84



COPING CAPACITY (CC) - Very Low
Score: 0.336 • Rank: 81/84



Population (2018)
188,677



Population in Poverty
14.7%



Literate population
87.2%



Access to improved water
70.5%



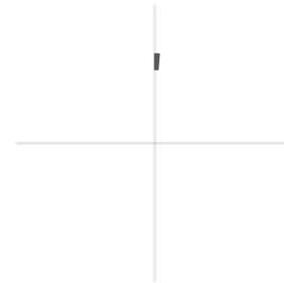
Average life expectancy
58.8 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 84 / 84 PROVINCES
SCORE: 0.002



MHE
0.002

Raw MHE
 0.005

Relative MHE
 0

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

0%

—
 —



Tsunami

5%

—
9,932
\$9.2 Million



Flood

—

—
 —



Liquefaction

—

—
 —



Landslide

2%

—
3,539
\$44.6 Million



Volcano

<1%

—
2
\$32,663



Drought

—

—
 —



Wildfire

—

—
 —



Storm Surge

48%

—
90,669
\$283.9 Million



Typhoon Winds

—

—
 —



VULNERABILITY (V)

RANK: 5 / 84 PROVINCES ASSESSED
SCORE: 0.648

Vulnerability in Tawi-Tawi is primarily driven by Gender Inequality and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.467** **RANK: 45/84 PROVINCES ASSESSED**

2.96 Livestock density
19.76 Barren land (per 10k hectares)
4.51% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.546** **RANK: 16/84 PROVINCES ASSESSED**

14.2% Malnutrition among children (0 to 5 years old)
8.29 Infant mortality rate (per 1k live births)
92.12 Maternal mortality rate (per 100k live births)
58.84 Life expectancy
357 Disability (per 100k persons)

1 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
1 Intestinal disease mortality rate (per 100k persons)
0.5 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.867** **RANK: 4/84 PROVINCES ASSESSED**

70.5% Households with improved safe water source
22.4% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.825** **RANK: 3/84 PROVINCES ASSESSED**

87.20% Literacy rate (age 10 and older)
88.12% Gross primary school enrollment rate
0.77% Internet Access
66.21% Households with radio
36.31% Households with television



Economic Constraints

0  1 **SCORE: 0.534** **RANK: 24/84** PROVINCES ASSESSED

0.73
Economic
dependency
ratio

14.67%
Poverty
incidence



Gender Inequality

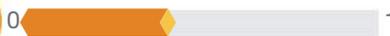
0  1 **SCORE: 0.891** **RANK: 5/84** PROVINCES ASSESSED

1.2
Female to male
secondary school
enrollment Rate

0.29
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.408** **RANK: 42/84** PROVINCES ASSESSED

1.22
Population
growth rate
(2010-2015)

8.12
Average annual
urban population
growth rate

2.1%
Informal settlers



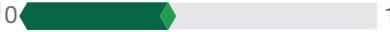
COPING CAPACITY (CC)

RANK: 81 / 84 PROVINCES ASSESSED
SCORE: 0.336

Tawi-Tawi exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Communications Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.411 **RANK: 72/84 PROVINCES ASSESSED**

0.9

Purchasing power of the peso

48.84%

Labor force participation rate

2058.27

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.482 **RANK: 71/84 PROVINCES ASSESSED**

79.7%

Voter participation

4.69

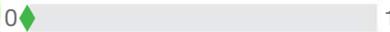
Organized violence (per 100k persons)

5.87%

Garbage pickup



Environmental Capacity



SCORE: 0 **RANK: 77/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

0.0%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.228** **RANK: 82/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.258** **RANK: 78/84** PROVINCES ASSESSED

4.71	0.63	63.35%	13.43
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.465** **RANK: 49/84** PROVINCES ASSESSED

0.46	13.42
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.155** **RANK: 81/84** PROVINCES ASSESSED

0.9%	60.1%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.245** **RANK: 80/84** PROVINCES ASSESSED

43.1%	8.6%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.06** **RANK: 82/84** PROVINCES ASSESSED

0	1	0.5
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 81 / 84 PROVINCES ASSESSED
SCORE: 0.344

Tawi-Tawi's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Clean Water Access Vulnerability



Emergency Services Capacity



Communications Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 79 / 84 PROVINCES ASSESSED
SCORE: 0.000



Tsunami

RANK: 9 / 84 PROVINCES ASSESSED
SCORE: 0.232



Flood

RANK: 74 / 84 PROVINCES ASSESSED
SCORE: 0.000



Liquefaction

RANK: 81 / 84 PROVINCES ASSESSED
SCORE: 0



Landslide

RANK: 66 / 84 PROVINCES ASSESSED
SCORE: 0.140



Volcano

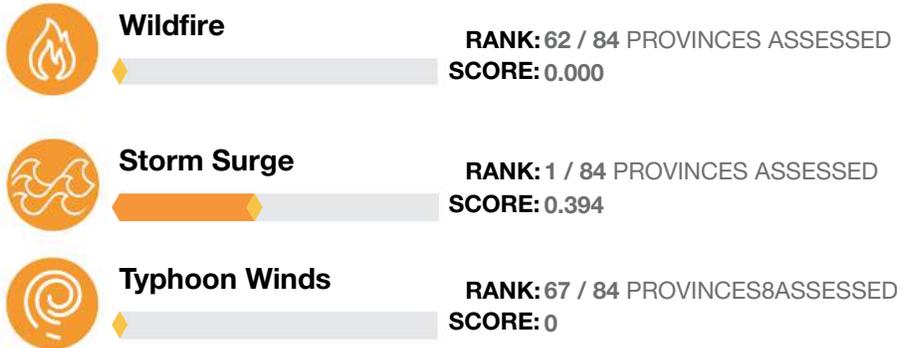
RANK: 66 / 84 PROVINCES ASSESSED
SCORE: 0.015



