



**NDPBA**

# **INDONESIA PROVINCE RISK PROFILES**

**SUBNATIONAL ASSESSMENT RESULTS**



**PDC | GLOBAL**



**INDONESIA**

**ACEH**

**NDPBA PROVINCE PROFILE**



# ACEH

## CAPITAL: BANDA ACEH

Area: 57,956 km<sup>2</sup>

An autonomous province in the far west of the Indonesian archipelago, Aceh has a diverse population with large indigenous communities.

Oil and natural gas resources are plentiful, as are the variety of historical hazards affecting this province where Sharia law is officially practiced. Historically, the confluence of high vulnerability and multi-hazard risks have meant that large-scale disasters, such as the 2004 Indian Ocean earthquake and tsunami, have had catastrophic and long-term impacts. A survey of recent historical hazards includes volcanic eruptions, earthquakes and a series of devastating tsunamic events. The effects of these events have been compounded by the social and conflict challenges faced by the Aceh region after many years of political and military struggles.



## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - High

Score: 0.521 • Rank: 9/34



### RESILIENCE (R) - Low

Score: 0.490 • Rank: 22/34



### MULTI-HAZARD EXPOSURE (MHE) - High

Score: 0.555 • Rank: 11/34



### VULNERABILITY (V) - High

Score: 0.459 • Rank: 10/34



### COPING CAPACITY (CC) - Very Low

Score: 0.378 • Rank: 31/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - High

Score: 0.552 • Rank: 8/34



Population (2020 Projected)

**5,459,900**



Population in Poverty

**15.0%**



Adult Literacy Rate

**98.2%**



Access to improved water

**85.8%**



Average life expectancy

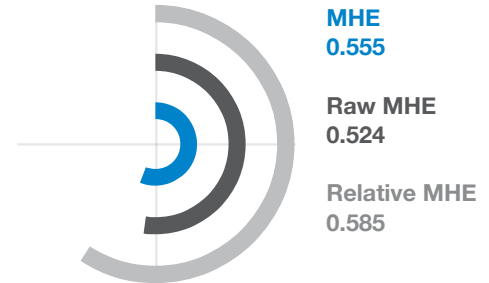
**69.9 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 11 / 34 PROVINCES  
SCORE: 0.555



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**91%**

**4,639,854**  
**\$74.3 Billion**



Tsunami

**7%**

**367,752**  
**\$4.7 Billion**



Flood

**47%**

**2,365,706**  
**\$39.66 Billion**



Flash Flood

**8%**

**395,772**  
**\$5.1 Billion**



Landslide

**9%**

**465,909**  
**\$5.4 Billion**



Volcano

**1%**

**30,903**  
**\$323.1 Million**



Drought

**3%**

**153,232**  
**\$2.9 Billion**



Wildfire

**8%**

**381,886**  
**\$4.2 Billion**



Extreme Weather

**96%**

**4,879,692**  
**\$80.6 Billion**





## VULNERABILITY (V)

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.459**

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



### Environmental Stress

**SCORE: 0.417 RANK: 12/34 PROVINCES ASSESSED**

<b>20.0%</b> Land susceptible to severe erosion	<b>20.54</b> Livestock Density (per sq km)	<b>3216.4</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.432 RANK: 15/34 PROVINCES ASSESSED**

<b>69.87</b> Life expectancy (years)	<b>47</b> Infant mortality rate (per 1,000 live births)	<b>121.43</b> Maternal mortality ratio	<b>11.9%</b> Children (under 5) Wasting	<b>10.0%</b> Disability	<b>4.5%</b> Unmet health care needs	<b>6.6%</b> Households with limited access to health facility
<b>1.4%</b> Households with catastrophic health expenditure	<b>29.03</b> Dengue incidence per 100,000 population	<b>30.66</b> Measles incidence per 100,000 population	<b>0.02</b> Malaria incidence per 100,000 population	<b>151</b> TB case notification per 100,000 population	<b>9.41</b> HIV & AIDS incidence per 100,000 population	<b>0.66</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.516 RANK: 14/34 PROVINCES ASSESSED**

<b>85.8%</b> Households with improved water	<b>73.2%</b> Households with improved sanitation
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### Information Access Vulnerability

**SCORE: 0.354 RANK: 28/34 PROVINCES ASSESSED**

<b>98.2%</b> Adult literacy rate	<b>99.1%</b> Net primary school enrollment rate	<b>9.18</b> Average years of schooling	<b>65.2%</b> Households using internet
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### Economic Constraints

**SCORE: 0.519 RANK: 7/34 PROVINCES ASSESSED**

<b>6.2%</b> Unemployment rate	<b>53.6</b> Age dependency ratio	<b>15.0%</b> Poverty rate	<b>0.319</b> GINI ratio
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### Gender Inequality

**SCORE: 0.540 RANK: 10/34 PROVINCES ASSESSED**

<b>0.98</b> Female to male literacy rate	<b>0.57</b> Female to male labor ratio	<b>1.07</b> Female to male secondary school enrollment ratio	<b>14.8%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.432 RANK: 14/34 PROVINCES ASSESSED**

<b>2.1%</b> Average annual total population change	<b>4.3%</b> Average annual urban population change	<b>0.2%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.378**

Aceh exhibits weaker Coping Capacity in the areas of Economic Capacity and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.136** **RANK: 34/34 PROVINCES ASSESSED**

<b>63.4%</b> Labor force participation	<b>2,362,295</b> Average monthly income (IDR)	<b>26.5</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.397** **RANK: 28/34 PROVINCES ASSESSED**

<b>169</b> Crime rate per 100,000 population	<b>38.3%</b> Crime clearance rate	<b>82.0%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.661** **RANK: 9/34 PROVINCES ASSESSED**

**16.1%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.505** **RANK: 18/34 PROVINCES ASSESSED**



### Health Care Capacity

**SCORE: 0.627** **RANK: 5/34 PROVINCES ASSESSED**

<b>16</b> Hospital beds per 10,000 people	<b>5.25</b> Physicians per 10,000 people	<b>32.38</b> Nurses and midwives per 10,000 people	<b>20.1%</b> Time to public hospital (over 1 hour)	<b>20.2%</b> Immunization rate (children under 5)	<b>74.2%</b> Health care accreditation rate	<b>106.5%</b> Population covered by health insurance
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### Transportation Capacity

**SCORE: 0.373** **RANK: 19/34 PROVINCES ASSESSED**

<b>0.21</b> Road and rail density	<b>36.81</b> Average distance to port or airport
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### Communications Capacity

**SCORE: 0.485** **RANK: 27/34 PROVINCES ASSESSED**

<b>57.8%</b> Mobile phone ownership	<b>0.5%</b> Households with Fixed Phones
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### Energy Capacity

**SCORE: 0.536** **RANK: 15/34 PROVINCES ASSESSED**

<b>99.1%</b> Households served by state electricity	<b>0.2%</b> Percentage of total national electricity generated in province	<b>9.79</b> Electricity generation GWh per 100,000 Population	<b>87.1%</b> Households with gas for cooking
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## DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.552**

Aceh exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



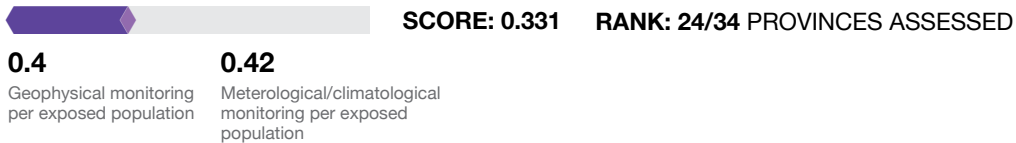
### Emergency Services



### Mass Care Support



### Early Warning and Monitoring







## RESILIENCE (R)

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.490**

Aceh's Low Resilience score and ranking are due to High Vulnerability combined with Very Low Coping Capacity, and High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Gender Inequality**



**Economic Constraints**



**Economic Capacity**



**Transportation Capacity**



**Early Warning and Monitoring**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.324**



**Tsunami**

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.318**



**Flood**

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.272**



**Flash Flood**

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.301**



**Landslide**

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.295**



**Volcano**

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.257**



**Drought**

**RANK: 29 / 34 PROVINCES ASSESSED**  
**SCORE: 0.137**



**Wildfire**

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.223**



**Extreme Weather**

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.303**



## MULTI-HAZARD RISK (MHR)

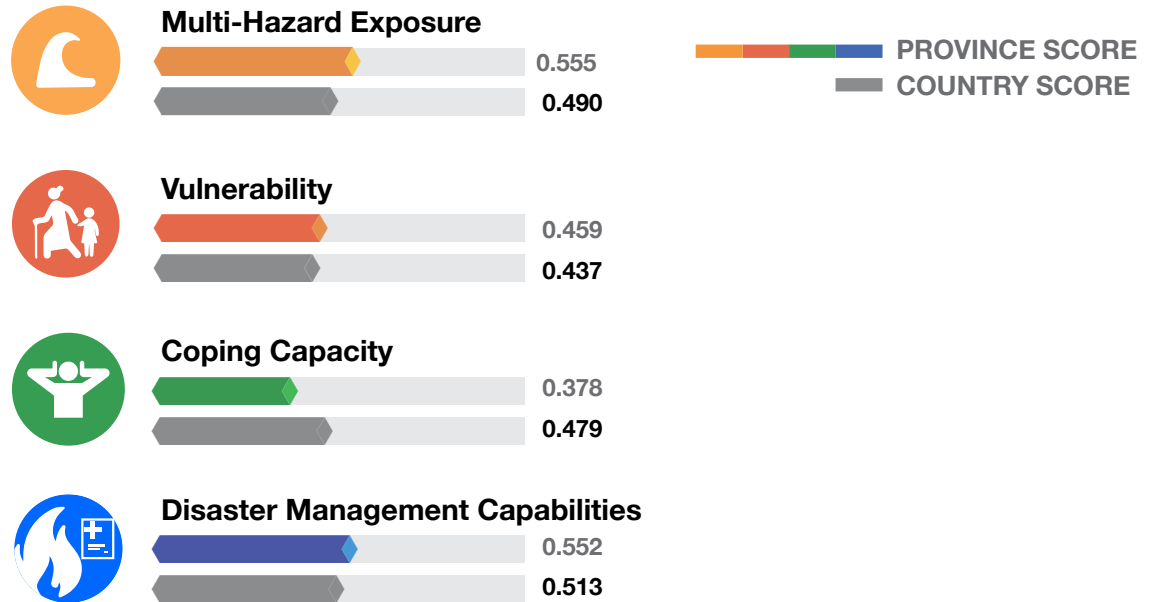
**9 / 34**

RANK WITHIN PROVINCES  
Score: 0.521



Aceh's High Multi-hazard Risk score and ranking are due to High Multi-hazard exposure combined with High Vulnerability, Very Low Coping Capacity, and High Disaster Management Capabilities scores.

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



# ACEH RECOMMENDATIONS

1

## Gender Inequality

Aceh ranks 10th for overall Gender Inequality. Findings show that female representation in Parliament (<15%) is considerably lower than the country's target for female representation in government of 30%. Aceh's female to male labor ratio of 0.57 also reflects gender inequality in the province.

Continue efforts to promote gender equality through the enactment and implementation of laws that establish rights, responsibilities and opportunities for women and men related to education, leadership, employment. Empower and enhance participation of women in leadership positions such as formal and informal justice systems, and community disaster preparedness and recovery processes.

Foster engagement with NGO partners in the implementation of programs and projects that promote gender balance in disaster management and disaster risk reduction activities in line with established laws.

2

## Economic Constraints

Aceh ranks 7th for overall Economic Constraints in the country, driven by the 6th highest poverty rate, the 8th highest Unemployment Rate, and the 8th highest Age Dependency Ratio (ratio of non-working age population to working age population). Despite the substantial assistance provided in the aftermath of the 2004 tsunami, an abundance of natural resources, and significant per capita spending on infrastructure, education and health, poverty persists in the province, especially in rural areas.

Increase access to financing and support structures (e.g. microfinance services and loans) for poor and vulnerable populations.

Promote workforce opportunities for women to boost economic growth and reduce economic dependency.



## ACEH RECOMMENDATIONS

### 3

#### Economic Capacity

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Aceh has the lowest Economic Capacity in Indonesia, driven by the 3rd lowest Labor Force Participation rate, 9th lowest GDP per Capita, and 9th lowest Average Monthly Income. As described above, Aceh suffers from persistent poverty.

Focus long term development initiatives in poor and rural areas to promote workforce opportunities that boost economic growth and reduce economic dependency.

### 4

#### Transportation Capacity

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Aceh ranks 19th for Transportation Capacity. Given the province's exposure to numerous meteorological and geophysical hazards, efforts to protect and strengthen existing transportation infrastructure, and incorporate mitigation strategies into new infrastructure projects, would enhance Aceh's overall transportation capacity and reduce interruptions caused by hazard impacts.

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## ACEH RECOMMENDATIONS

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### 5

#### Early Warning and Monitoring

Aceh has the 11th lowest Early Warning and Monitoring capability in the country, and the 11th highest overall Multi-Hazard Exposure. Warning system instrumentation and coverage for geophysical and meteorological/ climate-based hazards could be bolstered given the province's exposure to multiple hazards.

### 6

#### Emergency Services

Findings show that Aceh has the 8th highest ranking for Emergency Services capabilities, with the 8th highest Citizen Brigade participation, and the 3rd highest fleet of Ambulances per 10,000 persons. Emergency Services in Aceh could be strengthened through more accessible Police services (the Average Distance to Police Stations in Aceh is over 30 km) and by increasing the numbers of trained Search and Rescue staff.

**Better solutions.  
Fewer disasters.**

# Safer world.

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INDONESIA

**BALI**

**NDPBA PROVINCE PROFILE**

# BALI

## CAPITAL: DENPASAR

Area: 5,780 km<sup>2</sup>



With a mountainous geography dominated by active volcanoes and the verdant agricultural and cultural hearth of Ubud, the Balinese economy is dominated by tourism

and its all-hazards resilience efforts have been informed by its socio-cultural aspects. For example, it is the only Hindu-majority province in Indonesia. Whilst Bali and its capital, Denpasar, have lower levels of vulnerability, multi-hazard risk and exposure, disaster management capabilities should be enhanced as tourism in an age of COVID19 will add further complexities to both the public health and tourism infrastructures. Historically, there have been frequent earthquakes, tsunami run-ups, and volcanic events in Bali. Given it's role as a tourism and global convening center, both climate change and DRR have been addressed via the Bali Action Plan beginning in 2007.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Very Low

Score: 0.381 • Rank: 31/34



### RESILIENCE (R) - Very High

Score: 0.608 • Rank: 3/34



### MULTI-HAZARD EXPOSURE (MHE) - Low

Score: 0.349 • Rank: 27/34



### VULNERABILITY (V) - Very Low

Score: 0.321 • Rank: 33/34



### COPING CAPACITY (CC) - Very High

Score: 0.639 • Rank: 2/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Low

Score: 0.506 • Rank: 20/34



Population (2020 Projected)

**4,380,800**



Population in Poverty

**3.6%**



Adult Literacy Rate

**94.5%**



Access to improved water

**96.8%**



Average life expectancy

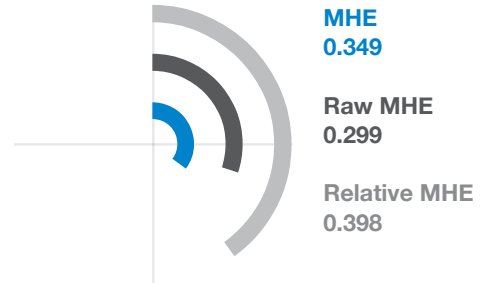
**72.0 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 27 / 34 PROVINCES  
SCORE: 0.349



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**57%**

2,412,922  
\$12.3 Billion



Tsunami

**4%**

165,742  
\$838.6 Million



Flood

**25%**

1,036,977  
\$5.31 Billion



Flash Flood

**3%**

116,863  
\$584.7 Million



Landslide

**3%**

138,170  
\$669.8 Million



Volcano

**11%**

478,914  
\$2.4 Billion



Drought

**14%**

590,674  
\$2.9 Billion



Wildfire

**4%**

166,972  
\$811.4 Million



Extreme Weather

**99%**

4,161,265  
\$20.9 Billion





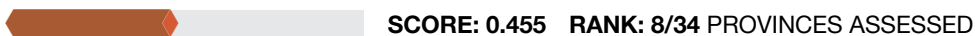
## VULNERABILITY (V)

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.321**

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



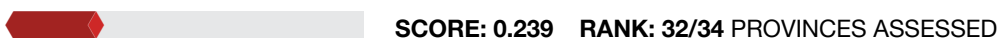
### Environmental Stress



<b>8.0%</b>	<b>263.84</b>	<b>99.5</b>
Land susceptible to severe erosion	Livestock Density (per sq km)	Net Deforestation (hectares per year)



### Vulnerable Health Status



<b>71.99</b>	<b>29</b>	<b>47.32</b>	<b>6.3%</b>	<b>9.6%</b>	<b>3.2%</b>	<b>1.4%</b>
Life expectancy (years)	Infant mortality rate (per 1,000 live births)	Maternal mortality ratio	Children (under 5) Wasting	Disability	Unmet health care needs	Households with limited access to health facility
<b>1.7%</b>	<b>21.06</b>	<b>11.18</b>	<b>0.01</b>	<b>89</b>	<b>186.15</b>	<b>0.31</b>
Households with catastrophic health expenditure	Dengue incidence per 100,000 population	Measles incidence per 100,000 population	Malaria incidence per 100,000 population	TB case notification per 100,000 population	HIV & AIDS incidence per 100,000 population	Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability



<b>96.8%</b>	<b>94.6%</b>
Households with improved water	Households with improved sanitation



