



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
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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
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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
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Economic Constraints



SCORE: 0.289

RANK: 59/84 PROVINCES ASSESSED

0.56
Economic
dependency
ratio

12.56%
Poverty
incidence



Gender Inequality



SCORE: 0.391

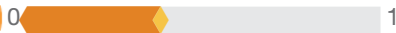
RANK: 54/84 PROVINCES ASSESSED

1.06
Female to male
secondary school
enrollment Rate

0.5
Labor force
participation ratio



Population Pressures



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

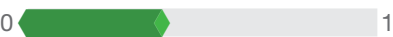
Organized violence (per 100k persons)

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



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

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



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

2.5%	98.9%
Households with a landline	Mobile coverage



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

82.7%	25.3%
Households with electricity	Households with gas



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

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

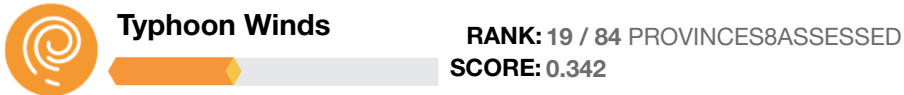
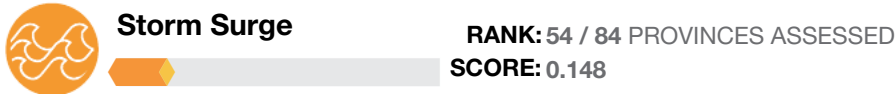
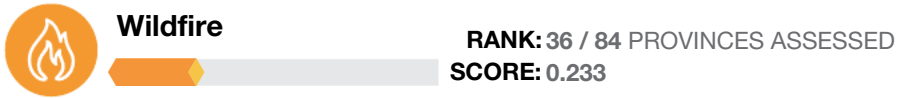
RANK: 21 / 84 PROVINCES ASSESSED
SCORE: 0.149



Drought

RANK: 6 / 84 PROVINCES ASSESSED
SCORE: 0.416

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

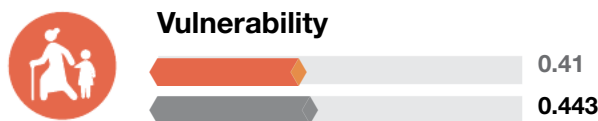
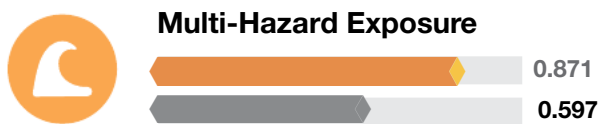
7 / 84
RANK WITHIN PROVINCES
Score: 0.577



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.

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