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

76 / 84
 RANK WITHIN PROVINCES
 Score: 0.438

Tawi-Tawi's score and ranking are due to Very Low Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE (represented by colored bars)
 COUNTRY SCORE (represented by grey bars)



TAWI-TAWI RECOMMENDATIONS

1

Gender Inequality

- Tawi-Tawi is ranked 5th highest in the Philippines for gender inequality. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals, to continuously monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Clean Water Access Vulnerability

- In Tawi-Tawi, only 22.44% of households have access to sanitary toilets, which is the 3rd lowest in the Philippines. Additionally, only 70.54% of households have access to improved water sources. Invest in improved water and sanitation infrastructure to increase access to clean water.

3

Emergency Services Capacity

- Tawi-Tawi ranked 82nd out of the 84 territories for emergency services capacity. There are no government run evacuation centers and 0.5 fire trucks per 100,000 persons, the 3rd lowest in the Philippines. Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Focus on establishing evacuation centers, as well as increasing the number fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Communications Capacity

- Findings show that Tawi-Tawi has the 4th lowest communications capacity score in the Philippines. Only 60% of barangays have cellular signal and less than 1% of households have landlines. Focus efforts on increasing communications capacity through investments in infrastructure.
- Tawi-Tawi is isolated, being comprised of small islands about 300 kilometers off-shore from the main island of Mindanao. While improvements to infrastructure are underway, work to expand alternative forms of communications, including the use of boats with radios.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ZAMBALES

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ZAMBALES

CAPITAL: IBA

Area: 3,630 km²

Zambales is a province in the Philippines located in the Central Luzon region. Zambales is the second largest among the seven provinces of Central Luzon after Nueva Ecija. The province is noted for its mangoes, which are abundant from January to April. Zambales lies on the western shores of Luzon island along the West Philippine Sea. Its shoreline is rugged and features many coves and inlets. The Zambales Mountains in the eastern length of the province occupies about 60% of the total land area of Zambales. Subic Bay, at the southern end of the province, provides a natural harbor, and was the location of the U.S. Naval Base Subic Bay until its closure in 1992.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium
Score: 0.514 • Rank: 33/84



RESILIENCE (R) - High
Score: 0.591 • Rank: 26/84



MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.725 • Rank: 21/84



VULNERABILITY (V) - Low
Score: 0.376 • Rank: 63/84



COPING CAPACITY (CC) - Medium
Score: 0.557 • Rank: 44/84



Population (2018)
817,463



Population in Poverty
10.6%



Literate population
98.9%



Access to improved water
98.2%



Average life expectancy
69.0 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 21 / 84 PROVINCES
SCORE: 0.725



MHE
0.725

Raw MHE
0.573

Relative MHE
0.877

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

91%

742,845
\$1.4 Billion



Tsunami

1%

9,232
\$4.3 Million



Flood

66%

536,358
\$912.6 Million



Liquefaction

74%

606,064
\$1.2 Billion



Landslide

6%

47,034
\$73.4 Million



Volcano

<1%

5,682
\$15.6 Million



Drought

-

-
-



Wildfire

36%

297,349
\$711.2 Million



Storm Surge

45%

364,969
\$782.3 Million



Typhoon Winds

100%

817,210
\$1.5 Billion



VULNERABILITY (V)

RANK: 63 / 84 PROVINCES ASSESSED
SCORE: 0.376

Vulnerability in Zambales is primarily driven by Environmental Stress and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



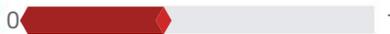
Environmental Stress

0  1 **SCORE: 0.63** **RANK: 11/84 PROVINCES ASSESSED**

2.95 Livestock density
201.37 Barren land (per 10k hectares)
3.34% Forest cover change



Vulnerable Health Status

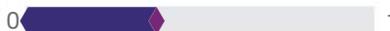
0  1 **SCORE: 0.396** **RANK: 62/84 PROVINCES ASSESSED**

14.0% Malnutrition among children (0 to 5 years old)
3.87 Infant mortality rate (per 1k live births)
75.33 Maternal mortality rate (per 100k live births)
68.95 Life expectancy
160 Disability (per 100k persons)

33.6 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
5.6 Intestinal disease mortality rate (per 100k persons)
0.7 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



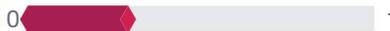
Clean Water Vulnerability

0  1 **SCORE: 0.375** **RANK: 51/84 PROVINCES ASSESSED**

98.2% Households with improved safe water source
78.7% Households with sanitary toilet facility



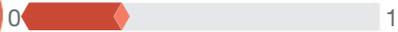
Information Access Vulnerability

0  1 **SCORE: 0.292** **RANK: 76/84 PROVINCES ASSESSED**

98.89% Literacy rate (age 10 and older)
119.21% Gross primary school enrollment rate
8.37% Internet Access
63.63% Households with radio
82.81% Households with television