### Information Access Vulnerability



<b>94.5%</b>	<b>96.8%</b>	<b>8.84</b>	<b>79.6%</b>
Adult literacy rate	Net primary school enrollment rate	Average years of schooling	Households using internet



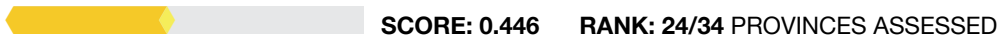
### Economic Constraints



<b>1.5%</b>	<b>43.3</b>	<b>3.6%</b>	<b>0.366</b>
Unemployment rate	Age dependency ratio	Poverty rate	GINI ratio



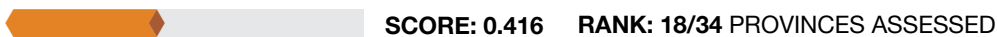
### Gender Inequality



<b>0.94</b>	<b>0.81</b>	<b>0.98</b>	<b>9.1%</b>
Female to male literacy rate	Female to male labor ratio	Female to male secondary school enrollment ratio	Percent female seats in government



### Population Pressures



<b>1.2%</b>	<b>3.1%</b>	<b>21.4%</b>
Average annual total population change	Average annual urban population change	Recent Net migration



## COPING CAPACITY (CC)

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.639**

Bali exhibits weaker Coping Capacity in the areas of Economic Capacity and Energy Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.592 RANK: 5/34 PROVINCES ASSESSED**

<b>73.9%</b> Labor force participation	<b>2,988,555</b> Average monthly income (IDR)	<b>38.1</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.715 RANK: 2/34 PROVINCES ASSESSED**

<b>76</b> Crime rate per 100,000 population	<b>74.9%</b> Crime clearance rate	<b>83.6%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.140 RANK: 28/34 PROVINCES ASSESSED**

**3.8%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.777 RANK: 2/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.734 RANK: 2/34 PROVINCES ASSESSED

<b>15.4</b> Hospital beds per 10,000 people	<b>8.08</b> Physicians per 10,000 people	<b>17.59</b> Nurses and midwives per 10,000 people	<b>12.0%</b> Time to public hospital (over 1 hour)	<b>64.8%</b> Immunization rate (children under 5)	<b>91.9%</b> Health care accreditation rate	<b>80.1%</b> Population covered by health insurance
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### Transportation Capacity SCORE: 0.888 RANK: 2/34 PROVINCES ASSESSED

<b>2.07</b> Road and rail density	<b>16.16</b> Average distance to port or airport
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### Communications Capacity SCORE: 0.845 RANK: 5/34 PROVINCES ASSESSED

<b>69.6%</b> Mobile phone ownership	<b>3.5%</b> Households with Fixed Phones
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### Energy Capacity SCORE: 0.640 RANK: 12/34 PROVINCES ASSESSED

<b>99.9%</b> Households served by state electricity	<b>1.1%</b> Percentage of total national electricity generated in province	<b>71.25</b> Electricity generation GWh per 100,000 Population	<b>78.1%</b> Households with gas for cooking
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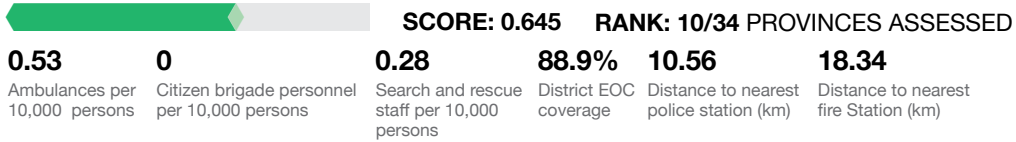
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 20 / 34 PROVINCES ASSESSED**  
**SCORE: 0.506**

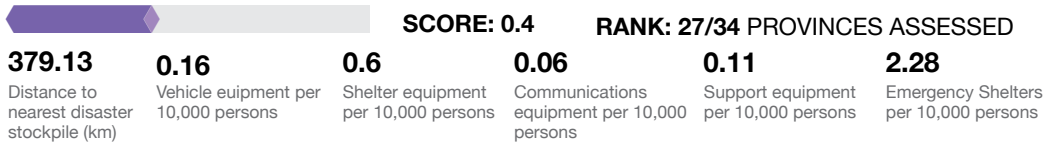
Bali exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Early Warning and Monitoring. The bar charts indicate the disaster management themes contributing to the province’s overall Disaster Management Capabilities score.



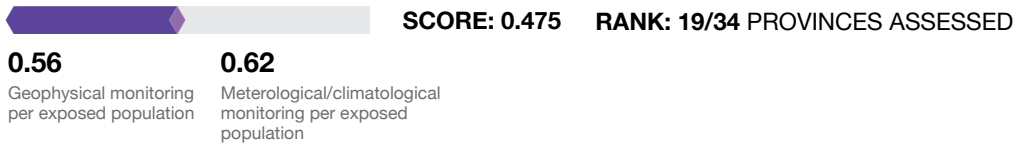
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.608**

Bali's Very High Resilience score and ranking are due to Very Low Vulnerability combined with Very High Coping Capacity, and Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Information Access Vulnerability**



**Environmental Stress**



**Economic Capacity**



**Energy Capacity**



**Mass Care Support**



**Early Warning and Monitoring**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.167**



**Tsunami**

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.174**



**Flood**

**RANK: 32 / 34 PROVINCES ASSESSED**  
**SCORE: 0.121**



**Flash Flood**

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.133**



**Landslide**

**RANK: 29 / 34 PROVINCES ASSESSED**  
**SCORE: 0.146**



**Volcano**

**RANK: 13 / 34 PROVINCES ASSESSED**  
**SCORE: 0.239**



**Drought**

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.105**



**Wildfire**

**RANK: 32 / 34 PROVINCES ASSESSED**  
**SCORE: 0.124**



**Extreme Weather**

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.187**



## MULTI-HAZARD RISK (MHR)

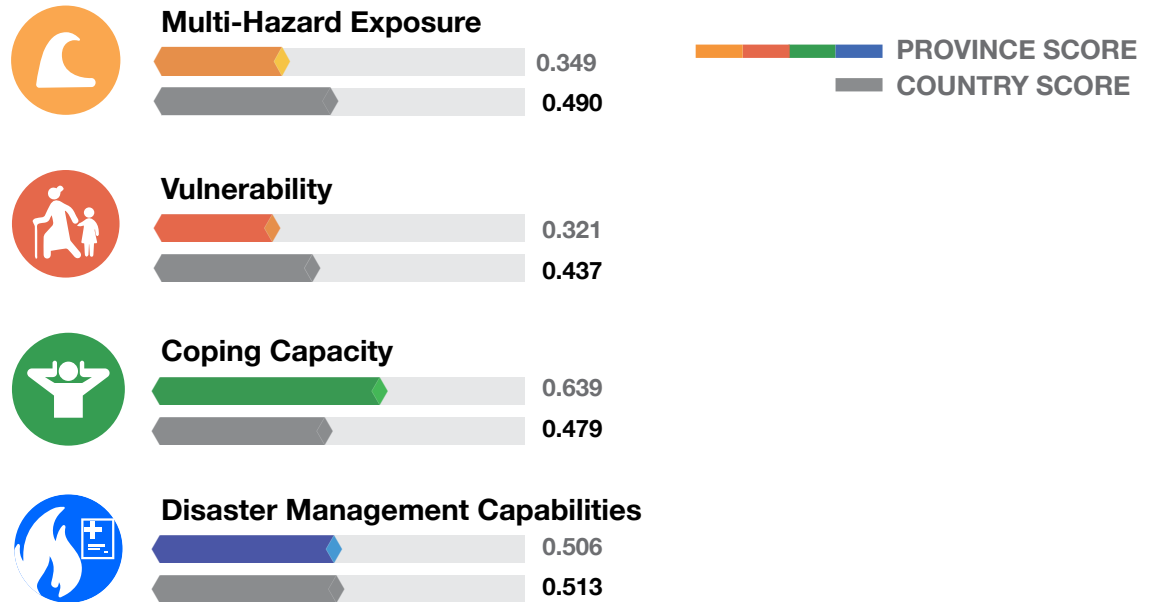
**31 / 34**

RANK WITHIN PROVINCES  
Score: 0.381



Bali's Very Low Multi-hazard Risk score and ranking are due to Low Multi-hazard exposure combined with Very Low Vulnerability, Very High Coping Capacity, and Low Disaster Management Capabilities scores.

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



# BALI RECOMMENDATIONS

1

## Information Access Vulnerability

Bali has the 14th highest Information Access Vulnerability, driven by the 9th lowest Net Enrollment in Primary School (96.81%) and the 9th lowest Adult Literacy (94.53%).

Prioritize investments in education infrastructure, educational resources and personnel to improve attendance and completion rates.

2

## Environmental Stress

Bali has the 8th highest Environmental Stress ranking, driven primarily by the 3rd highest Livestock Density (264 animals per square km) in the country. Heavy grazing can cause environmental degradation, which in turn exacerbates hazard impacts such as flooding and erosion.

In areas prone to erosion, prevent overgrazing of pastures by reducing herd size on available hectareage.

Reduce access of grazing animals to streams and rivers, where high animal traffic can destroy the integrity of riverbanks and pollute water sources.

## BALI RECOMMENDATIONS

### 3

#### Economic Capacity

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Though Bali has a relatively high Economic Capacity ranking 5th out of all provinces, lower economic capacity is evident in terms of Average Monthly Income and GDP per Capita. Largely dependent upon the tourism industry, Bali has seen significant economic impacts as a result of COVID-19. Assistance programs are needed to help entrepreneurs and small businesses expand as the population formerly employed in the service industry turns to informal labor options such as agriculture and fishing.

Increase access to financing and support structures (e.g. microfinance services and loans) to build the entrepreneurial and technical skills of small business owners and household enterprises.

### 4

#### Energy Capacity

---

Bali ranks 12th for overall Energy Capacity. Expand existing energy generation and distribution infrastructure to build resilience in energy supply and limit service gaps.



## BALI RECOMMENDATIONS

### 5

#### Mass Care Support

Bali has the 8th lowest ranking for overall Mass Care Support capabilities, with the 9th lowest Disaster Equipment ranking, and the 9th lowest ranking for proximity to the nearest Disaster Stockpile (132 km away).

Given Bali's exposure to numerous hazards and typical influx of visitors, resources for Mass Care during a disaster are in short supply.

As Bali's tourism-based economy recovers, consider augmenting existing disaster equipment supplies, strategically locating disaster stockpiles, and assessing shelter capacities to better meet the needs of residents and visitors during a disaster.

### 6

#### Early Warning and Monitoring

Bali ranks 19th for overall Early Warning and Monitoring capabilities. As a hazard prone province and popular tourist destination, consider ways to increase multi-cultural and multi-lingual accessibility and understanding of hazard alerts and warning information to encourage life-saving actions.

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**BANTEN**

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**NDPBA PROVINCE PROFILE**

# BANTEN

## CAPITAL: SERANG

Area: 9,663 km<sup>2</sup>



Located on the far western portion of the island of Java, Banten has been experiencing rapid urbanization and growth as a transit hub between Java and Sumatra. The climate of Banten

has been traditionally influenced by both annual monsoonal events and ENSO (El Nino and La Nina) oscillations. Although the region has a high level of coping capacity, earthquakes and flooding commonly affect the region, which has both high population density and agricultural production in the northern region. Good governance and infrastructure have also contributed to Banten's resilience in the face of the many historic earthquakes affecting the province.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Moderate

Score: 0.496 • Rank: 17/34



### RESILIENCE (R) - Moderate

Score: 0.514 • Rank: 17/34



### MULTI-HAZARD EXPOSURE (MHE) - Moderate

Score: 0.529 • Rank: 13/34



### VULNERABILITY (V) - Low

Score: 0.399 • Rank: 25/34



### COPING CAPACITY (CC) - Very High

Score: 0.582 • Rank: 4/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Very Low

Score: 0.361 • Rank: 34/34



Population (2020 Projected)

**13,160,500**



Population in Poverty

**4.9%**



Adult Literacy Rate

**97.6%**



Access to improved water

**91.6%**



Average life expectancy

**69.8 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 13 / 34 PROVINCES  
SCORE: 0.529



MHE  
0.529

Raw MHE  
0.589

Relative MHE  
0.469

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**80%**

10,022,598  
\$60.2 Billion



Tsunami

**3%**

422,883  
\$2 Billion



Flood

**51%**

6,446,939  
\$40.34 Billion



Flash Flood

**2%**

216,801  
\$1.2 Billion



Landslide

**<1%**

35,375  
\$132.4 Million



Volcano

**0%**

-  
-



Drought

**1%**

181,648  
\$3.2 Billion



Wildfire

**1%**

111,276  
\$419 Million



Extreme Weather

**99%**

12,415,458  
\$76.9 Billion



## VULNERABILITY (V)

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.399**

Vulnerability in Banten is primarily driven by Population Pressures and Gender Inequality. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.383 RANK: 15/34 PROVINCES ASSESSED**

<b>18.8%</b> Land susceptible to severe erosion	<b>167.51</b> Livestock Density (per sq km)	<b>-523.6</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.338 RANK: 25/34 PROVINCES ASSESSED**

<b>69.84</b> Life expectancy (years)	<b>32</b> Infant mortality rate (per 1,000 live births)	<b>97.32</b> Maternal mortality ratio	<b>10.5%</b> Children (under 5) Wasting	<b>6.2%</b> Disability	<b>6.0%</b> Unmet health care needs	<b>8.7%</b> Households with limited access to health facility
<b>1.7%</b> Households with catastrophic health expenditure	<b>8.06</b> Dengue incidence per 100,000 population	<b>0.39</b> Measles incidence per 100,000 population	<b>0</b> Malaria incidence per 100,000 population	<b>240</b> TB case notification per 100,000 population	<b>23.55</b> HIV & AIDS incidence per 100,000 population	<b>0.8</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.319 RANK: 25/34 PROVINCES ASSESSED**

<b>91.6%</b> Households with improved water	<b>81.0%</b> Households with improved sanitation
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### Information Access Vulnerability

**SCORE: 0.356 RANK: 26/34 PROVINCES ASSESSED**

<b>97.6%</b> Adult literacy rate	<b>98.0%</b> Net primary school enrollment rate	<b>8.74</b> Average years of schooling	<b>82.3%</b> Households using internet
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### Economic Constraints

**SCORE: 0.461 RANK: 11/34 PROVINCES ASSESSED**

<b>8.1%</b> Unemployment rate	<b>45.3</b> Age dependency ratio	<b>4.9%</b> Poverty rate	<b>0.365</b> GINI ratio
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### Gender Inequality

**SCORE: 0.463 RANK: 23/34 PROVINCES ASSESSED**

<b>0.97</b> Female to male literacy rate	<b>0.54</b> Female to male labor ratio	<b>1.03</b> Female to male secondary school enrollment ratio	<b>23.5%</b> Percent female seats in government
---	---	---	--



### Population Pressures

**SCORE: 0.476 RANK: 12/34 PROVINCES ASSESSED**

<b>2.3%</b> Average annual total population change	<b>2.9%</b> Average annual urban population change	<b>9.8%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.582**

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



### Economic Capacity

**SCORE: 0.425 RANK: 10/34 PROVINCES ASSESSED**

<b>64.5%</b> Labor force participation	<b>3,842,833</b> Average monthly income (IDR)	<b>36.9</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.666 RANK: 10/34 PROVINCES ASSESSED**

<b>54</b> Crime rate per 100,000 population	<b>61.4%</b> Crime clearance rate	<b>83.7%</b> Voter participation
--	--------------------------------------	-------------------------------------



### Environmental Capacity

**SCORE: 0.436 RANK: 13/34 PROVINCES ASSESSED**

**10.8%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.704 RANK: 4/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.371 RANK: 26/34 PROVINCES ASSESSED

<b>8.7</b> Hospital beds per 10,000 people	<b>4.78</b> Physicians per 10,000 people	<b>9.41</b> Nurses and midwives per 10,000 people	<b>21.7%</b> Time to public hospital (over 1 hour)	<b>33.4%</b> Immunization rate (children under 5)	<b>77.7%</b> Health care accreditation rate	<b>74.7%</b> Population covered by health insurance
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### Transportation Capacity SCORE: 0.751 RANK: 4/34 PROVINCES ASSESSED

<b>1.45</b> Road and rail density	<b>23.37</b> Average distance to port or airport
--------------------------------------	---



### Communications Capacity SCORE: 0.725 RANK: 8/34 PROVINCES ASSESSED

<b>65.2%</b> Mobile phone ownership	<b>2.2%</b> Households with Fixed Phones
--	---



### Energy Capacity SCORE: 0.968 RANK: 1/34 PROVINCES ASSESSED

<b>99.6%</b> Households served by state electricity	<b>17.5%</b> Percentage of total national electricity generated in province	<b>381.33</b> Electricity generation GWh per 100,000 Population	<b>88.7%</b> Households with gas for cooking
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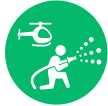




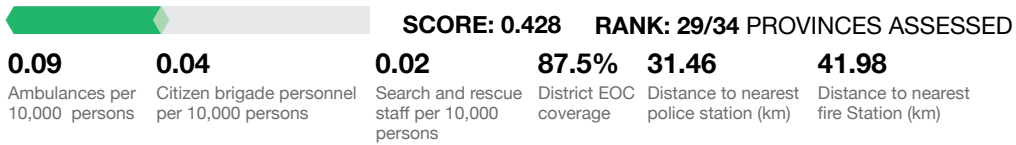
## DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 34 / 34** PROVINCES ASSESSED  
**SCORE: 0.361**

