



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
--	--



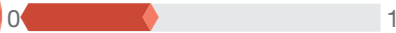
Information Access Vulnerability

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

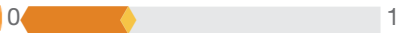
Female to male
secondary school
enrollment Rate

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

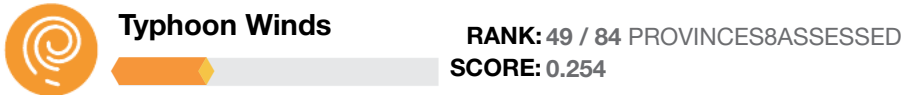
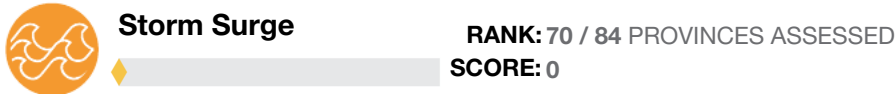
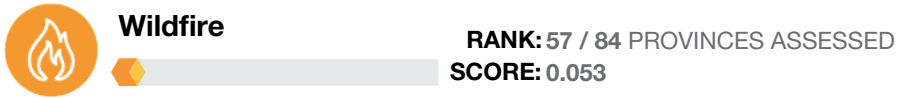
RANK: 60 / 84 PROVINCES ASSESSED
SCORE: 0.064



Drought

RANK: 23 / 84 PROVINCES ASSESSED
SCORE: 0.331

(HAZARD-SPECIFIC RISK CONTINUED)



MULTI-HAZARD RISK (MHR)

57 / 84

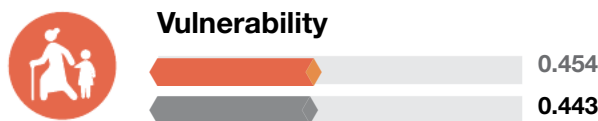
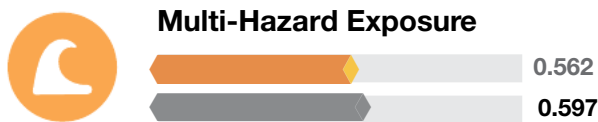
RANK WITHIN PROVINCES
Score: 0.480



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
COUNTRY SCORE



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 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