Economic Constraints



SCORE: 0.27

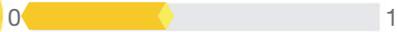
RANK: 63/84 PROVINCES ASSESSED

0.57
Economic
dependency
ratio

10.63%
Poverty
incidence



Gender Inequality



SCORE: 0.4

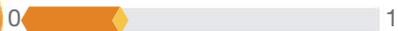
RANK: 50/84 PROVINCES ASSESSED

1.03
Female to male
secondary school
enrollment Rate

0.43
Labor force
participation ratio



Population Pressures



SCORE: 0.266

RANK: 79/84 PROVINCES ASSESSED

1.46
Population
growth rate
(2010-2015)

3.52
Average annual
urban population
growth rate

0.6%
Informal settlers



COPING CAPACITY (CC)

RANK: 44 / 84 PROVINCES ASSESSED
SCORE: 0.557

Zambales exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Communications Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.512** **RANK: 40/84 PROVINCES ASSESSED**

0.9

Purchasing power of the peso

62.62%

Labor force participation rate

1310.89

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.668** **RANK: 32/84 PROVINCES ASSESSED**

81.0%

Voter participation

7.61

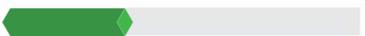
Organized violence (per 100k persons)

52.07%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.334** **RANK: 49/84 PROVINCES ASSESSED**

0.02

Protected areas (per 1k ha)

20.3%

Forest reserves



Infrastructure Capacity



SCORE: 0.566 RANK: 40/84 PROVINCES ASSESSED



Health Care Capacity

SCORE: 0.537 RANK: 34/84 PROVINCES ASSESSED

9.83

Hopital beds
(per 10k people)

3.81

Physicians per
10,000 people

57.48%

Vaccination
coverage

6.53

Average distance to nearest
hospital (km)



Transportation Capacity

SCORE: 0.513 RANK: 39/84 PROVINCES ASSESSED

0.83

Road density
(km per sq. km)

18.11

Average distance to
nearest port (km)



Communications Capacity

SCORE: 0.495 RANK: 68/84 PROVINCES ASSESSED

5.8%

Households with a landline

71.7%

Mobile coverage



Energy Capacity

SCORE: 0.87 RANK: 15/84 PROVINCES ASSESSED

90.3%

Households with electricity

47.9%

Households with gas



Emergency Services Capacity

SCORE: 0.415 RANK: 49/84 PROVINCES ASSESSED

15.07

Evacuation centers
(per 100k persons)

1.41

Fire Stations
(per 100k persons)

3.05

Fire Trucks
(per 100k persons)



RESILIENCE (R)

RANK: 27 / 84 PROVINCES ASSESSED
SCORE: 0.591

Zambales's score and ranking are due to Low Vulnerability combined with Medium Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress



Gender Inequality



Emergency Services Capacity



Communications Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 53 / 84 PROVINCES ASSESSED
SCORE: 0.237



Tsunami

RANK: 27 / 84 PROVINCES ASSESSED
SCORE: 0.109



Flood

RANK: 36 / 84 PROVINCES ASSESSED
SCORE: 0.206



Liquefaction

RANK: 16 / 84 PROVINCES ASSESSED
SCORE: 0.258



Landslide

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0.140



Volcano

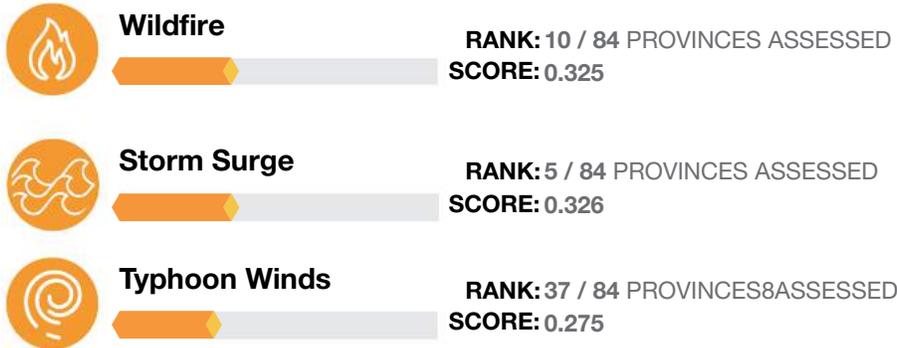
RANK: 35 / 84 PROVINCES ASSESSED
SCORE: 0.119



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

34 / 84

RANK WITHIN PROVINCES
Score: 0.514



Zambales's score and ranking are due to High Multi-hazard exposure combined with Low Vulnerability and Medium Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



ZAMBALES RECOMMENDATIONS

1

Environmental Stress

- Zambales is ranked 2nd highest in the Philippines for barren land vulnerability (201.37 hectares of barren land per 10,000 hectares). Investing in greening programs and sustainable agriculture will ensure land conservation and increase resilience.
- More than half the population are exposed to flooding hazards. Work with local communities and diverse partners to promote water and soil conservation through enhanced agricultural practices and reforestation efforts.