Banten exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



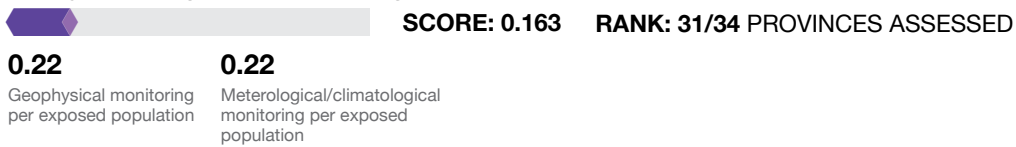
### Emergency Services



### Mass Care Support



### Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.514**

Banten's Moderate Resilience score and ranking are due to Low Vulnerability combined with Very High Coping Capacity, and Very Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Population Pressures**



**Gender Inequality**



**Health Care Capacity**



**Economic Capacity**



**Early Warning and Monitoring**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.278**



**Tsunami**

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.248**



**Flood**

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.267**



**Flash Flood**

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.193**



**Landslide**

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.160**



**Volcano**

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.128**



**Drought**

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.148**



**Wildfire**

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.167**



**Extreme Weather**

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.289**



## MULTI-HAZARD RISK (MHR)

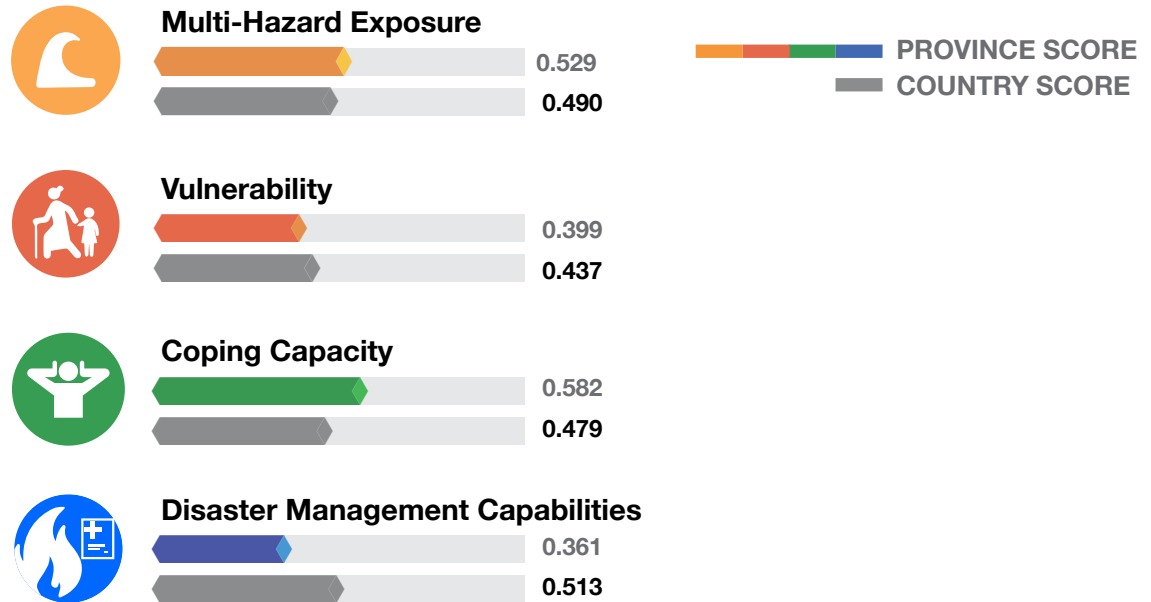
**17 / 34**

RANK WITHIN PROVINCES  
Score: 0.496



Banten's Moderate Multi-hazard Risk score and ranking are due to Moderate Multi-hazard exposure combined with Low Vulnerability, Very High Coping Capacity, and Very Low Disaster Management Capabilities scores.

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



# BANTEN RECOMMENDATIONS

1

## Population Pressures

Findings show that Banten has the 12th highest overall Population Pressures in the country, with the 8th highest Average Population Change (2.31%) and the 10th highest Net Recent Migration rate (9.81). In addition, Banten has the 5th highest ranking for population exposure to multiple hazards.

Banten’s growth in the industrial and manufacturing sectors and proximity to the nation’s capital have resulted in notable population increases.

Promote interagency engagement and collaboration in sustainable development planning to anticipate the needs of the growing population and encourage equitable distribution of services and infrastructure – including housing, transportation, health care, and communications.

2

## Gender Inequality

Banten’s female to male Labor Ratio of 0.54 drives its overall Gender Inequality score. In addition, enhanced efforts to achieve gender balance in relation

Enact policies and programs that reduce gender discrimination to boost economic growth and reduce poverty, especially among women.

Invest in programs that support women’s sexual and reproductive rights to facilitate increased participation in, and contribution to social and economic development.

# BANTEN RECOMMENDATIONS

## 3

### Health Care Capacity

Banten has the 9th lowest Health Care Capacity ranking in the country, driven by the lowest ranking for Nurses and Midwives (fewer than 10 per 10,000 persons), the 4th lowest number of Hospital Beds (8.7 beds per 10,000 persons), and the 4th lowest Immunization Rate in children under 5 years of age (33.35%). These capacity constraints will become more evident as Banten’s population grows.

Increase the number of hospital beds to improve availability of inpatient services, and expand the minimum health service standard to improve access to, and quality of care, with special focus on mothers, children, adolescents, elderly, and those with chronic health conditions.

Strengthen programs focused on disease prevention and health promotion to counter preventable diseases through vaccination, and the growing number of non-communicable diseases in the country (e.g. diabetes and heart disease).

## 4

### Economic Capacity

While Banten ranks 10th for overall Economic Capacity, it has the 6th lowest Labor Force Participation rate (64.5%) in the country. Banten’s fast growing economy and significant informal sector would benefit by increased engagement of the female workforce.

Expand opportunities for women to participate in economic activities through the implementation of programs that provide quality, affordable childcare and health care services.

## BANTEN RECOMMENDATIONS

### 5

#### Early Warning and Monitoring

Banten has the 4th lowest rank for overall Early Warning and Monitoring capabilities in the country, with the 5th lowest ranking for both geophysical hazard warning systems and meteorological-climate hazard warning systems. Given Banten's high population exposure to multiple hazards (ranking 5th), increasing instrumentation and coverage of monitoring equipment and improving redundancies in transmission of warning messages will enhance distribution of life-saving information.

In addition, due to Banten's relatively high influx of migrants, efforts to improve understandability and accurate interpretation of alerts and warning information will facilitate response actions during hazard events.

### 6

#### Emergency Services

Banten has the 6th lowest ranking for overall Emergency Services capabilities, driven by the lowest number of Search and Rescue staff (.02 per 10,000 persons), and the 2nd lowest number of Ambulances (.09 per 10,000 persons) in the country.

Given the necessity to expand Emergency Services capabilities to accommodate the needs of a growing population, secure funding to expand service provision (e.g., ambulances) and recruit and train additional Search and Rescue staff and Citizen Brigade personnel.

Institute a training and exercise schedule to regularly practice and maintain skills. Broaden response training to encompass industrial hazards in addition to the many natural hazards faced by the province.

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**INDONESIA**

**BENGKULU**

**NDPBA PROVINCE PROFILE**

# BENGKULU

## CAPITAL: BENGKULU

Area: 19,919 km<sup>2</sup>



Bengkulu province, on the southwest coast of Sumatra, has both a dynamic extractives and energy economy combined with longstanding challenges relating to droughts, catastrophic earthquakes, tsunamis, floods and landslides. Bengkulu was influenced by both British and Dutch colonialism and its historic economic importance as a center of trade has resulted in high levels of both resilience and coping capacity in the face of elevated levels of multi-hazard exposure. Along with its growing export and energy economy, Bengkulu is also collaborating with Indonesian national stakeholders to reduce poverty and with international actors, such as the Japanese Red Cross, to enhance DRR efforts.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Low

Score: 0.474 • Rank: 23/34



### RESILIENCE (R) - High

Score: 0.551 • Rank: 9/34



### MULTI-HAZARD EXPOSURE (MHE) - High

Score: 0.551 • Rank: 12/34



### VULNERABILITY (V) - Moderate

Score: 0.444 • Rank: 16/34



### COPING CAPACITY (CC) - High

Score: 0.558 • Rank: 8/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - High

Score: 0.540 • Rank: 12/34



Population (2020 Projected)

**2,019,800**



Population in Poverty

**14.9%**



Adult Literacy Rate

**98.0%**



Access to improved water

**57.6%**



Average life expectancy

**69.2 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 12 / 34 PROVINCES  
SCORE: 0.551



MHE  
0.551

Raw MHE  
0.342

Relative MHE  
0.761

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**99%**

**1,893,415**  
**\$36.8 Billion**



Tsunami

**3%**

**66,176**  
**\$1 Billion**



Flood

**16%**

**307,534**  
**\$6.66 Billion**



Flash Flood

**6%**

**110,123**  
**\$1.7 Billion**



Landslide

**5%**

**98,479**  
**\$1 Billion**



Volcano

**1%**

**21,955**  
**\$284.3 Million**



Drought

**70%**

**1,333,993**  
**\$30.3 Billion**



Wildfire

**8%**

**149,728**  
**\$1.6 Billion**



Extreme Weather

**97%**

**1,850,716**  
**\$36.3 Billion**



## VULNERABILITY (V)

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.444**

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



### Environmental Stress

**SCORE: 0.355 RANK: 20/34 PROVINCES ASSESSED**

<b>7.6%</b>	<b>20.59</b>	<b>7064</b>
Land susceptible to severe erosion	Livestock Density (per sq km)	Net Deforestation (hectares per year)



### Vulnerable Health Status

**SCORE: 0.375 RANK: 22/34 PROVINCES ASSESSED**

<b>69.21</b>	<b>29</b>	<b>131.7</b>	<b>8.3%</b>	<b>9.0%</b>	<b>5.7%</b>	<b>6.9%</b>
Life expectancy (years)	Infant mortality rate (per 1,000 live births)	Maternal mortality ratio	Children (under 5) Wasting	Disability	Unmet health care needs	Households with limited access to health facility
<b>1.6%</b>	<b>72.28</b>	<b>4.69</b>	<b>0.04</b>	<b>191</b>	<b>21.14</b>	<b>0.15</b>
Households with catastrophic health expenditure	Dengue incidence per 100,000 population	Measles incidence per 100,000 population	Malaria incidence per 100,000 population	TB case notification per 100,000 population	HIV & AIDS incidence per 100,000 population	Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.806 RANK: 2/34 PROVINCES ASSESSED**

<b>57.6%</b>	<b>75.9%</b>
Households with improved water	Households with improved sanitation



### Information Access Vulnerability

**SCORE: 0.398 RANK: 21/34 PROVINCES ASSESSED**

<b>98.0%</b>	<b>98.7%</b>	<b>8.73</b>	<b>67.4%</b>
Adult literacy rate	Net primary school enrollment rate	Average years of schooling	Households using internet



### Economic Constraints

**SCORE: 0.359 RANK: 24/34 PROVINCES ASSESSED**

<b>3.4%</b>	<b>46.2</b>	<b>14.9%</b>	<b>0.34</b>
Unemployment rate	Age dependency ratio	Poverty rate	GINI ratio



### Gender Inequality

**SCORE: 0.479 RANK: 19/34 PROVINCES ASSESSED**

<b>0.98</b>	<b>0.62</b>	<b>1.04</b>	<b>15.6%</b>
Female to male literacy rate	Female to male labor ratio	Female to male secondary school enrollment ratio	Percent female seats in government



### Population Pressures

**SCORE: 0.336 RANK: 27/34 PROVINCES ASSESSED**

<b>1.7%</b>	<b>2.3%</b>	<b>5.9%</b>
Average annual total population change	Average annual urban population change	Recent Net migration





## COPING CAPACITY (CC)

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.558**

Bengkulu exhibits weaker Coping Capacity in the areas of Transportation Capacity and Economic Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.344** **RANK: 17/34 PROVINCES ASSESSED**

**69.9%** **2,495,742** **24.5**  
Labor force participation Average monthly income (IDR) GDP per capita (Million IDR)



### Governance

**SCORE: 0.730** **RANK: 1/34 PROVINCES ASSESSED**

**175** **83.6%** **85.5%**  
Crime rate per 100,000 population Crime clearance rate Voter participation



### Environmental Capacity

**SCORE: 1** **RANK: 1/34 PROVINCES ASSESSED**

**24.1%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.454** **RANK: 22/34 PROVINCES ASSESSED**



### Health Care Capacity

**SCORE: 0.492** **RANK: 15/34 PROVINCES ASSESSED**

**11.9** **2.49** **20.25** **11.6%** **48.2%** **75.9%** **61.2%**  
Hospital beds per 10,000 people Physicians per 10,000 people Nurses and midwives per 10,000 people Time to public hospital (over 1 hour) Immunization rate (children under 5) Health care accreditation rate Population covered by health insurance



### Transportation Capacity

**SCORE: 0.226** **RANK: 31/34 PROVINCES ASSESSED**

**0.16** **48.99**  
Road and rail density Average distance to port or airport



### Communications Capacity

**SCORE: 0.600** **RANK: 20/34 PROVINCES ASSESSED**

**61.2%** **1.2%**  
Mobile phone ownership Households with Fixed Phones



### Energy Capacity

**SCORE: 0.500** **RANK: 18/34 PROVINCES ASSESSED**

**97.2%** **0.1%** **7.46** **87.2%**  
Households served by state electricity Percentage of total national electricity generated in province Electricity generation GWh per 100,000 Population Households with gas for cooking



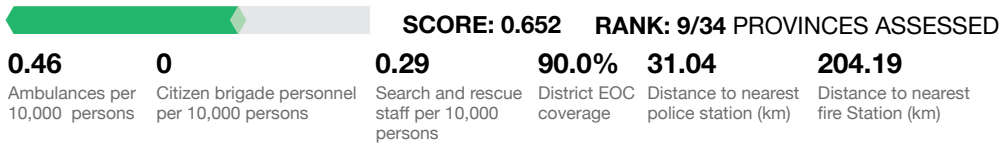
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.540**

Bengkulu exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



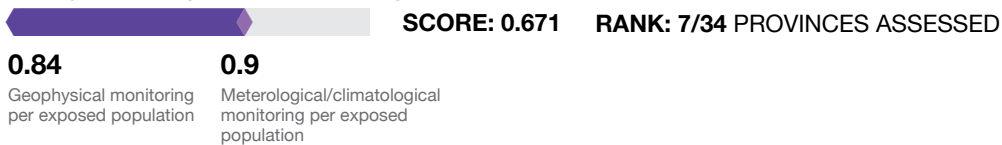
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring







## RESILIENCE (R)

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.551**

Bengkulu's High Resilience score and ranking are due to Moderate Vulnerability combined with High Coping Capacity, and High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Clean Water  
Access  
Vulnerability**



**Gender  
Inequality**



**Transportation  
Capacity**



**Economic  
Capacity**



**Mass Care  
Support**



**Emergency  
Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 13 / 34 PROVINCES ASSESSED**  
**SCORE: 0.272**



**Tsunami**

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.212**



**Flood**

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.114**



**Flash Flood**

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.192**



**Landslide**

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.187**



**Volcano**

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.235**



**Drought**

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.214**



**Wildfire**

**RANK: 29 / 34 PROVINCES ASSESSED**  
**SCORE: 0.155**



**Extreme Weather**

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.218**



## MULTI-HAZARD RISK (MHR)

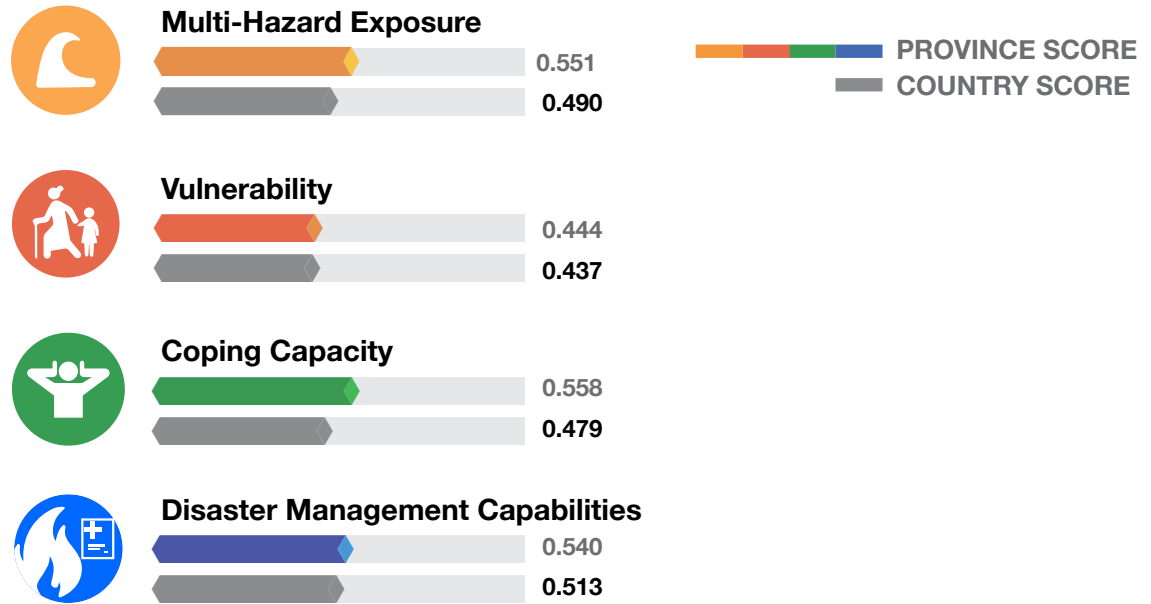
**23 / 34**

RANK WITHIN PROVINCES  
Score: 0.474



Bengkulu's Low Multi-hazard Risk score and ranking are due to High Multi-hazard exposure combined with Moderate Vulnerability, High Coping Capacity, and High Disaster Management Capabilities scores.