2

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Build upon existing accomplishments, including the work related to the UN Sustainable Development Goals.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

3

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- In Zambales Wildfires expose 47.9% of the capital stock and 36.4% of the population. Invest in increased fire stations and fire trucks to mitigate Wildfire impacts.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Communications Capacity

- Though ranked relatively high compared to the rest of the Philippines, in Zambales less than 6% of the population has access to landlines from their home. Findings also show that about 72% of barangays have cellular signal. Invest in communications infrastructure to that focuses on providing reliable and equitable coverage. Be sure to conduct thorough public and environmental assessments for infrastructure projects. In order to understand the types of communication systems the population can easily access and to reduce environmental impacts.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ZAMBOANGA DEL NORTE

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ZAMBOANGA DEL NORTE

CAPITAL: CITY OF DIPOLOG

Area: 7,300 km²

Zamboanga del Norte is a province in the Philippines situated within the Zamboanga Peninsula region in Mindanao. It is the largest province in the Zamboanga Peninsula region by land area. Zamboanga Del Norte borders Zamboanga del Sur and Zamboanga Sibugay to the south, Misamis Occidental to the east, and the Sulu Sea to the west. It is the 26th most popular province in the Philippines. Roughly half of its land area is devoted to agriculture with coconut, corn, and rice being the major crops. Commercial fishing for yellow fin tuna also contributes to their economy.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Medium
Score: 0.503 • Rank: 40/84



RESILIENCE (R) - Very Low
Score: 0.481 • Rank: 71/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.472 • Rank: 72/84



VULNERABILITY (V) - Very High
Score: 0.525 • Rank: 15/84



COPING CAPACITY (CC) - Low
Score: 0.487 • Rank: 67/84



Population (2018)
1,040,025



Population in Poverty
36.8%



Literate population
95.9%



Access to improved water
83.5%



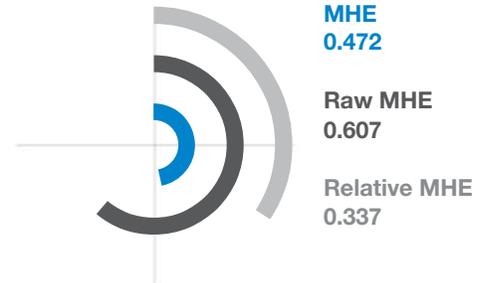
Average life expectancy
68.1 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 72 / 84 PROVINCES
SCORE: 0.472



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Earthquake

84%

876,254
\$5.5 Billion

Tsunami

-

-

-

Flood

17%

177,398
\$1.3 Billion

Liquefaction

5%

51,785
\$521.2 Million

Landslide

30%

314,232
\$2.4 Billion

Volcano

-

-

-

Drought

33%

343,966
\$2.4 Billion

Wildfire

4%

43,087
\$155.9 Million

Storm Surge

24%

250,650
\$2.3 Billion

Typhoon Winds

-

-

-



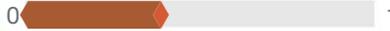
VULNERABILITY (V)

RANK: 15 / 84 PROVINCES ASSESSED
SCORE: 0.525

Vulnerability in Zamboanga del Norte is primarily driven by Economic Constraints and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.388** **RANK: 59/84** PROVINCES ASSESSED

0.99 Livestock density
9.62 Barren land (per 10k hectares)
1.73% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.53** **RANK: 20/84** PROVINCES ASSESSED

7.3% Malnutrition among children (0 to 5 years old)
1.78 Infant mortality rate (per 1k live births)
51.8 Maternal mortality rate (per 100k live births)
68.06 Life expectancy
809 Disability (per 100k persons)

21.9 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
6.6 Intestinal disease mortality rate (per 100k persons)
0.6 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.475** **RANK: 32/84** PROVINCES ASSESSED

83.5% Households with improved safe water source
89.5% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.614** **RANK: 13/84** PROVINCES ASSESSED

95.89% Literacy rate (age 10 and older)
120.44% Gross primary school enrollment rate
2.01% Internet Access
51.57% Households with radio
37.13% Households with television



Economic Constraints

0  1 **SCORE: 0.752** **RANK: 7/84** PROVINCES ASSESSED

0.68
Economic
dependency
ratio

36.77%
Poverty
incidence



Gender Inequality

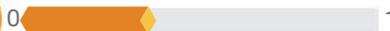
0  1 **SCORE: 0.567** **RANK: 17/84** PROVINCES ASSESSED

1.12
Female to male
secondary school
enrollment Rate

0.43
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.351** **RANK: 62/84** PROVINCES ASSESSED

1.04
Population
growth rate
(2010-2015)

9.09
Average annual
urban population
growth rate

1.5%
Informal settlers



COPING CAPACITY (CC)

RANK: 67 / 84 PROVINCES ASSESSED
SCORE: 0.487

Zamboanga del Norte exhibits weaker Coping Capacity in the areas of Energy Capacity and Communications Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.449 **RANK: 60/84 PROVINCES ASSESSED**

0.84

Purchasing power of the peso

66.63%

Labor force participation rate

1729.3

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.609 **RANK: 51/84 PROVINCES ASSESSED**

82.8%

Voter participation

5.13

Organized violence (per 100k persons)

12.38%

Garbage pickup



Environmental Capacity



SCORE: 0.442 **RANK: 32/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

57.7%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.418 RANK: 71/84 PROVINCES ASSESSED**



Health Care Capacity SCORE: 0.411 RANK: 61/84 PROVINCES ASSESSED

3.75	1.68	67.15%	7.92
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity SCORE: 0.441 RANK: 53/84 PROVINCES ASSESSED

0.57	19.25
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity SCORE: 0.388 RANK: 74/84 PROVINCES ASSESSED

1.9%	72.4%
Households with a landline	Mobile coverage



Energy Capacity SCORE: 0.358 RANK: 74/84 PROVINCES ASSESSED

60.8%	6.4%
Households with electricity	Households with gas



Emergency Services Capacity SCORE: 0.493 RANK: 35/84 PROVINCES ASSESSED

17.62	2.05	3.31
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 71 / 84 PROVINCES ASSESSED
SCORE: 0.481

Zamboanga del Norte's score and ranking are due to Very High Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints



Information Access Vulnerability



Energy Capacity



Communications Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 35 / 84 PROVINCES ASSESSED
SCORE: 0.279



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.122



Liquefaction

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0.078



Landslide

RANK: 2 / 84 PROVINCES ASSESSED
SCORE: 0.450



Volcano

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 27 / 84 PROVINCES ASSESSED
SCORE: 0.305

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

41 / 84

RANK WITHIN PROVINCES
Score: 0.503



Zamboanga del Norte's score and ranking are due to Very Low Multi-hazard exposure combined with Very High Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



ZAMBOANGA DEL NORTE RECOMMENDATIONS

1

Economic Constraints

- In Zamboanga del Norte, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Focus efforts on promoting industries that create gainful work, to prevent outmigration of the working age population. Invest in small and local businesses, especially in rural and remote areas.

2

Information Access Vulnerability

- In Zamboanga del Norte, many homes lack access to radios, television and internet. In particular, only 37% of households have access to televisions, which is 4th lowest in the Philippines. Work with private and public partners to enhance access to communication devices within households.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

3

Energy Capacity

- Findings show that Zamboanga del Norte is ranked 74th out of the 84 territories for energy capacity, with 60.8% of households having access to electricity. Additionally, only 6.4% of households have access to liquid petroleum gas lines. Invest in energy infrastructure that increases access to homes, businesses and essential services.
- Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access, especially in rural communities. Increasing energy capacity will also make the business market more attractive and can help stimulate the creation of jobs.

4

Communications Capacity

- Zamboanga del Norte ranks 74th out of the 84 territories for communications capacity. This indicates that there is a need to expand communication networks to better serve the public. Findings show that less than 2% of households have access to landlines and only 72% of barangays have cellular signal. Invest in diverse types of communications infrastructure that focus on affordability and redundancy.
- The population of Zamboanga del Norte is vulnerable due to economic constraints, limitations in access to information and energy capacity. Expansions in communication infrastructure needs to be complimented by efforts to ensure affordability and access. The use of emergency sirens should be expanded in the meantime.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ZAMBOANGA DEL SUR

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ZAMBOANGA DEL SUR

CAPITAL: CITY OF PAGADIAN

Area: 4,484 km²

Zamboanga del Norte is a province in the Philippines situated within the Zamboanga Peninsula region in Mindanao. It is the largest province in the Zamboanga Peninsula region by land area. Zamboanga Del Norte borders Zamboanga del Sur and Zamboanga Sibugay to the south, Misamis Occidental to the east, and the Sulu Sea to the west. It is the 26th most popular province in the Philippines. Roughly half of its land area is devoted to agriculture with coconut, corn, and rice being the major crops. Commercial fishing for yellow fin tuna also contributes to their economy.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - High
Score: 0.534 • Rank: 24/84



RESILIENCE (R) - Low
Score: 0.501 • Rank: 66/84



MULTI-HAZARD EXPOSURE (MHE) - Medium
Score: 0.603 • Rank: 45/84



VULNERABILITY (V) - Medium
Score: 0.461 • Rank: 35/84



COPING CAPACITY (CC) - Very Low
Score: 0.462 • Rank: 71/84



Population (2018)
1,895,872



Population in Poverty
17.6%



Literate population
96.7%



Access to improved water
93.9%



Average life expectancy
68.8 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 46 / 84 PROVINCES
SCORE: 0.603



MHE
0.603

Raw MHE
0.737

Relative MHE
0.468

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

90%

1,708,509
\$10 Billion



Tsunami

-

-
-



Flood

54%

1,021,194
\$8.2 Billion



Liquefaction

21%

393,752
\$3.9 Billion



Landslide

12%

222,443
\$646.9 Million



Volcano

<1%

957
\$4.8 Million



Drought

44%

832,381
\$3.6 Billion



Wildfire

<1%

109
-



Storm Surge

19%

367,741
\$2.6 Billion



Typhoon Winds

-

-
-



VULNERABILITY (V)

RANK: 35 / 84 PROVINCES ASSESSED
SCORE: 0.461

Vulnerability in Zamboanga del Sur is primarily driven by Gender Inequality and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.457** **RANK: 47/84 PROVINCES ASSESSED**

2.23 Livestock density
14.38 Barren land (per 10k hectares)
3.02% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.434** **RANK: 45/84 PROVINCES ASSESSED**

7.6% Malnutrition among children (0 to 5 years old)
0.34 Infant mortality rate (per 1k live births)
68.13 Maternal mortality rate (per 100k live births)
68.83 Life expectancy
437 Disability (per 100k persons)

20.8 Tuberculosis mortality rate (per 100k persons)
0.1 HIV mortality rate (per 100k persons)
6.8 Intestinal disease mortality rate (per 100k persons)
1.7 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.537** **RANK: 21/84 PROVINCES ASSESSED**

93.9% Households with improved safe water source
70.4% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.486** **RANK: 37/84 PROVINCES ASSESSED**

96.68% Literacy rate (age 10 and older)
119.20% Gross primary school enrollment rate
5.20% Internet Access
58.50% Households with radio
55.86% Households with television



Economic Constraints



SCORE: 0.417

RANK: 43/84 PROVINCES ASSESSED

0.61

Economic
dependency
ratio

17.55%

Poverty
incidence



Gender Inequality



SCORE: 0.59

RANK: 12/84 PROVINCES ASSESSED

1.12

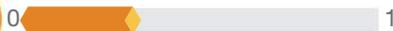
Female to male
secondary school
enrollment Rate