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



# BENGKULU RECOMMENDATIONS

# 1

## Clean Water Access Vulnerability

Bengkulu has the 2nd highest Clean Water Access Vulnerability in Indonesia. Only 57.6% of households in the province have access to an Improved Water Source, and 76% of households have access to Improved Sanitation services. The province also has significant exposure to drought, earthquakes, landslides and severe weather hazards, all of which can present challenges for sustainable clean water infrastructure development.

Secure investments to strengthen existing clean water and sanitation infrastructure to reduce hazard-related impacts (e.g., repair or replace pipes to reduce leakage in drought prone areas to conserve water resources; implement mitigation strategies to reduce impacts on infrastructure resulting from earthquakes and landslides).

Continue collaboration and coordination among local government ministries, NGOs and community-based organizations to implement strategies to expand improvements in clean water, sanitation and hygiene throughout the province.

# 2

## Gender Inequality

Findings show that female representation in Parliament (<16%) is considerably lower than the country's target for female representation in government of 30%. In addition, Bengkulu ranks 14th for female to male Literacy Rate.

Promote gender equality through the enactment and implementation of laws that establish rights, responsibilities and opportunities for women, men, girls and boys related to education, leadership and employment.

Increase opportunities to expand participation of women in education and economic activities through the enactment of policies that provide quality, affordable childcare and health care services.

# BENGKULU RECOMMENDATIONS

## 3

### Transportation Capacity

Bengkulu has the 4th lowest ranking for Transportation Capacity, driven by the 2nd greatest Average Distance to a Port or Airport Facility (49 km). Limitations in transportation capacity impede economic growth and reduce efficiencies in disaster response and recovery efforts. A lack of improved roads also has implications for delivery of other infrastructure services such as water and energy, as these are often juxtaposed with one another.

Secure funding to expand transportation capacity in the province, with a focus on improving access to underserved areas.

Invest in mitigation strategies that protect new transportation infrastructure from hazard impacts.

## 4

### Economic Capacity

Bengkulu ranks 17th for overall Economic Capacity. While Labor Force Participation is relatively high, findings show that GDP per Capita is the 7th lowest in the country, and Average Monthly Income is less than 2.5 million IDR. Nearly 15% of Bengkulu's population lives below the poverty line. Drivers of Bengkulu's economy include energy (coal resources) and agriculture.

Increase access to financing and support structures (e.g. microfinance services and loans) for poor and vulnerable populations.

Boost efficiency of financial sector systems to streamline access to credit and processing of loans for informal sector enterprises.

## BENGKULU RECOMMENDATIONS

### 5

#### Mass Care Support

Bengkulu has the 5th lowest Mass Care Support capabilities in the country, driven by limited access to Disaster Stockpiles (the average distance to the nearest stockpile is over 500 km away) and number of Emergency Shelters (only 1.1 per 10,000 people).

Improving transportation capacity and access to clean water will have direct bearing on mass care support by enhancing access to disaster stockpiles.

Build shelter capacity by equipping new development initiatives (e.g., schools, gymnasiums and community centers) with the necessary amenities to provide dual use and ensure that new structures are built to codes and standards to withstand hazard impacts.

### 6

#### Emergency Services

Bengkulu has the 9th highest overall Emergency Services ranking, but capabilities could be increased by greater numbers and strategic placement of fire stations. Currently, the Average Distance to a Fire Station in Bengkulu is over 200 km away from populated areas. The Average Distance to a Police Station is over 31 km away. Excessive response times during an emergency can be life-threatening.

Expansion of transportation networks will have direct bearing on the provision of Emergency Services.

The establishment and training of Citizen Brigades in disaster preparedness and response will also help build resilience at the village level.

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**INDONESIA**

**DI YOGYAKARTA**

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# DI YOGYAKARTA

## CAPITAL: YOGYAKARTA

Area: 3,133 km<sup>2</sup>

Located in southern Java and governed by the Yogyakarta Sultanate, the Special Region of Yogyakarta (Indonesian: Daerah Istimewa Yogyakarta) has lower

levels of overall risk, exposure and vulnerability and higher levels of coping capacity and disaster management capabilities. Due to its primacy as an industrial and cultural hub, Yogyakarta in 2012 convened the Fifth Asian Ministerial Conference on Disaster Risk Reduction and has worked closely with UNDRR, UNDP and others to enhance urban community resilience. With a population of nearly 4 million inhabitants, earthquakes, flooding and extreme weather are historic challenges being met with DRR collaboration at the local, provincial, national and international levels.



## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Very Low

Score: 0.418 • Rank: 28/34



### RESILIENCE (R) - High

Score: 0.555 • Rank: 8/34



### MULTI-HAZARD EXPOSURE (MHE) - Very Low

Score: 0.336 • Rank: 29/34



### VULNERABILITY (V) - Low

Score: 0.391 • Rank: 26/34



### COPING CAPACITY (CC) - High

Score: 0.530 • Rank: 11/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Moderate

Score: 0.525 • Rank: 16/34



Population (2020 Projected)

**3,882,300**



Population in Poverty

**11.4%**



Adult Literacy Rate

**95.0%**



Access to improved water

**94.9%**



Average life expectancy

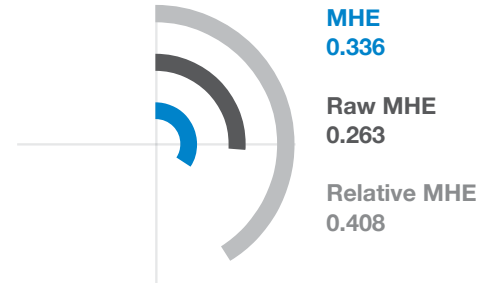
**74.9 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 29 / 34 PROVINCES  
SCORE: 0.336



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**85%**

3,148,743  
\$14.2 Billion



Tsunami

**1%**

26,893  
\$101.2 Million



Flood

**25%**

925,517  
\$4.45 Billion



Flash Flood

**1%**

32,307  
\$132.2 Million



Landslide

**2%**

74,271  
\$272.7 Million



Volcano

**1%**

45,697  
\$188.7 Million



Drought

**9%**

351,441  
\$1.1 Billion



Wildfire

**1%**

34,769  
\$111.6 Million



Extreme Weather

**96%**

3,542,093  
\$15.6 Billion



## VULNERABILITY (V)

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.391**

Vulnerability in DI Yogyakarta is primarily driven by Environmental Stress and Gender Inequality. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.715 RANK: 2/34 PROVINCES ASSESSED**

<b>47.8%</b> Land susceptible to severe erosion	<b>286.45</b> Livestock Density (per sq km)	<b>2.4</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.273 RANK: 30/34 PROVINCES ASSESSED**

<b>74.92</b> Life expectancy (years)	<b>25</b> Infant mortality rate (per 1,000 live births)	<b>109.82</b> Maternal mortality ratio	<b>8.4%</b> Children (under 5) Wasting	<b>8.2%</b> Disability	<b>4.3%</b> Unmet health care needs	<b>0.0%</b> Households with limited access to health facility
<b>3.0%</b> Households with catastrophic health expenditure	<b>14.38</b> Dengue incidence per 100,000 population	<b>14.36</b> Measles incidence per 100,000 population	<b>0</b> Malaria incidence per 100,000 population	<b>99</b> TB case notification per 100,000 population	<b>38.37</b> HIV & AIDS incidence per 100,000 population	<b>0.1</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.058 RANK: 32/34 PROVINCES ASSESSED**

<b>94.9%</b> Households with improved water	<b>94.7%</b> Households with improved sanitation
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### Information Access Vulnerability

**SCORE: 0.285 RANK: 31/34 PROVINCES ASSESSED**

<b>95.0%</b> Adult literacy rate	<b>99.5%</b> Net primary school enrollment rate	<b>9.38</b> Average years of schooling	<b>83.7%</b> Households using internet
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### Economic Constraints

**SCORE: 0.440 RANK: 12/34 PROVINCES ASSESSED**

<b>3.1%</b> Unemployment rate	<b>45.6</b> Age dependency ratio	<b>11.4%</b> Poverty rate	<b>0.423</b> GINI ratio
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### Gender Inequality

**SCORE: 0.537 RANK: 12/34 PROVINCES ASSESSED**

<b>0.94</b> Female to male literacy rate	<b>0.82</b> Female to male labor ratio	<b>1.13</b> Female to male secondary school enrollment ratio	<b>12.7%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.428 RANK: 16/34 PROVINCES ASSESSED**

<b>1.2%</b> Average annual total population change	<b>2.6%</b> Average annual urban population change	<b>33.6%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.530**

DI Yogyakarta exhibits weaker Coping Capacity in the areas of Economic Capacity and Energy Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.416 RANK: 12/34 PROVINCES ASSESSED**

**72.9%** **2,311,599** **25.6**  
Labor force participation Average monthly income (IDR) GDP per capita (Million IDR)



### Governance

**SCORE: 0.602 RANK: 18/34 PROVINCES ASSESSED**

**179** **36.9%** **89.7%**  
Crime rate per 100,000 population Crime clearance rate Voter participation



### Environmental Capacity

**SCORE: 0.024 RANK: 32/34 PROVINCES ASSESSED**

**1.1%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.742 RANK: 3/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.777 RANK: 1/34 PROVINCES ASSESSED

**18.2** **9.42** **14.45** **1.6%** **64.6%** **83.3%** **86.7%**  
Hospital beds per 10,000 people Physicians per 10,000 people Nurses and midwives per 10,000 people Time to public hospital (over 1 hour) Immunization rate (children under 5) Health care accreditation rate Population covered by health insurance



### Transportation Capacity SCORE: 0.888 RANK: 3/34 PROVINCES ASSESSED

**2.40** **19.18**  
Road and rail density Average distance to port or airport



### Communications Capacity SCORE: 0.865 RANK: 4/34 PROVINCES ASSESSED

**67.7%** **4.7%**  
Mobile phone ownership Households with Fixed Phones



### Energy Capacity SCORE: 0.438 RANK: 26/34 PROVINCES ASSESSED

**99.8%** **0.0%** **0** **72.3%**  
Households served by state electricity Percentage of total national electricity generated in province Electricity generation GWh per 100,000 Population Households with gas for cooking



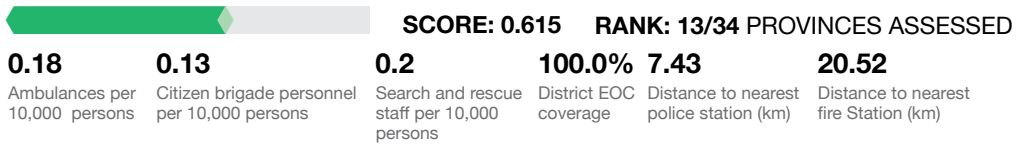
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.525**

DI Yogyakarta exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



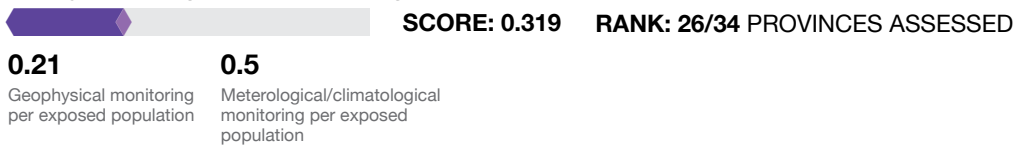
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.555**

DI Yogyakarta's High Resilience score and ranking are due to Low Vulnerability combined with High Coping Capacity, and Moderate Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Environmental Stress**



**Gender Inequality**



**Economic Capacity**



**Energy Capacity**



**Early Warning and Monitoring**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.243**



**Tsunami**

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.156**



**Flood**

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.148**



**Flash Flood**

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.126**



**Landslide**

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.161**



**Volcano**

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.227**



**Drought**

**RANK: 32 / 34 PROVINCES ASSESSED**  
**SCORE: 0.115**



**Wildfire**

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.121**



**Extreme Weather**

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.219**



## MULTI-HAZARD RISK (MHR)

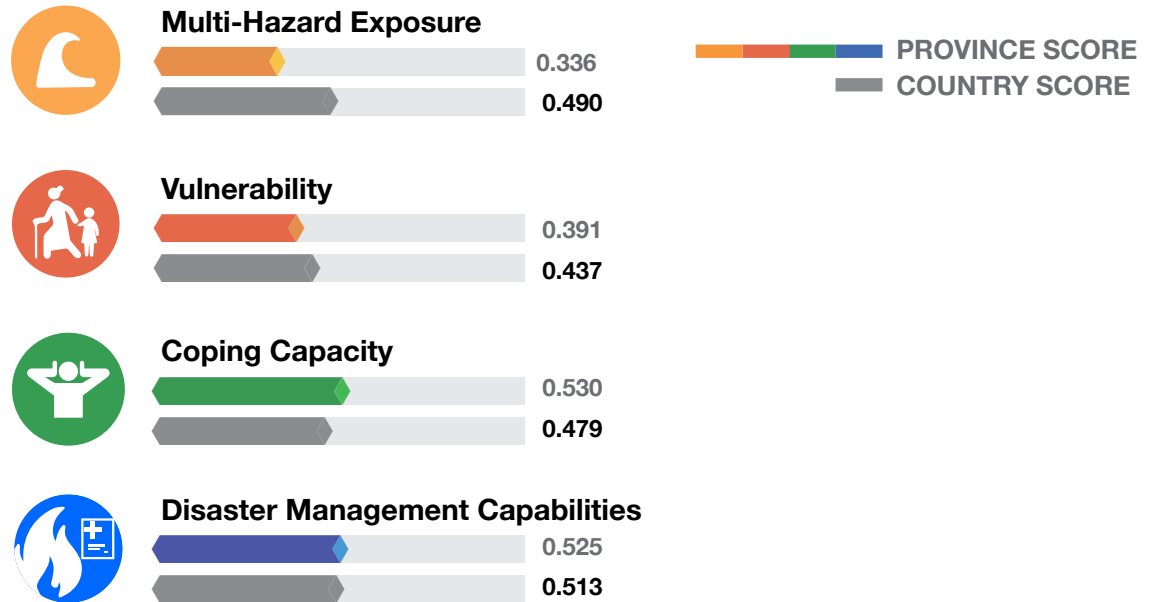
**28 / 34**

RANK WITHIN PROVINCES  
Score: 0.418



DI Yogyakarta's Very Low Multi-hazard Risk score and ranking are due to Very Low Multi-hazard exposure combined with Low Vulnerability, High Coping Capacity, and Moderate Disaster Management Capabilities scores.

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



# DI YOGYAKARTA RECOMMENDATIONS

1

## Environmental Stress

DI Yogyakarta has the 2nd highest ranking for overall Environmental Stress, driven by the highest Severe Erosion Potential in the country (47.8% of the province is exposed to severe erosion rates of >180 tons per hectare per year), and the 2nd highest Livestock Density (286.45 animals per square km).

DI Yogyakarta's high density of ruminants and other livestock can lead to overgrazing and environmental degradation in a province with already severe erosion rates and significant flood exposure. In addition, manure from high animal concentrations can pollute nearby water sources, rendering them unusable for drinking and household use.

Promote extension programs that educate farmers and build their capacity to implement best practices in agricultural land management and reduce environmental impacts.

2

## Gender Inequality

DI Yogyakarta ranks 12th for overall Gender Inequality. Findings reflect gender inequities related to Secondary Enrollment and Literacy. Findings also show that female representation in Parliament (<13%) is considerably lower than the country's target for female representation in government of 30%.

Strengthen efforts to improve gender balance in primary school enrollment and literacy programs.

Promote higher education opportunities for women to provide greater economic opportunities and enhanced quality of life.



# DI YOGYAKARTA RECOMMENDATIONS

## 3

### Economic Capacity

DI Yogyakarta ranks 12th for overall Economic Capacity and has the third highest Labor Force Participation rate in the country (73%). Economic Capacity could be enhanced by bolstering DI Yogyakarta's Average Monthly Income (2.3 million IDR) and GDP per Capita (25.6 million IDR). The province has a fast-growing economy and significant informal sector largely based on agriculture, education, tourism and export-oriented production.

Implement programs geared toward building the entrepreneurial and technical skills of small business owners and household enterprises to boost economic prosperity.

Boost efficiencies of financial sector systems to streamline access to credit and processing of loans for informal sector enterprises.

## 4

### Energy Capacity

DI Yogyakarta has the 9th lowest Energy Capacity ranking in the country, primarily because the province has no electricity generation capacity of its own, making it reliant on energy delivery from other parts of the country. Over 99% of households in the province are served by the state electric company, and just over 72% of households use gas for cooking fuel.

Strengthen energy delivery systems to the province to meet demand and minimize service interruptions.

## DI YOGYAKARTA RECOMMENDATIONS

### 5

#### Early Warning and Monitoring

DI Yogyakarta has the 9th lowest Early Warning and Monitoring rank, and the 4th lowest density of Hazard Monitoring Stations per 100,000 persons exposed to geophysical hazards. Findings show that roughly 3.1 million people, or 85% of the provincial population is exposed to areas of moderate to high earthquake hazards. While earthquakes tend to be “no notice” events, increasing instrumentation and capacity to disseminate warning information will benefit DI Yogyakarta for geophysical as well as meteorological-climate hazards.

### 6

#### Emergency Services

DI Yogyakarta ranks 13th for overall Emergency Services, however, increasing the number of ambulances serving the province would enhance capabilities, as would increased numbers of Search and Rescue staff and Citizen Brigade personnel.

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INDONESIA

**DKI JAKARTA**

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# DKI JAKARTA

**CAPITAL: JAKARTA**

Area: 664 km<sup>2</sup>

The Special Capital Region of Jakarta (Indonesian: Daerah Khusus Ibukota Jakarta), has an extremely dense population approaching 11 million inhabitants. It is frequently

challenged by severe weather and flooding. While Indonesia’s capital city is slated to move to East Kalimantan, in the interim, a majority of Indonesia’s continuity of government components and critical infrastructure are based in this bustling economic and cultural center of Indonesia. Reflecting the nation’s characteristics of extremely diverse geographies and cultures, DKI Jakarta has very high levels of multi-hazard exposure and very low disaster management capabilities. It benefits from having both BNPB and the AHA Centre co-located in the center of the capital for tactical and strategic DRR and response coordination, but could benefit from further advances in economic and gender equity and health security enhancements in an age of COVID19.



## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Low**

Score: 0.456 • Rank: 25/34



**RESILIENCE (R) - Very High**

Score: 0.634 • Rank: 1/34



**MULTI-HAZARD EXPOSURE (MHE) - Very High**

Score: 0.726 • Rank: 3/34



**VULNERABILITY (V) - Very Low**

Score: 0.202 • Rank: 34/34



**COPING CAPACITY (CC) - Very High**

Score: 0.698 • Rank: 1/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Very Low**

Score: 0.405 • Rank: 32/34



Population (2020 Projected)

**10,645,000**



Population in Poverty

**3.4%**



Adult Literacy Rate

**99.7%**



Access to improved water

**99.8%**



Average life expectancy

**72.8 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 3 / 34 PROVINCES  
SCORE: 0.726



MHE  
0.726

Raw MHE  
0.847

Relative MHE  
0.605

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**14%**

1,448,145  
\$69.6 Billion



Tsunami

**<1%**

18,975  
\$1.1 Billion



Flood

**61%**

6,483,402  
\$340.2 Billion



Flash Flood

**0%**

-  
-



Landslide

**0%**

-  
-



Volcano

**0%**

-  
-



Drought

**95%**

10,060,983  
\$532.4 Billion



Wildfire

**0%**

-  
-



Extreme Weather

**100%**

10,530,190  
\$551.6 Billion



## VULNERABILITY (V)

**RANK: 34 / 34 PROVINCES ASSESSED**  
**SCORE: 0.202**

Vulnerability in DKI Jakarta is primarily driven by Economic Constraints and Gender Inequality. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.148 RANK: 33/34 PROVINCES ASSESSED**

<b>0.2%</b>	<b>17.92</b>	<b>0</b>
Land susceptible to severe erosion	Livestock Density (per sq km)	Net Deforestation (hectares per year)



### Vulnerable Health Status

**SCORE: 0.225 RANK: 33/34 PROVINCES ASSESSED**

<b>72.79</b>	<b>22</b>	<b>78.57</b>	<b>10.1%</b>	<b>7.3%</b>	<b>3.2%</b>	<b>0.0%</b>
Life expectancy (years)	Infant mortality rate (per 1,000 live births)	Maternal mortality ratio	Children (under 5) Wasting	Disability	Unmet health care needs	Households with limited access to health facility
<b>1.4%</b>	<b>28.33</b>	<b>5.52</b>	<b>0.01</b>	<b>410</b>	<b>94.88</b>	<b>0.49</b>
Households with catastrophic health expenditure	Dengue incidence per 100,000 population	Measles incidence per 100,000 population	Malaria incidence per 100,000 population	TB case notification per 100,000 population	HIV & AIDS incidence per 100,000 population	Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.029 RANK: 34/34 PROVINCES ASSESSED**

<b>99.8%</b>	<b>92.9%</b>
Households with improved water	Households with improved sanitation



### Information Access Vulnerability

**SCORE: 0.083 RANK: 34/34 PROVINCES ASSESSED**

<b>99.7%</b>	<b>98.1%</b>	<b>11.06</b>	<b>93.3%</b>
Adult literacy rate	Net primary school enrollment rate	Average years of schooling	Households using internet



### Economic Constraints

**SCORE: 0.381 RANK: 22/34 PROVINCES ASSESSED**

<b>6.2%</b>	<b>42</b>	<b>3.4%</b>	<b>0.394</b>
Unemployment rate	Age dependency ratio	Poverty rate	GINI ratio



### Gender Inequality

**SCORE: 0.302 RANK: 32/34 PROVINCES ASSESSED**

<b>1</b>	<b>0.59</b>	<b>1</b>	<b>19.8%</b>
Female to male literacy rate	Female to male labor ratio	Female to male secondary school enrollment ratio	Percent female seats in government



### Population Pressures

**SCORE: 0.244 RANK: 32/34 PROVINCES ASSESSED**

<b>1.0%</b>	<b>1.0%</b>	<b>-20.4%</b>
Average annual total population change	Average annual urban population change	Recent Net migration



## COPING CAPACITY (CC)

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.698**

DKI Jakarta exhibits weaker Coping Capacity in the areas of Environmental Capacity and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.725 RANK: 2/34 PROVINCES ASSESSED**

**64.8%** Labor force participation  
**4,463,388** Average monthly income (IDR)  
**174.8** GDP per capita (Million IDR)



### Governance

**SCORE: 0.709 RANK: 4/34 PROVINCES ASSESSED**

**137** Crime rate per 100,000 population  
**88.2%** Crime clearance rate  
**82.8%** Voter participation



### Environmental Capacity

**SCORE: 0.005 RANK: 33/34 PROVINCES ASSESSED**

**0.6%** Protected area



### Infrastructure Capacity

**SCORE: 0.893 RANK: 1/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.695 RANK: 3/34 PROVINCES ASSESSED

**23.3** Hospital beds per 10,000 people  
**19.02** Physicians per 10,000 people  
**12.43** Nurses and midwives per 10,000 people  
**4.7%** Time to public hospital (over 1 hour)  
**52.1%** Immunization rate (children under 5)  
**55.3%** Health care accreditation rate  
**90.7%** Population covered by health insurance



### Transportation Capacity SCORE: 1 RANK: 1/34 PROVINCES ASSESSED

**18.68** Road and rail density  
**7.9** Average distance to port or airport



### Communications Capacity SCORE: 1 RANK: 1/34 PROVINCES ASSESSED

**78.4%** Mobile phone ownership  
**10.3%** Households with Fixed Phones



### Energy Capacity SCORE: 0.875 RANK: 3/34 PROVINCES ASSESSED

**100.0%** Households served by state electricity  
**6.5%** Percentage of total national electricity generated in province  
**171.73** Electricity generation GWh per 100,000 Population  
**89.1%** Households with gas for cooking

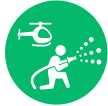




## DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 32 / 34** PROVINCES ASSESSED  
**SCORE: 0.405**

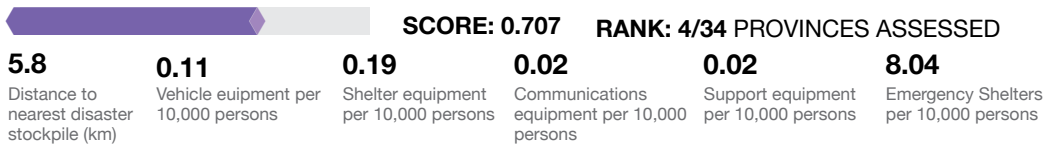
DKI Jakarta exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



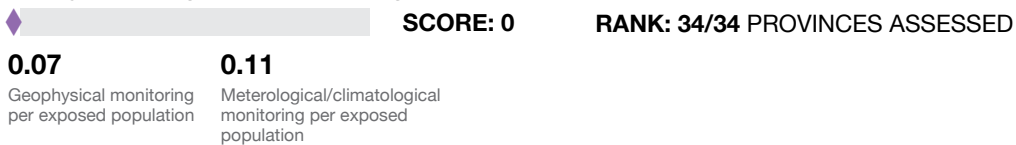
### Emergency Services



### Mass Care Support



### Early Warning and Monitoring





## RESILIENCE (R)

RANK: 1 / 34 PROVINCES ASSESSED

SCORE: 0.634

DKI Jakarta's Very High Resilience score and ranking are due to Very Low Vulnerability combined with Very High Coping Capacity, and Very Low Disaster Management Capabilities scores.

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



Economic Constraints



Gender Inequality



Environmental Capacity



Health Care Capacity



Early Warning and Monitoring



Emergency Services



## HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 28 / 34 PROVINCES ASSESSED

SCORE: 0.111



Tsunami

RANK: 30 / 34 PROVINCES ASSESSED

SCORE: 0.105



Flood

RANK: 20 / 34 PROVINCES ASSESSED

SCORE: 0.185



Flash Flood

RANK: 34 / 34 PROVINCES ASSESSED

SCORE: 0.075



Landslide

RANK: 34 / 34 PROVINCES ASSESSED

SCORE: 0.075



Volcano

RANK: 32 / 34 PROVINCES ASSESSED

SCORE: 0.075



Drought

RANK: 22 / 34 PROVINCES ASSESSED

SCORE: 0.195



Wildfire

RANK: 34 / 34 PROVINCES ASSESSED

SCORE: 0.075



Extreme Weather

RANK: 29 / 34 PROVINCES ASSESSED

SCORE: 0.191



## MULTI-HAZARD RISK (MHR)

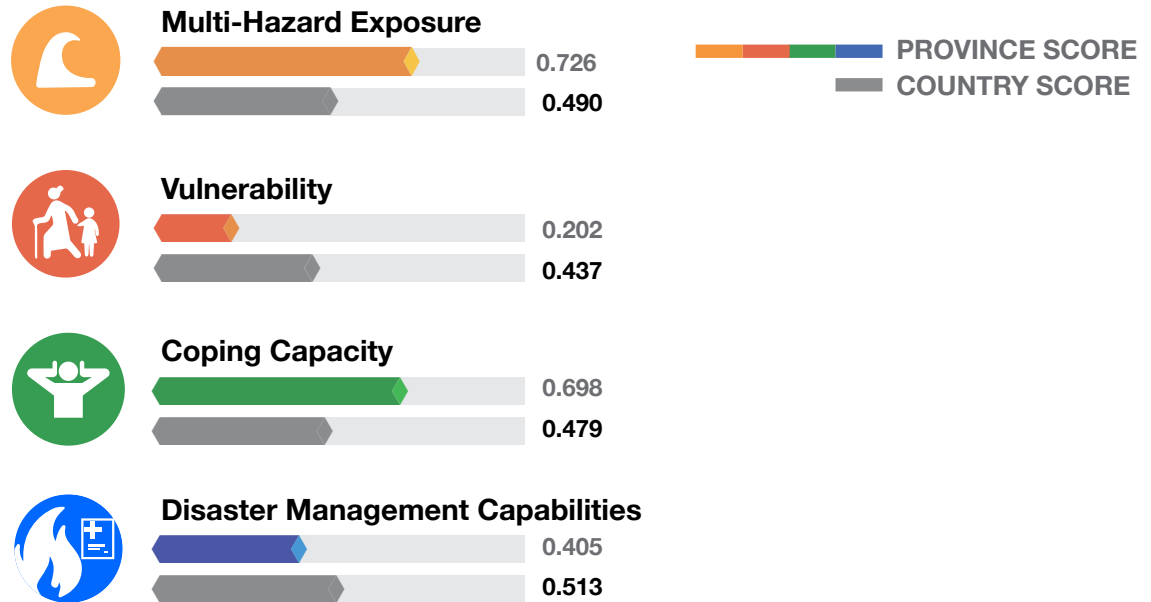
**25 / 34**

RANK WITHIN PROVINCES  
Score: 0.456



DKI Jakarta's Low Multi-hazard Risk score and ranking are due to Very High Multi-hazard exposure combined with Very Low Vulnerability, Very High Coping Capacity, and Very Low Disaster Management Capabilities scores.

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



# DKI JAKARTA RECOMMENDATIONS

## 1

### Economic Constraints

DKI Jakarta ranks 22nd for overall Economic Constraints in the country, driven by the 5th highest GINI ratio, and the 7th highest Unemployment Rate (6.33%). Income disparity is prominent in DKI Jakarta and has persisted despite recent improvements. According to a 2017 Oxfam report, social and economic development, infrastructure and lifestyle enhancements in some areas most directly benefit the upper middle classes in the province.

Promote job creation and employment opportunities to boost economic productivity among the rising urban population. Include programs that target women, youth, and populations transitioning from informal to formal sectors.

Implement programs geared toward building the entrepreneurial and technical skills of small business owners and household enterprises.

## 2

### Gender Inequality

Findings show that gender inequality in DKI Jakarta is driven by unequal representation in the labor force, with a female to male Labor Ratio of 0.59. In addition, female representation in Parliament is less than 20%, lower than the country's target for female representation in government of 30%.

Increase opportunities to expand participation of women in education and economic activities through the enactment of policies that provide quality, affordable childcare and health care services.

Empower and enhance participation of women in leadership positions and community disaster preparedness and recovery processes.

## DKI JAKARTA RECOMMENDATIONS

### 3

#### Environmental Capacity

---

DKI Jakarta has the 2nd lowest Environmental Capacity in the country based on the percentage of Protected Areas. Given that DKI Jakarta is primarily urban, efforts to increase green spaces and preserve existing natural areas will help buffer hazard impacts and enhance the quality of life for the city's citizens.

### 4

#### Health Care Capacity

---

Findings show that DKI Jakarta has the 3rd highest Health Care Capacity in the country, however, improvements can be made in the areas of Accreditation of Health Care Facilities (currently only 55% are accredited), increasing the number of Nurses and Midwives (currently 12.43 per 10,000 persons), and boosting Immunization Rates (currently 52%) in children under 5 years of age.

Increase budget allocations to address health care shortfalls in equipment, medical supplies and personnel to improve quality and equitable delivery of services.

Strengthen programs focused on disease prevention and health promotion through vaccination campaigns and education initiatives to reduce infectious diseases as well as the growing number of non-communicable diseases (e.g. diabetes, heart disease).

## DKI JAKARTA RECOMMENDATIONS

### 5

#### Early Warning and Monitoring

DKI Jakarta has the lowest ranking in the country for overall Early Warning and Monitoring based on the number of stations per 100,000 persons exposed. Given the province's exposure to multiple hazards, including damaging floods (over 60% of the population and economic assets are exposed to flooding), improved instrumentation and early warning mechanisms could be strengthened.

Enhance alerting mechanisms to increase dissemination and reach of critical warning information to the public, including the urban poor and those living in hazard zones.

### 6

#### Emergency Services

Findings show that DKI Jakarta has the 11th lowest ranking for overall Emergency Services capabilities, driven by limited numbers of Ambulances (0.12 per 10,000 persons) and only 0.07 Search and Rescue Staff per 10,000 persons.

Invest in equipment and staff training to bolster ambulance services in the province.

Strengthen Search and Rescue capabilities in the province through increased participation, training and exercises, particularly in urban search and rescue techniques.

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**INDONESIA**

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# **GORONTALO**

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**NDPBA PROVINCE PROFILE**

# GORONTALO

## CAPITAL: GORONTALO

Area: 11,257 km<sup>2</sup>



In collaboration with UNDRR, BNPB, and allied local, regional and international DRR entities, Gorontalo provincial authorities have made excellent strides to counter

the endemic flooding caused by the province’s topography and severe weather events and exacerbated by the region’s rapid economic growth and conversion of agricultural lands to other uses. Located on the Minahasa Peninsula in Sulawesi, the region has experienced large earthquakes in the last century and has high multi-hazard exposure and vulnerability paired with excellent disaster management capabilities via their provincial EOC.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Moderate

Score: 0.504 • Rank: 15/34



### RESILIENCE (R) - Moderate

Score: 0.530 • Rank: 15/34



### MULTI-HAZARD EXPOSURE (MHE) - High

Score: 0.605 • Rank: 9/34



### VULNERABILITY (V) - High

Score: 0.453 • Rank: 11/34



### COPING CAPACITY (CC) - Moderate

Score: 0.475 • Rank: 19/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Very High

Score: 0.567 • Rank: 5/34



Population (2020 Projected)

**1,219,600**



Population in Poverty

**15.3%**



Adult Literacy Rate

**98.8%**



Access to improved water

**94.2%**



Average life expectancy

**67.9 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 9 / 34 PROVINCES  
SCORE: 0.605



MHE  
0.605

Raw MHE  
0.209

Relative MHE  
1

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**100%**

1,135,969  
\$12.8 Billion



Tsunami

**1%**

10,164  
\$81.2 Million



Flood

**57%**

648,056  
\$8.76 Billion



Flash Flood

**2%**

18,194  
\$185.5 Million



Landslide

**3%**

36,589  
\$313.5 Million



Volcano

**0%**

-  
-



Drought

**98%**

1,109,077  
\$12.6 Billion



Wildfire

**6%**

64,248  
\$533.9 Million



Extreme Weather

**97%**

1,101,289  
\$12.5 Billion



## VULNERABILITY (V)

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.453**

Vulnerability in Gorontalo is primarily driven by Vulnerable Health Status and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.206 RANK: 32/34 PROVINCES ASSESSED**

<b>13.9%</b> Land susceptible to severe erosion	<b>31.72</b> Livestock Density (per sq km)	<b>-837</b> Net Deforestation (hectares per year)
--	---	--



### Vulnerable Health Status

**SCORE: 0.690 RANK: 1/34 PROVINCES ASSESSED**

<b>67.93</b> Life expectancy (years)	<b>67</b> Infant mortality rate (per 1,000 live births)	<b>370.98</b> Maternal mortality ratio	<b>14.4%</b> Children (under 5) Wasting	<b>11.7%</b> Disability	<b>7.5%</b> Unmet health care needs	<b>5.8%</b> Households with limited access to health facility
<b>0.9%</b> Households with catastrophic health expenditure	<b>68.58</b> Dengue incidence per 100,000 population	<b>1.77</b> Measles incidence per 100,000 population	<b>0.03</b> Malaria incidence per 100,000 population	<b>310</b> TB case notification per 100,000 population	<b>18.14</b> HIV & AIDS incidence per 100,000 population	<b>1.89</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.394 RANK: 19/34 PROVINCES ASSESSED**