0.41

Labor force
participation ratio



Population Pressures



SCORE: 0.306

RANK: 75/84 PROVINCES ASSESSED

1.12

Population
growth rate
(2010-2015)

2.46

Average annual
urban population
growth rate

1.7%

Informal settlers



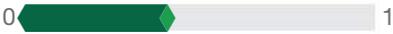
COPING CAPACITY (CC)

RANK: 71 / 84 PROVINCES ASSESSED
SCORE: 0.462

Zamboanga del Sur exhibits weaker Coping Capacity in the areas of Emergency Services Capacity and Economic Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



SCORE: 0.415 **RANK: 70/84 PROVINCES ASSESSED**

0.88

Purchasing power of the peso

63.32%

Labor force participation rate

831.76

Local government annual regular income per capita (Philippine Peso)



Governance



SCORE: 0.486 **RANK: 70/84 PROVINCES ASSESSED**

73.8%

Voter participation

5.35

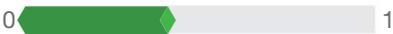
Organized violence (per 100k persons)

26.46%

Garbage pickup



Environmental Capacity



SCORE: 0.416 **RANK: 34/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

45.1%

Forest reserves



Infrastructure Capacity

0 1 **SCORE: 0.501** **RANK: 59/84** PROVINCES ASSESSED



Health Care Capacity **SCORE: 0.508** **RANK: 39/84** PROVINCES ASSESSED

11.76	3.11	52.99%	5.54
Hopital beds (per 10k people)	Physicians per 10,000 people	Vaccination coverage	Average distance to nearest hospital (km)



Transportation Capacity **SCORE: 0.545** **RANK: 33/84** PROVINCES ASSESSED

0.77	13.58
Road density (km per sq. km)	Average distance to nearest port (km)



Communications Capacity **SCORE: 0.578** **RANK: 57/84** PROVINCES ASSESSED

4.2%	81.1%
Households with a landline	Mobile coverage



Energy Capacity **SCORE: 0.529** **RANK: 60/84** PROVINCES ASSESSED

68.0%	14.9%
Households with electricity	Households with gas



Emergency Services Capacity **SCORE: 0.346** **RANK: 63/84** PROVINCES ASSESSED

15.66	1.37	1.69
Evacuation centers (per 100k persons)	Fire Stations (per 100k persons)	Fire Trucks (per 100k persons)



RESILIENCE (R)

RANK: 66 / 84 PROVINCES ASSESSED
SCORE: 0.501

Zamboanga del Sur's score and ranking are due to Medium Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Gender Inequality



Clean Water Access Vulnerability



Emergency Services Capacity



Economic Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 7 / 84 PROVINCES ASSESSED
SCORE: 0.384



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 5 / 84 PROVINCES ASSESSED
SCORE: 0.346



Liquefaction

RANK: 32 / 84 PROVINCES ASSESSED
SCORE: 0.211



Landslide

RANK: 14 / 84 PROVINCES ASSESSED
SCORE: 0.285



Volcano

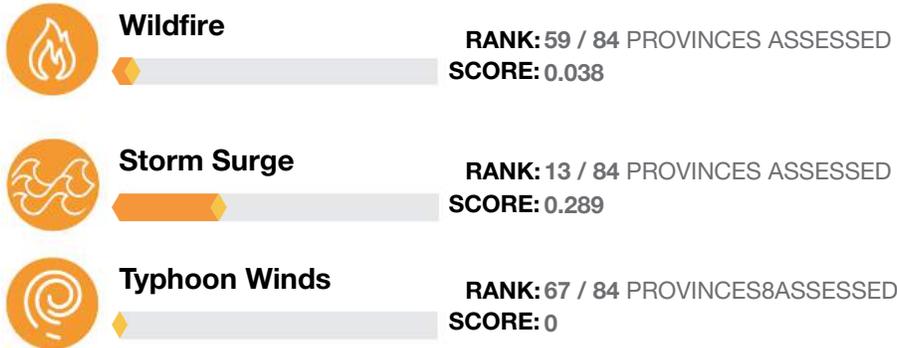
RANK: 48 / 84 PROVINCES ASSESSED
SCORE: 0.098



Drought

RANK: 25 / 84 PROVINCES ASSESSED
SCORE: 0.321

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

24 / 84

RANK WITHIN PROVINCES
Score: 0.534



Zamboanga del Sur's score and ranking are due to Medium Multi-hazard exposure combined with Medium Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



ZAMBOANGA DEL SUR RECOMMENDATIONS

1

Gender Inequality

- Continue efforts to monitor and reduce gender-based discrimination and bias. Focus efforts on enforcing equal employment opportunities and empowering women to continue their education. Expand gainful employment opportunities for women, this can help boost the economy and increase economic capacity in Zamboanga del Sur.
- Actively engage women and other marginalized groups in disaster management and community plans. Provide equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation.

2

Clean Water Access Vulnerability

- The residents of Zamboanga del Sur are highly exposed to drought and flooding hazards. Climate change only exacerbates the exposures already putting the population of Zamboanga del Sur at risk. Investing in clean water and sanitation infrastructure will help mitigate impacts and reduce disaster risks.
- Promote water conservation throughout society to ensure drought conditions do not result in water shortages.