<b>94.2%</b> Households with improved water	<b>74.6%</b> Households with improved sanitation
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### Information Access Vulnerability

**SCORE: 0.417 RANK: 19/34 PROVINCES ASSESSED**

<b>98.8%</b> Adult literacy rate	<b>98.4%</b> Net primary school enrollment rate	<b>7.69</b> Average years of schooling	<b>72.7%</b> Households using internet
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### Economic Constraints

**SCORE: 0.513 RANK: 8/34 PROVINCES ASSESSED**

<b>4.1%</b> Unemployment rate	<b>47.5</b> Age dependency ratio	<b>15.3%</b> Poverty rate	<b>0.407</b> GINI ratio
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### Gender Inequality

**SCORE: 0.470 RANK: 22/34 PROVINCES ASSESSED**

<b>1</b> Female to male literacy rate	<b>0.58</b> Female to male labor ratio	<b>1.22</b> Female to male secondary school enrollment ratio	<b>28.9%</b> Percent female seats in government
--	---	---	--



### Population Pressures

**SCORE: 0.481 RANK: 11/34 PROVINCES ASSESSED**

<b>1.7%</b> Average annual total population change	<b>5.1%</b> Average annual urban population change	<b>-1.8%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.475**

Gorontalo exhibits weaker Coping Capacity in the areas of Economic Capacity and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.226** **RANK: 30/34 PROVINCES ASSESSED**

<b>66.8%</b> Labor force participation	<b>2,403,484</b> Average monthly income (IDR)	<b>22.5</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.671** **RANK: 8/34 PROVINCES ASSESSED**

<b>243</b> Crime rate per 100,000 population	<b>64.5%</b> Crime clearance rate	<b>89.0%</b> Voter participation
---	--------------------------------------	-------------------------------------



### Environmental Capacity

**SCORE: 0.725** **RANK: 6/34 PROVINCES ASSESSED**

**17.6%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.445** **RANK: 25/34 PROVINCES ASSESSED**



### Health Care Capacity

**SCORE: 0.567** **RANK: 10/34 PROVINCES ASSESSED**

<b>15.7</b> Hospital beds per 10,000 people	<b>2.52</b> Physicians per 10,000 people	<b>15.64</b> Nurses and midwives per 10,000 people	<b>19.0%</b> Time to public hospital (over 1 hour)	<b>59.0%</b> Immunization rate (children under 5)	<b>85.1%</b> Health care accreditation rate	<b>79.1%</b> Population covered by health insurance
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### Transportation Capacity

**SCORE: 0.26** **RANK: 28/34 PROVINCES ASSESSED**

<b>0.18</b> Road and rail density	<b>46.77</b> Average distance to port or airport
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### Communications Capacity

**SCORE: 0.446** **RANK: 30/34 PROVINCES ASSESSED**

<b>60.4%</b> Mobile phone ownership	<b>0.2%</b> Households with Fixed Phones
--	---



### Energy Capacity

**SCORE: 0.508** **RANK: 17/34 PROVINCES ASSESSED**

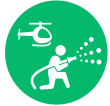
<b>97.3%</b> Households served by state electricity	<b>0.1%</b> Percentage of total national electricity generated in province	<b>16.01</b> Electricity generation GWh per 100,000 Population	<b>84.8%</b> Households with gas for cooking
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# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.567**

Gorontalo exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Early Warning and Monitoring. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



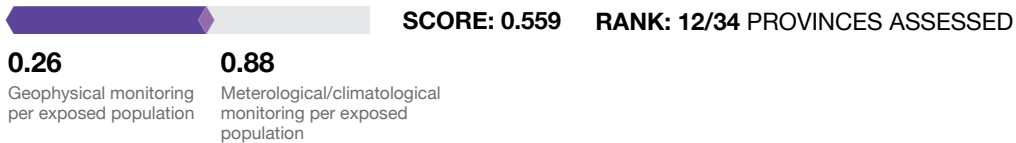
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.530**

Gorontalo's Moderate Resilience score and ranking are due to High Vulnerability combined with Moderate Coping Capacity, and Very High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Vulnerable Health Status**



**Economic Constraints**



**Economic Capacity**



**Transportation Capacity**



**Mass Care Support**



**Early Warning and Monitoring**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.286**



**Tsunami**

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.179**



**Flood**

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.214**



**Flash Flood**

**RANK: 29 / 34 PROVINCES ASSESSED**  
**SCORE: 0.124**



**Landslide**

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.178**



**Volcano**

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.132**



**Drought**

**RANK: 13 / 34 PROVINCES ASSESSED**  
**SCORE: 0.237**



**Wildfire**

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.142**



**Extreme Weather**

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.210**





## MULTI-HAZARD RISK (MHR)

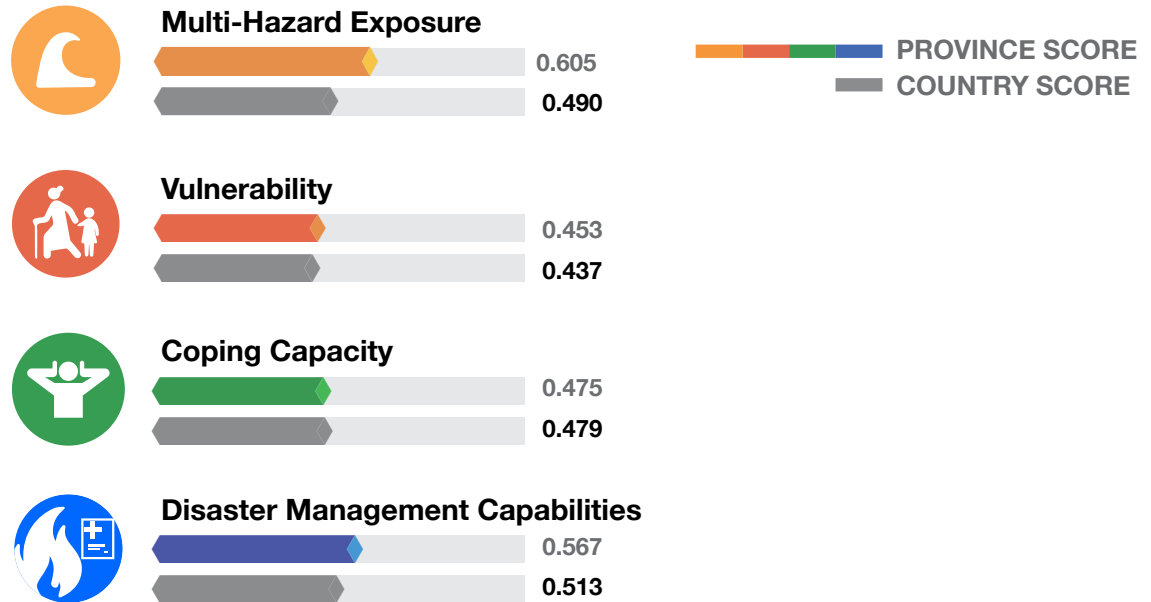
**15 / 34**

RANK WITHIN PROVINCES  
Score: 0.504



Gorontalo's Moderate Multi-hazard Risk score and ranking are due to High Multi-hazard exposure combined with High Vulnerability, Moderate Coping Capacity, and Very High Disaster Management Capabilities scores.

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



# GORONTALO RECOMMENDATIONS

## 1

### Vulnerable Health Status

Findings show that Gorontalo has the highest overall Vulnerable Health Status in the country, with the highest Maternal Mortality Rate (370.98 deaths per 100,000 live births), the 2nd highest Infant Mortality Rate (67 per 1,000 live births) and the 2nd highest prevalence of wasting (acute malnutrition) in children under the age of 5. The province also has the 6th highest ranking for overall Infectious Disease incidence.

Increase the allocation of funds to improve maternal, infant, and child health and reduce transmission of infectious diseases through improved surveillance and monitoring. Expand minimum health service standards to improve access to, and quality of care, with special focus on mothers, children, adolescents, elderly, and those with chronic health conditions.

Advance partnerships among government agencies and NGOs to improve access to and affordability of healthcare to remote and impoverished areas of the province.

## 2

### Economic Constraints

Gorontalo ranks 8th for overall Economic Constraints in the country, driven by the 2nd highest GINI ratio, and the 5th highest poverty rate. Fifteen percent (15%) of the population in Gorontalo are living in poverty. Investments in infrastructure to support informal sectors, such as agriculture and fisheries, could improve production and processing capacity, and promote Gorontalo's economic development.

Boost efficiency of financial sector systems to streamline access to credit and processing of loans for informal sector enterprises.

## GORONTALO RECOMMENDATIONS

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### 3

#### Economic Capacity

Gorontalo has the 5th lowest Economic Capacity in the country, driven by the 5th lowest GDP per Capita (22.5 million IDR), the 10th lowest Average Monthly Income (2.4 million IDR), and 14th lowest Labor Force Participation rate (67%).

Increase access to financing and support structures (e.g. microfinance services and loans) for poor and vulnerable populations.

### 4

#### Transportation Capacity

Gorontalo has the 7th lowest ranking for overall Transportation Capacity. The Average Distance to a Port or Airport is 46.77 km.

Investments and improvements to transportation networks and port/airport facilities would facilitate disaster management response operations and recovery activities and directly benefit health outcomes by making professional health services more accessible. Expanded transportation networks would also offer economic growth opportunities for the primarily agricultural province.

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## GORONTALO RECOMMENDATIONS

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# 5

### Mass Care Support

Gorontalo has the 5th lowest ranking for Disaster Equipment and has just 1.52 Emergency Shelters per 10,000 persons. Designate additional structures for use as shelters and invest in disaster equipment and supplies adequate to serve the anticipated needs of disaster affected populations.

# 6

### Early Warning and Monitoring

Based on findings, Gorontalo has the 8th lowest geophysical monitoring coverage. Gorontalo's greatest hazard exposure is to earthquakes, flooding, extreme weather, and drought. Intensify efforts to improve the penetration of warning messages to the "last kilometer." Continue hazard awareness and preparedness campaigns to improve citizen understanding of warning information and response actions.

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INDONESIA

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**JAMBI**

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**NDPBA PROVINCE PROFILE**

# JAMBI

**CAPITAL: JAMBI**

Area: 50,058 km<sup>2</sup>



As both a mountainous and riverine province located on the east coast of Sumatra, Jambi is a very rural province dominated by forests and agricultural pursuits. It is a highly volcanic and seismic province with a high level of resilience but also challenges relating to disaster management capabilities. Forest fires, droughts, and severe weather have also been common historically and DRR engagement focused on rural communities and children have helped build capacity.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Low**

Score: 0.419 • Rank: 27/34



**RESILIENCE (R) - High**

Score: 0.533 • Rank: 12/34



**MULTI-HAZARD EXPOSURE (MHE) - Very Low**

Score: 0.274 • Rank: 32/34



**VULNERABILITY (V) - Very Low**

Score: 0.388 • Rank: 29/34



**COPING CAPACITY (CC) - Moderate**

Score: 0.492 • Rank: 14/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Low**

Score: 0.496 • Rank: 22/34



Population (2020 Projected)

**3,677,900**



Population in Poverty

**7.5%**



Adult Literacy Rate

**98.2%**



Access to improved water

**76.9%**



Average life expectancy

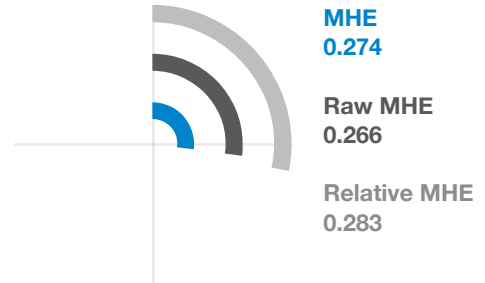
**71.1 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 32 / 34 PROVINCES  
SCORE: 0.274



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**24%**

836,192

\$6.1 Billion



Tsunami

**0%**

-

-



Flood

**24%**

840,870

\$6.05 Billion



Flash Flood

**2%**

73,132

\$536.5 Million



Landslide

**2%**

58,190

\$469.5 Million



Volcano

**1%**

24,510

\$170.7 Million



Drought

**30%**

1,062,036

\$7.6 Billion



Wildfire

**11%**

382,026

\$2.9 Billion



Extreme Weather

**98%**

3,443,410

\$24.8 Billion





## VULNERABILITY (V)

**RANK: 29 / 34 PROVINCES ASSESSED**  
**SCORE: 0.388**

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



### Environmental Stress

**SCORE: 0.306 RANK: 26/34 PROVINCES ASSESSED**

<b>3.4%</b>	<b>15.86</b>	<b>5994.4</b>
Land susceptible to severe erosion	Livestock Density (per sq km)	Net Deforestation (hectares per year)



### Vulnerable Health Status

**SCORE: 0.380 RANK: 19/34 PROVINCES ASSESSED**

<b>71.06</b>	<b>34</b>	<b>150</b>	<b>12.0%</b>	<b>9.4%</b>	<b>4.7%</b>	<b>8.5%</b>
Life expectancy (years)	Infant mortality rate (per 1,000 live births)	Maternal mortality ratio	Children (under 5) Wasting	Disability	Unmet health care needs	Households with limited access to health facility
<b>1.2%</b>	<b>20.17</b>	<b>8.15</b>	<b>0.01</b>	<b>140</b>	<b>20.7</b>	<b>0.19</b>
Households with catastrophic health expenditure	Dengue incidence per 100,000 population	Measles incidence per 100,000 population	Malaria incidence per 100,000 population	TB case notification per 100,000 population	HIV & AIDS incidence per 100,000 population	Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.582 RANK: 9/34 PROVINCES ASSESSED**

<b>76.9%</b>	<b>75.6%</b>
Households with improved water	Households with improved sanitation



### Information Access Vulnerability

**SCORE: 0.366 RANK: 22/34 PROVINCES ASSESSED**

<b>98.2%</b>	<b>99.1%</b>	<b>8.45</b>	<b>70.8%</b>
Adult literacy rate	Net primary school enrollment rate	Average years of schooling	Households using internet



### Economic Constraints

**SCORE: 0.259 RANK: 30/34 PROVINCES ASSESSED**

<b>4.2%</b>	<b>44.5</b>	<b>7.5%</b>	<b>0.321</b>
Unemployment rate	Age dependency ratio	Poverty rate	GINI ratio



### Gender Inequality

**SCORE: 0.522 RANK: 13/34 PROVINCES ASSESSED**

<b>0.98</b>	<b>0.53</b>	<b>0.96</b>	<b>17.0%</b>
Female to male literacy rate	Female to male labor ratio	Female to male secondary school enrollment ratio	Percent female seats in government



### Population Pressures

**SCORE: 0.302 RANK: 29/34 PROVINCES ASSESSED**

<b>1.8%</b>	<b>2.8%</b>	<b>0.2%</b>
Average annual total population change	Average annual urban population change	Recent Net migration



## COPING CAPACITY (CC)

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.492**

Jambi exhibits weaker Coping Capacity in the areas of Economic Capacity and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.286** **RANK: 25/34 PROVINCES ASSESSED**

<b>66.1%</b> Labor force participation	<b>2,321,392</b> Average monthly income (IDR)	<b>46</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.642** **RANK: 14/34 PROVINCES ASSESSED**

<b>180</b> Crime rate per 100,000 population	<b>68.9%</b> Crime clearance rate	<b>85.3%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.691** **RANK: 8/34 PROVINCES ASSESSED**

**16.8%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.481** **RANK: 19/34 PROVINCES ASSESSED**



### Health Care Capacity

**SCORE: 0.448** **RANK: 19/34 PROVINCES ASSESSED**

<b>11.4</b> Hospital beds per 10,000 people	<b>3.35</b> Physicians per 10,000 people	<b>21.52</b> Nurses and midwives per 10,000 people	<b>25.7%</b> Time to public hospital (over 1 hour)	<b>42.3%</b> Immunization rate (children under 5)	<b>81.4%</b> Health care accreditation rate	<b>54.6%</b> Population covered by health insurance
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### Transportation Capacity

**SCORE: 0.386** **RANK: 18/34 PROVINCES ASSESSED**

<b>0.20</b> Road and rail density	<b>34.64</b> Average distance to port or airport
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### Communications Capacity

**SCORE: 0.635** **RANK: 15/34 PROVINCES ASSESSED**

<b>64.8%</b> Mobile phone ownership	<b>1.1%</b> Households with Fixed Phones
--	---



### Energy Capacity

**SCORE: 0.457** **RANK: 23/34 PROVINCES ASSESSED**

<b>94.9%</b> Households served by state electricity	<b>0.0%</b> Percentage of total national electricity generated in province	<b>3.43</b> Electricity generation GWh per 100,000 Population	<b>81.2%</b> Households with gas for cooking
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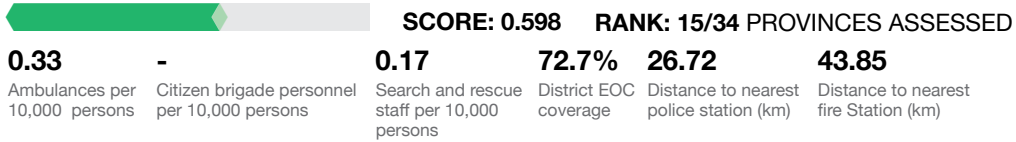
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.496**

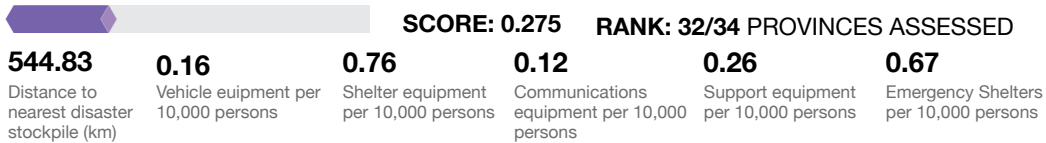
Jambi exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



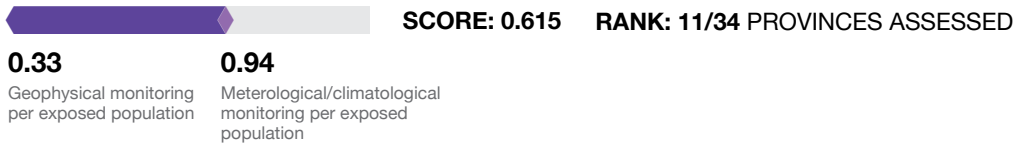
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.533**

Jambi's High Resilience score and ranking are due to Very Low Vulnerability combined with Moderate Coping Capacity, and Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



Clean Water  
Access  
Vulnerability



Gender  
Inequality



Economic  
Capacity



Transportation  
Capacity



Mass Care  
Support



Emergency  
Services



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.188**



**Tsunami**

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.138**



**Flood**

**RANK: 30 / 34 PROVINCES ASSESSED**  
**SCORE: 0.141**



**Flash Flood**

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.147**



**Landslide**

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.175**



**Volcano**

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.248**



**Drought**

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.151**



**Wildfire**

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.184**



**Extreme Weather**

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.228**



## MULTI-HAZARD RISK (MHR)

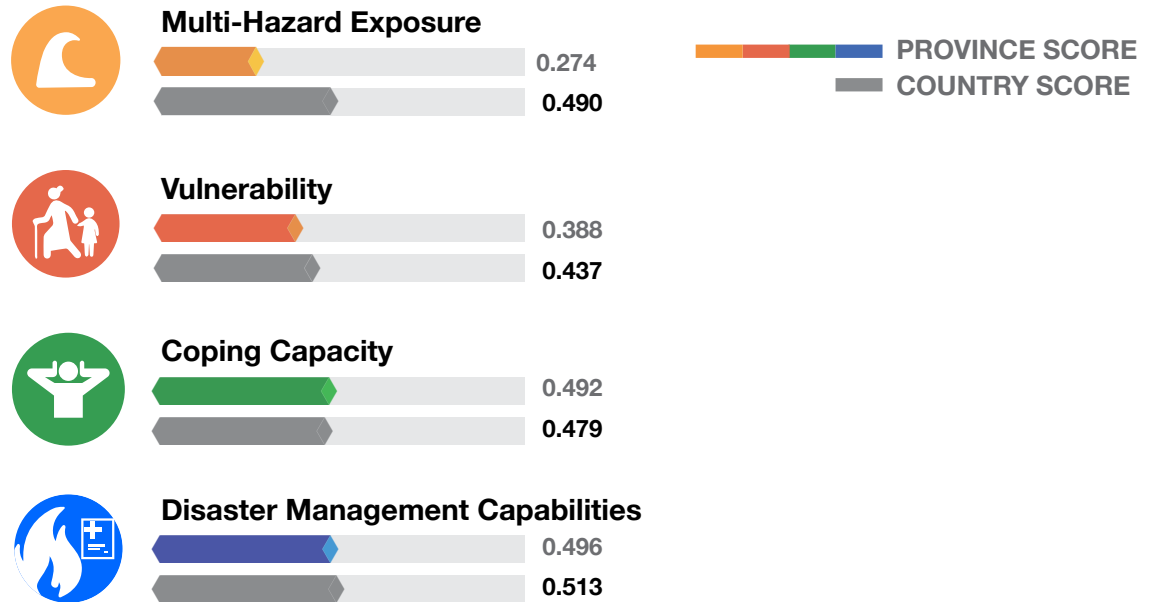
**27 / 34**

RANK WITHIN PROVINCES  
Score: 0.419



Jambi's Low Multi-hazard Risk score and ranking are due to Very Low Multi-hazard exposure combined with Very Low Vulnerability, Moderate Coping Capacity, and Low Disaster Management Capabilities scores.

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



# JAMBI RECOMMENDATIONS

1

## Clean Water Access Vulnerability

Jambi has the 9th highest Clean Water Access Vulnerability in Indonesia, with 77% of households in the province having access to an Improved Water Source, and 75.6% of households having access to Improved Sanitation services.

Clean water and sanitation access in Jambi are hampered by hazard impacts. The province is exposed to multiple hazards, including drought, extreme weather (tornadoes), wildfires, flooding, landslides, and volcanic eruptions. Mining operations in the province have also affected clean water supplies and contributed to increased hazard impacts such as landslides and flooding. Strengthen and enforce regulations that protect watersheds and water sources from contamination and/or environmental degradation by factories, landfills, mining operations, etc.

Secure investments to strengthen existing clean water and sanitation infrastructure to reduce hazard-related impacts and expand services in underserved areas.

2

## Gender Inequality

Gender inequality in Jambi is a top driver of Vulnerability. Findings show inequities in the labor force, with Jambi ranking 7th for Female to Male Labor Ratio, and a ranking of 16th for female to male Literacy. According to UNICEF's 2019 Provincial Snapshot for Jambi province, 15% of young women are married before the age of 18.

Invest in programs that support women's sexual and reproductive rights to facilitate increased participation in, and contribution to social and economic development.

Increase opportunities to expand participation of women in education and economic activities through the enactment of policies that provide quality, affordable childcare and health care services.

## JAMBI RECOMMENDATIONS

### 3

#### Economic Capacity

---

Jambi has the 10th lowest ranking for overall Economic Capacity, the 7th lowest Average Monthly Income (2.3 million IDR) and the 11th lowest Labor Force Participation Rate (66.09%).

Institute vocational and technical training programs geared toward labor market needs to increase economic opportunities and household incomes.

Allocate funding to strengthen social assistance programs that provide benefits for elderly, low income, and single-parent households.

### 4

#### Transportation Capacity

---

Jambi ranks 18th for overall Transportation Capacity. Invest in transportation infrastructure enhancements. Prioritize infrastructure development in underserved areas to improve access to services (water, health, energy) and facilitate response operations during a disaster.

Protect investments and service provision by implementing mitigation strategies to reduce hazard impacts.

# JAMBI RECOMMENDATIONS

## 5

### Mass Care Support

Jambi has the 2nd lowest Mass Care Support capabilities, driven by its distance from a Disaster Stockpile (545 km) and limited availability of Emergency Shelters (0.67 per 10,000 persons).

Strengthen logistical planning to ensure that Jambi can meet the sheltering, feeding, hydration, hygiene, childcare and dignity requirements of a disaster affected population.

## 6

### Emergency Services

Jambi ranks 15th for overall Emergency Services capabilities. Allocate funding to strengthen availability of ambulance services, expand coverage of district-level emergency operations centers, and increase participation and training of Search and Rescue teams.

Increase local engagement in disaster preparedness and response through education and outreach programs and formalized participation of Citizen Brigades.



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**INDONESIA**

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**JAWA BARAT**

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**NDPBA PROVINCE PROFILE**

# JAWA BARAT

**CAPITAL: BANDUNG**

Area: 35,378  
km<sup>2</sup>



The most populous Indonesian province with nearly 50 million inhabitants, Jawa Barat in the western portion of Java has a diverse landscape of mountains and plateaus, along with seven active volcanoes and seismic faults. It combines higher levels of exposure and vulnerability with a high level of coping capacity. Enhanced urban planning in the capital city of Bandung has been leveraged to build DRR capabilities and counter the flooding challenges associated with climate change. Reducing environmental stress due to rapid urbanization and enhancing health capacities during the COVID19 pandemic will help enhance Jawa Barat’s resilience going forward.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Very High**

Score: 0.570 • Rank: 2/34



**RESILIENCE (R) - Very Low**

Score: 0.477 • Rank: 28/34



**MULTI-HAZARD EXPOSURE (MHE) - Very High**

Score: 0.710 • Rank: 4/34



**VULNERABILITY (V) - High**

Score: 0.483 • Rank: 7/34



**COPING CAPACITY (CC) - High**

Score: 0.535 • Rank: 9/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Very Low**

Score: 0.380 • Rank: 33/34



Population (2020 Projected)

**49,935,700**



Population in Poverty

**6.8%**



Adult Literacy Rate

**98.5%**



Access to improved water

**92.3%**



Average life expectancy

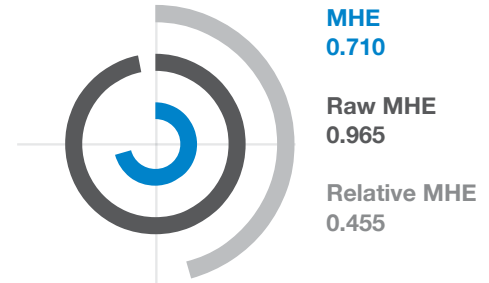
**72.9 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 4 / 34 PROVINCES  
SCORE: 0.710



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**57%**

27,252,689  
\$160.2 Billion



Tsunami

**1%**

431,075  
\$2.2 Billion



Flood

**36%**

16,992,097  
\$101.36 Billion



Flash Flood

**5%**

2,211,871  
\$12.3 Billion



Landslide

**4%**

2,011,453  
\$10.1 Billion



Volcano

**3%**

1,337,577  
\$7.7 Billion



Drought

**27%**

13,102,902  
\$92.4 Billion



Wildfire

**2%**

992,140  
\$5 Billion



Extreme Weather

**97%**

46,046,560  
\$273 Billion



## VULNERABILITY (V)

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.483**

Vulnerability in Jawa Barat is primarily driven by Environmental Stress and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.861 RANK: 1/34 PROVINCES ASSESSED**

<b>43.6%</b> Land susceptible to severe erosion	<b>394.98</b> Livestock Density (per sq km)	<b>2598.9</b> Net Deforestation (hectares per year)
--	--	--



### Vulnerable Health Status

**SCORE: 0.276 RANK: 29/34 PROVINCES ASSESSED**

<b>72.85</b> Life expectancy (years)	<b>30</b> Infant mortality rate (per 1,000 live births)	<b>114.29</b> Maternal mortality ratio	<b>8.4%</b> Children (under 5) Wasting	<b>8.2%</b> Disability	<b>4.7%</b> Unmet health care needs	<b>4.4%</b> Households with limited access to health facility
<b>1.7%</b> Households with catastrophic health expenditure	<b>17.94</b> Dengue incidence per 100,000 population	<b>0.52</b> Measles incidence per 100,000 population	<b>0</b> Malaria incidence per 100,000 population	<b>221</b> TB case notification per 100,000 population	<b>13.86</b> HIV & AIDS incidence per 100,000 population	<b>0.5</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.497 RANK: 17/34 PROVINCES ASSESSED**

<b>92.3%</b> Households with improved water	<b>69.6%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.365 RANK: 24/34 PROVINCES ASSESSED**

<b>98.5%</b> Adult literacy rate	<b>98.3%</b> Net primary school enrollment rate	<b>8.37</b> Average years of schooling	<b>77.6%</b> Households using internet
-------------------------------------	--	---	---



### Economic Constraints

**SCORE: 0.550 RANK: 6/34 PROVINCES ASSESSED**

<b>8.0%</b> Unemployment rate	<b>46.4</b> Age dependency ratio	<b>6.8%</b> Poverty rate	<b>0.402</b> GINI ratio
----------------------------------	-------------------------------------	-----------------------------	----------------------------



### Gender Inequality

**SCORE: 0.416 RANK: 27/34 PROVINCES ASSESSED**

<b>0.99</b> Female to male literacy rate	<b>0.55</b> Female to male labor ratio	<b>1.02</b> Female to male secondary school enrollment ratio	<b>22.0%</b> Percent female seats in government
---	---	---	--



### Population Pressures

**SCORE: 0.415 RANK: 19/34 PROVINCES ASSESSED**

<b>1.6%</b> Average annual total population change	<b>3.8%</b> Average annual urban population change	<b>5.2%</b> Recent Net migration
---	---	-------------------------------------



## COPING CAPACITY (CC)

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.535**

Jawa Barat exhibits weaker Coping Capacity in the areas of Economic Capacity and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.343** **RANK: 18/34 PROVINCES ASSESSED**

**65.1%** **3,337,573** **30.1**  
Labor force participation Average monthly income (IDR) GDP per capita (Million IDR)



### Governance

**SCORE: 0.715** **RANK: 3/34 PROVINCES ASSESSED**

**42** **75.0%** **82.6%**  
Crime rate per 100,000 population Crime clearance rate Voter participation



### Environmental Capacity

**SCORE: 0.191** **RANK: 26/34 PROVINCES ASSESSED**

**5.0%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.660** **RANK: 8/34 PROVINCES ASSESSED**



### Health Care Capacity

**SCORE: 0.345** **RANK: 28/34 PROVINCES ASSESSED**

**8.5** **3.73** **9.46** **21.7%** **43.1%** **69.6%** **68.8%**  
Hospital beds per 10,000 people Physicians per 10,000 people Nurses and midwives per 10,000 people Time to public hospital (over 1 hour) Immunization rate (children under 5) Health care accreditation rate Population covered by health insurance



### Transportation Capacity

**SCORE: 0.709** **RANK: 6/34 PROVINCES ASSESSED**

**1.43** **27.38**  
Road and rail density Average distance to port or airport



### Communications Capacity

**SCORE: 0.769** **RANK: 6/34 PROVINCES ASSESSED**

**66.2%** **2.8%**  
Mobile phone ownership Households with Fixed Phones



### Energy Capacity

**SCORE: 0.817** **RANK: 6/34 PROVINCES ASSESSED**

**99.6%** **15.2%** **86.4** **88.4%**  
Households served by state electricity Percentage of total national electricity generated in province Electricity generation GWh per 100,000 Population Households with gas for cooking

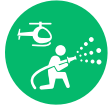




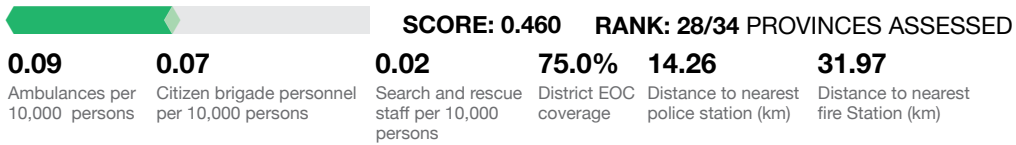
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 33 / 34** PROVINCES ASSESSED  
**SCORE: 0.380**

Jawa Barat exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



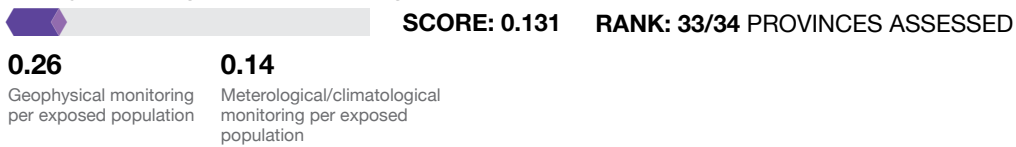
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.477**

Jawa Barat's Very Low Resilience score and ranking are due to High Vulnerability combined with High Coping Capacity, and Very Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Environmental Stress**



**Economic Constraints**



**Economic Capacity**



**Health Care Capacity**



**Early Warning and Monitoring**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.319**



**Tsunami**

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.259**



**Flood**

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.312**



**Flash Flood**

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.319**



**Landslide**

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.317**



**Volcano**

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.321**



**Drought**

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.294**



**Wildfire**

**RANK: 13 / 34 PROVINCES ASSESSED**  
**SCORE: 0.242**



**Extreme Weather**

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.365**





## MULTI-HAZARD RISK (MHR)

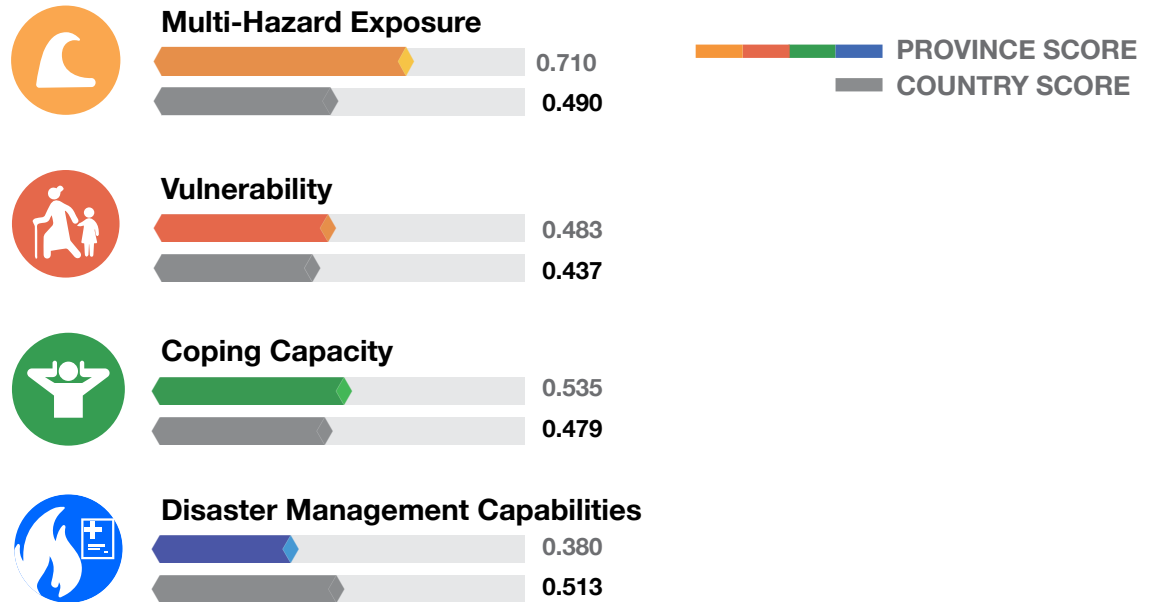
**2 / 34**

RANK WITHIN PROVINCES  
Score: 0.570



Jawa Barat's Very High Multi-hazard Risk score and ranking are due to Very High Multi-hazard exposure combined with High Vulnerability, High Coping Capacity, and Very Low Disaster Management Capabilities scores.