3

Emergency Services Capacity

- Continue work with partners such as the Philippines Red Cross to expand and enhance emergency service capacity. Increase the number of evacuation centers, fire stations and fire trucks to serve the population and increase emergency service capacity.
- Continue to support evidence-based preparedness and response coordination, including the provision of emergency equipment and supplies. Additionally, increase efforts to have a central database that makes sub-national data on disaster management capabilities and resources more accessible. Increasing transparency through sharing data will ensure efficient and effective coordination at all levels of government, as well as with partners.

4

Economic Capacity

- In Zamboanga del Sur, annual regular income per capita is 831.8 pesos, the 5th lowest in the Philippines. Focus efforts on diversifying the economy to generate public revenue and employment opportunities.
- Work with partners to invest in small and local businesses, in order to create new job opportunities and stimulate the economy. Pursue policies that balance inflation rates and create equal opportunities for employment.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org



THE PHILIPPINES

ZAMBOANGA SIBUGAY

NDPBA PROVINCE PROFILE

THE PHILIPPINES

ZAMBOANGA SIBUGAY

CAPITAL: IPIL

Area: 3,481 km²

Zamboanga Sibugay is a province in the Philippines situated within the Zamboanga Peninsula region in Mindanao. The province borders Zamboanga del Norte to the north, Zamboanga del Sur to the east and Zamboanga City to the southwest. To the south lies Sibuguey Bay in the Moro Gulf. The leading industries are in the areas of semi-processed rubber, rice and corn milling, ordinary food processing, wood and rattan furniture making, dried fish and squid processing, and home-made food processing. Other industries include concrete products, garments, wax and candle factories, lime making, and other home and cottage industries. The major crops in the region are rice, corn, coconuts, rubber, fruit trees, vegetables, tobacco, coffee, cacao, and root crops. Coal mining in large and small scale and precious metal mining in small scale category are likewise present in some areas of the province.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR) - Low
Score: 0.472 • Rank: 63/84



RESILIENCE (R) - Very Low
Score: 0.472 • Rank: 72/84



MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.359 • Rank: 75/84



VULNERABILITY (V) - Very High
Score: 0.508 • Rank: 16/84



COPING CAPACITY (CC) - Very Low
Score: 0.452 • Rank: 73/84



Population (2018)
647,905



Population in Poverty
27.1%



Literate population
97.2%



Access to improved water
87.9%



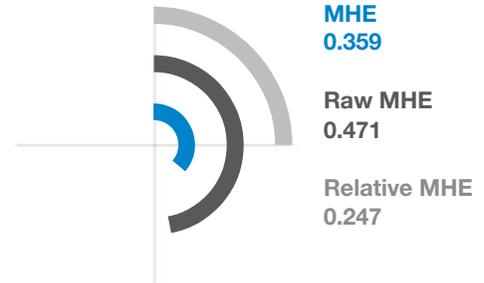
Average life expectancy
67.5 years

*For more information on data and components please visit: <https://bit.ly/2LqVoUO>



MULTI-HAZARD EXPOSURE (MHE)

RANK: 75 / 84 PROVINCES
SCORE: 0.359



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

83%

537,906
\$3.4 Billion



Tsunami

-

-

-



Flood

36%

233,850
\$1.8 Billion



Liquefaction

7%

43,590
\$446 Million



Landslide

17%

111,206
\$498.8 Million



Volcano

-

-

-



Drought

-

-

-



Wildfire

<1%

20
\$3.8 Million



Storm Surge

10%

66,709
\$310.2 Million



Typhoon Winds

-

-

-



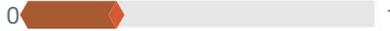
VULNERABILITY (V)

RANK: 16 / 84 PROVINCES ASSESSED
SCORE: 0.508

Vulnerability in Zamboanga Sibugay is primarily driven by Information Access Vulnerability and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress

0  1 **SCORE: 0.258** **RANK: 79/84** PROVINCES ASSESSED

0.7 Livestock density
1.18 Barren land (per 10k hectares)
1.83% Forest cover change



Vulnerable Health Status

0  1 **SCORE: 0.424** **RANK: 51/84** PROVINCES ASSESSED

6.5% Malnutrition among children (0 to 5 years old)
2.06 Infant mortality rate (per 1k live births)
39.24 Maternal mortality rate (per 100k live births)
67.53 Life expectancy
381 Disability (per 100k persons)

22 Tuberculosis mortality rate (per 100k persons)
0 HIV mortality rate (per 100k persons)
5.4 Intestinal disease mortality rate (per 100k persons)
1.2 Other arthropod-borne viral fevers and viral hemorrhagic fever mortality rate (per 100k persons)



Clean Water Vulnerability

0  1 **SCORE: 0.613** **RANK: 15/84** PROVINCES ASSESSED

87.9% Households with improved safe water source
69.5% Households with sanitary toilet facility



Information Access Vulnerability

0  1 **SCORE: 0.642** **RANK: 9/84** PROVINCES ASSESSED

97.19% Literacy rate (age 10 and older)
113.74% Gross primary school enrollment rate
1.56% Internet Access
48.57% Households with radio
38.09% Households with television



Economic Constraints

0  1 **SCORE: 0.641** **RANK: 13/84 PROVINCES ASSESSED**

0.69
Economic
dependency
ratio

27.10%
Poverty
incidence



Gender Inequality

0  1 **SCORE: 0.557** **RANK: 19/84 PROVINCES ASSESSED**

1.07
Female to male
secondary school
enrollment Rate

0.36
Labor force
participation ratio



Population Pressures

0  1 **SCORE: 0.421** **RANK: 38/84 PROVINCES ASSESSED**

1.53
Population
growth rate
(2010-2015)

-0.02
Average annual
urban population
growth rate

3.1%
Informal settlers



COPING CAPACITY (CC)

RANK: 73 / 84 PROVINCES ASSESSED
SCORE: 0.452

Zamboanga Sibugay exhibits weaker Coping Capacity in the areas of Energy Capacity and Transportation Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

0  1 **SCORE: 0.423** **RANK: 67/84 PROVINCES ASSESSED**

0.87

Purchasing power of the peso

58.48%

Labor force participation rate

1661.23

Local government annual regular income per capita (Philippine Peso)



Governance

0  1 **SCORE: 0.51** **RANK: 68/84 PROVINCES ASSESSED**

78.7%

Voter participation

5.29

Organized violence (per 100k persons)

10.83%

Garbage pickup



Environmental Capacity

0  1 **SCORE: 0.416** **RANK: 34/84 PROVINCES ASSESSED**

0

Protected areas (per 1k ha)

45.1%

Forest reserves



Infrastructure Capacity



SCORE: 0.437 RANK: 67/84 PROVINCES ASSESSED



Health Care Capacity

SCORE: 0.431 RANK: 57/84 PROVINCES ASSESSED

2.37

Hopital beds
(per 10k people)

1.39

Physicians per
10,000 people

69.05%

Vaccination
coverage

5.26

Average distance to nearest
hospital (km)



Transportation Capacity

SCORE: 0.422 RANK: 56/84 PROVINCES ASSESSED

0.59

Road density
(km per sq. km)

21.67

Average distance to
nearest port (km)



Communications Capacity

SCORE: 0.543 RANK: 61/84 PROVINCES ASSESSED

0.9%

Households with a landline

90.8%

Mobile coverage



Energy Capacity

SCORE: 0.324 RANK: 78/84 PROVINCES ASSESSED

62.2%

Households with electricity

4.5%

Households with gas



Emergency Services Capacity

SCORE: 0.464 RANK: 39/84 PROVINCES ASSESSED

19.61

Evacuation centers
(per 100k persons)

1.84

Fire Stations
(per 100k persons)

2.91

Fire Trucks
(per 100k persons)



RESILIENCE (R)

RANK: 72 / 84 PROVINCES ASSESSED
SCORE: 0.472

Zamboanga Sibugay's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Information Access Vulnerability



Economic Constraints



Energy Capacity



Transportation Capacity



HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 37 / 84 PROVINCES ASSESSED
SCORE: 0.277



Tsunami

RANK: 54 / 84 PROVINCES ASSESSED
SCORE: 0



Flood

RANK: 59 / 84 PROVINCES ASSESSED
SCORE: 0.121



Liquefaction

RANK: 67 / 84 PROVINCES ASSESSED
SCORE: 0.084



Landslide

RANK: 53 / 84 PROVINCES ASSESSED
SCORE: 0.191



Volcano

RANK: 68 / 84 PROVINCES ASSESSED
SCORE: 0



Drought

RANK: 58 / 84 PROVINCES ASSESSED
SCORE: 0.000

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

63 / 84

RANK WITHIN PROVINCES
Score: 0.472



Zamboanga Sibugay’s score and ranking are due to Very Low Multi-hazard exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

PROVINCE SCORE
COUNTRY SCORE



ZAMBOANGA SIBUGAY RECOMMENDATIONS

1

Information Access Vulnerability

- In Zamboanga Sibugay many homes lack access to radios, television and internet. In particular, only 38% of households have access to televisions, which is 5th lowest in the Philippines. Work with private and public partners to enhance access to communication devices within households.
- Continue to promote education and basic literacy. With the COVID-19 pandemic impacting school capacities, work in rural and remote areas must consider resource needs.

2

Economic Constraints

- In Zamboanga Sibugay, economic constraints are a major driver of vulnerability. Continue to work with local stakeholders and diverse partners to stimulate economic growth. Expand public assistance where possible to increase the availability of resources and options for low income individuals.
- Focus efforts on promoting industries that create gainful work, to prevent outmigration of the working age population. Invest in small and local businesses, especially in rural and remote areas.

3

Energy Capacity

- Findings show that Zamboanga Sibugay is ranked 78th out of the 84 territories for energy capacity, with 62.2% of households having access to electricity. Additionally, only 4.5% of households have access to liquid petroleum gas lines. Invest in energy infrastructure that increases access to homes, businesses and essential services.
- Expand private-public partnerships to ensure energy expansion projects provide affordable and equitable access, especially in rural communities. Increasing energy capacity will also make the business market more attractive and can help stimulate the creation of jobs.

4

Transportation Capacity

- Continue seaport, airport and road enhancement projects through private-public partnerships. Advocate for transportation network projects through the Department of Public Works to increase evacuation and resource distribution routes, increased access to markets and enhanced social connectivity.
- Civil planners should work with risk assessors to establish resilient transportation network plans. Incorporating environmental mitigation plans, equitable access for the population and hazard exposures.
- Ensure that emergency evacuation routes and plans include all transportation projects. Work with partners including HOTOSM and others to ensure mapping of new routes and resources are readily available in the event of a disaster.

**Better solutions.
Fewer disasters.**

Safer world.

**1305 N Holocono Street
Suite 2, Kihei, HI 9675 3**

**P: (808) 891-0525
F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.prg



ndpba@pdc.org