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



# JAWA BARAT RECOMMENDATIONS

# 1

## Environmental Stress

Jawa Barat has the highest overall Environmental Stress ranking in the country, driven by the highest Livestock Density (395 animals per square km) and the 2nd highest percentage of land subject to Severe Erosion Potential (43.56%).

Agriculture is a chief contributor to the provincial economy, as is manufacturing. Both sectors are potential contributors to environmental stress. Strengthen environmental policies and regulations that protect rivers and water sources from agricultural and industrial runoff and pollution.

Increase availability of agricultural extension services to educate farmers in agriculture and livestock management best practices to reduce environmental degradation and soil loss and conserve water resources.

# 2

## Economic Constraints

Jawa Barat ranks 6th for overall Economic Constraints in the country, driven by the 2nd highest Unemployment Rate, and the 3rd highest GINI ratio.

Increase access to financing and support structures (e.g. microfinance services and loans) for small businesses and household enterprises to reduce income disparities and promote economic growth.

# JAWA BARAT RECOMMENDATIONS

## 3

### Economic Capacity

---

Jawa Barat ranks 18th for overall Economic Capacity. Relatively low reported Labor Force Participation could be a result of the large informal labor force in the province. Enhance programs that diversify the economy and increase generation of public revenue. Encourage programs that offer vocational and technical training to expand the skills of the labor force.

## 4

### Health Care Capacity

---

Findings show that Jawa Barat has the 7th lowest overall Health Care Capacity, driven by the 2nd lowest number of Nurses and Midwives per 10,000 persons (9.46) and the 3rd lowest number of Hospital Beds per 10,000 persons (8.5). In addition, fewer than 70% of Hospitals and Public Health Centers in the province are accredited.

Continue to advance efforts to increase the number of accredited hospitals and health care centers (puskesmas) to ensure equitable distribution of personnel, medical equipment and medical supplies. Provide incentives for health care professionals to work in rural and underserved parts of the province.

# JAWA BARAT RECOMMENDATIONS

## 5

### Early Warning and Monitoring

Jawa Barat has the 2nd lowest Early Warning and Monitoring capabilities in the country, with few monitoring stations for geophysical or meteorological hazards. Findings show that flooding, earthquakes, extreme weather are prevalent hazards.

In coordination with implementing agencies, strengthen hazard monitoring and notification capabilities. Work with all available media outlets (e.g., TV, radio, Internet) to ensure broadest dissemination of warning messages to the public.

Strengthen personal preparedness and response capabilities through education and outreach and participation in Citizen Brigades.

## 6

### Emergency Services

Jawa Barat has the 7th lowest ranking for overall Emergency Services capabilities, driven by having the lowest number of Ambulances (0.09) per 10,000 persons. Increase ambulance service by investing in vehicles, equipment and trained emergency medical technicians to improve responsiveness during a disaster and boost access to urgent health care services in the province.

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INDONESIA

# JAWA TENGAH

NDPBA PROVINCE PROFILE

# JAWA TENGAH

**CAPITAL: SEMARANG**

Area: 32,801 km<sup>2</sup>



Jawa Tengah (Central Java) is the third-most populous province in both Java and Indonesia after West Java and East Java with nearly 35 million inhabitants. Large earthquakes, resultant tsunamis and volcanic events are a common fixture across Central Java and local, provincial and national (BNPB) authorities have collaborated to ensure both environmental and cultural heritage concerns are addressed via their DRR efforts. With high levels of hazard exposure and environmental and developmental stress, Jawa Tengah will benefit from enhanced early-warning systems and expanded access to information by all stakeholders.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Moderate**

Score: 0.510 • Rank: 13/34



**RESILIENCE (R) - High**

Score: 0.534 • Rank: 11/34



**MULTI-HAZARD EXPOSURE (MHE) - High**

Score: 0.639 • Rank: 8/34



**VULNERABILITY (V) - Low**

Score: 0.406 • Rank: 23/34



**COPING CAPACITY (CC) - Moderate**

Score: 0.485 • Rank: 15/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Moderate**

Score: 0.521 • Rank: 17/34



Population (2020 Projected)

**34,940,100**



Population in Poverty

**10.6%**



Adult Literacy Rate

**93.5%**



Access to improved water

**93.8%**



Average life expectancy

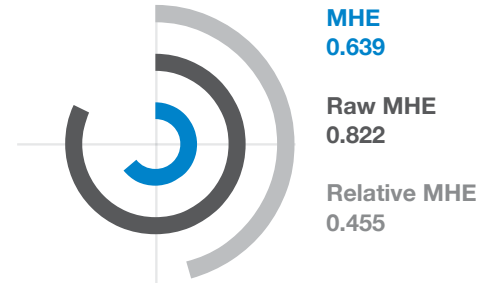
**74.2 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 8 / 34 PROVINCES  
SCORE: 0.639



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**44%**

15,055,921  
\$77.7 Billion



Tsunami

**<1%**

146,090  
\$811.6 Million



Flood

**45%**

15,452,010  
\$81.54 Billion



Flash Flood

**4%**

1,352,043  
\$6.8 Billion



Landslide

**2%**

799,821  
\$2.7 Billion



Volcano

**4%**

1,334,496  
\$5.6 Billion



Drought

**39%**

13,375,656  
\$61.4 Billion



Wildfire

**3%**

1,029,040  
\$3.5 Billion



Extreme Weather

**89%**

30,547,464  
\$153.1 Billion





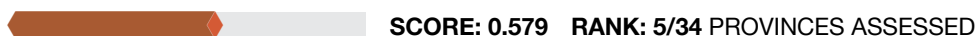
## VULNERABILITY (V)

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.406**

Vulnerability in Jawa Tengah is primarily driven by Environmental Stress and Information Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



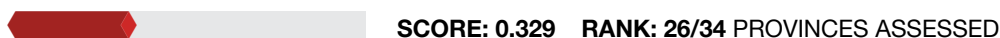
### Environmental Stress



<b>16.5%</b> Land susceptible to severe erosion	<b>261.09</b> Livestock Density (per sq km)	<b>2004.7</b> Net Deforestation (hectares per year)
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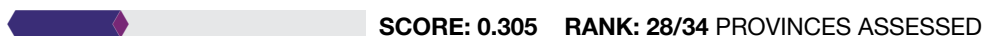
### Vulnerable Health Status



<b>74.23</b> Life expectancy (years)	<b>32</b> Infant mortality rate (per 1,000 live births)	<b>124.11</b> Maternal mortality ratio	<b>8.5%</b> Children (under 5) Wasting	<b>8.6%</b> Disability	<b>4.8%</b> Unmet health care needs	<b>4.9%</b> Households with limited access to health facility
<b>2.7%</b> Households with catastrophic health expenditure	<b>9.08</b> Dengue incidence per 100,000 population	<b>1.37</b> Measles incidence per 100,000 population	<b>0.01</b> Malaria incidence per 100,000 population	<b>197</b> TB case notification per 100,000 population	<b>29.32</b> HIV & AIDS incidence per 100,000 population	<b>0.52</b> Prevalence of Leprosy per 10,000 population



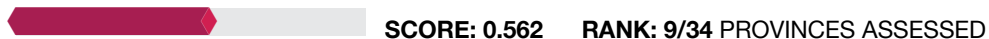
### Clean Water Vulnerability



<b>93.8%</b> Households with improved water	<b>80.3%</b> Households with improved sanitation
--	---



### Information Access Vulnerability



<b>93.5%</b> Adult literacy rate	<b>97.8%</b> Net primary school enrollment rate	<b>7.53</b> Average years of schooling	<b>75.2%</b> Households using internet
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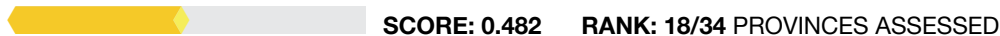
### Economic Constraints



<b>4.5%</b> Unemployment rate	<b>47.7</b> Age dependency ratio	<b>10.6%</b> Poverty rate	<b>0.361</b> GINI ratio
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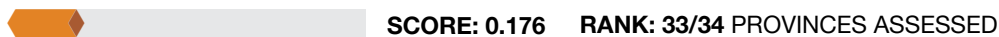
### Gender Inequality



<b>0.94</b> Female to male literacy rate	<b>0.7</b> Female to male labor ratio	<b>1.07</b> Female to male secondary school enrollment ratio	<b>22.0%</b> Percent female seats in government
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### Population Pressures



<b>0.8%</b> Average annual total population change	<b>2.1%</b> Average annual urban population change	<b>-3.8%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.485**

Jawa Tengah exhibits weaker Coping Capacity in the areas of Economic Capacity and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.277** **RANK: 26/34 PROVINCES ASSESSED**

**68.6%** **2,190,251** **27.6**  
Labor force participation Average monthly income (IDR) GDP per capita (Million IDR)



### Governance

**SCORE: 0.668** **RANK: 9/34 PROVINCES ASSESSED**

**27** **76.5%** **80.2%**  
Crime rate per 100,000 population Crime clearance rate Voter participation



### Environmental Capacity

**SCORE: 0** **RANK: 34/34 PROVINCES ASSESSED**

**0.5%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.671** **RANK: 6/34 PROVINCES ASSESSED**



### Health Care Capacity

**SCORE: 0.554** **RANK: 11/34 PROVINCES ASSESSED**

**11.5** **2.93** **12.89** **14.4%** **62.2%** **93.4%** **76.9%**  
Hospital beds per 10,000 people Physicians per 10,000 people Nurses and midwives per 10,000 people Time to public hospital (over 1 hour) Immunization rate (children under 5) Health care accreditation rate Population covered by health insurance



### Transportation Capacity

**SCORE: 0.615** **RANK: 8/34 PROVINCES ASSESSED**

**0.87** **28.88**  
Road and rail density Average distance to port or airport



### Communications Capacity

**SCORE: 0.674** **RANK: 10/34 PROVINCES ASSESSED**

**61.7%** **2.1%**  
Mobile phone ownership Households with Fixed Phones



### Energy Capacity

**SCORE: 0.841** **RANK: 5/34 PROVINCES ASSESSED**

**99.8%** **14.7%** **118.29** **82.5%**  
Households served by state electricity Percentage of total national electricity generated in province Electricity generation GWh per 100,000 Population Households with gas for cooking



## DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.521**

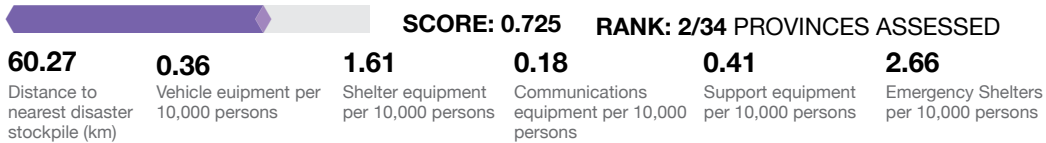
Jawa Tengah exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



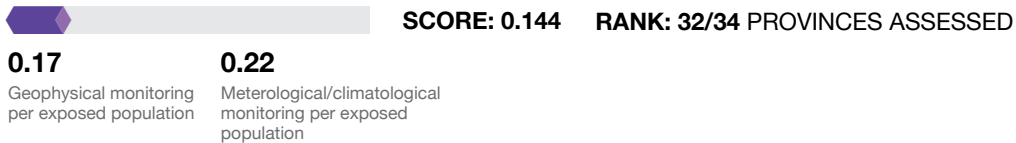
### Emergency Services



### Mass Care Support



### Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.534**

Jawa Tengah's High Resilience score and ranking are due to Low Vulnerability combined with Moderate Coping Capacity, and Moderate Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Environmental Stress**



**Information Access Vulnerability**



**Economic Capacity**



**Health Care Capacity**



**Early Warning and Monitoring**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.254**



**Tsunami**

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.186**



**Flood**

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.278**



**Flash Flood**

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.249**



**Landslide**

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.217**



**Volcano**

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.289**



**Drought**

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.248**



**Wildfire**

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.197**



**Extreme Weather**

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.280**



## MULTI-HAZARD RISK (MHR)

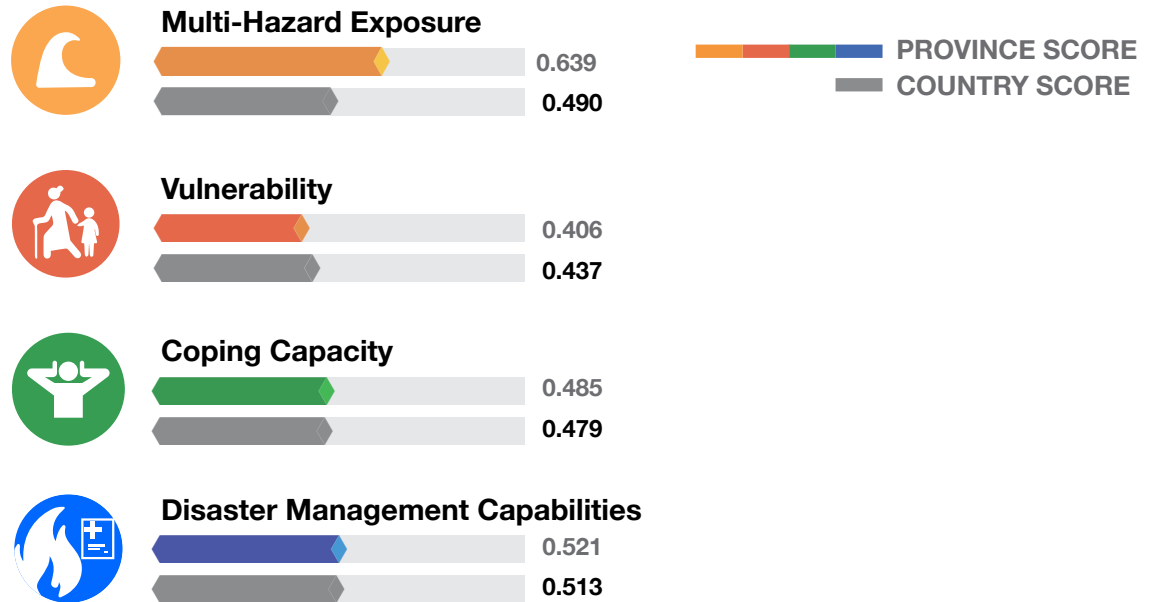
**13 / 34**

RANK WITHIN PROVINCES  
Score: 0.510



Jawa Tengah’s Moderate Multi-hazard Risk score and ranking are due to High Multi-hazard exposure combined with Low Vulnerability, Moderate Coping Capacity, and Moderate Disaster Management Capabilities scores.

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



---

# JAWA TENGAH RECOMMENDATIONS

# 1

---

## Environmental Stress

Findings show that Jawa Tengah ranks 5th for Environmental Stress. Livestock Density in the province is 261.09 per square km. The province is also prone to flooding, extreme weather and drought. Promote education and training opportunities for farmers and agricultural workers focused on conservation and protection of soil and water resources.

# 2

---

## Information Access Vulnerability

Jawa Tengah ranks 9th for overall Information Access Vulnerability. The Average Years of Schooling in the province is just 7.53 years. Implement outreach and education programs at village levels focused on promoting hazard awareness and preparedness and reducing health risks through sanitation and good hygiene.

## JAWA TENGAH RECOMMENDATIONS

### 3

#### Economic Capacity

---

Jawa Tengah has the 9th lowest Economic Capacity in the country, with the 3rd lowest Average Monthly Income (2.1 million IDR).

Increase access to financing and support structures (e.g. microfinance services and loans) for poor and vulnerable populations.

### 4

#### Health Care Capacity

---

Findings show constraints for the number of Nurses and Midwives (12.89 per 10,000 persons), number of Physicians (2.93 per 10,000 persons) and the number of Hospitals Beds (11.5 per 10,000 persons).

In coordination with Indonesia's Ministry of Health, continue health care accreditation efforts to increase access and service delivery of quality health care, especially to rural areas. Provide incentives for medical personnel to work in underserved areas.

---

# JAWA TENGAH RECOMMENDATIONS

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## 5

### Early Warning and Monitoring

Findings show that Jawa Tengah has the 2nd lowest ranking for Early Warning and Monitoring. Flooding, earthquakes, drought and extreme weather are prevalent hazards. Enhance partnerships among stakeholders (e.g., institutions responsible for hazard detection and monitoring, and media outlets) to ensure that warning information has the greatest possible reach. Implement hazard awareness and preparedness campaigns to increase community resilience to hazard impacts.

## 6

### Emergency Services

Findings show that Jawa Tengah has the 2nd highest ranking for overall Emergency Services relative to other provinces in the country. Capabilities could be further enhanced by strengthening participation, training and exercises of Search and Rescue Teams.



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**INDONESIA**

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# **JAWA TIMUR**

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**NDPBA PROVINCE PROFILE**

# JAWA TIMUR

**CAPITAL: SURABAYA**

Area: 47,803 km<sup>2</sup>



Jawa Timur (East Java) is a Province rich in ethnic diversity and its principal city, Surabaya, is the second largest in Indonesia.

Given the province's sizable and diverse population and high levels of exposure to earthquakes, flooding and other hazards, DRR initiatives focused on increasing information access and promoting hazard awareness through community and school-based programs will be effective ways to reinforce disaster preparedness. In addition, efforts to reduce environmental stress and bolster health care capacity in the age of COVID19 will help strengthen the resilience of this populous region.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - High**

Score: 0.512 • Rank: 12/34



**RESILIENCE (R) - Moderate**

Score: 0.531 • Rank: 14/34



**MULTI-HAZARD EXPOSURE (MHE) - High**

Score: 0.642 • Rank: 7/34



**VULNERABILITY (V) - Low**

Score: 0.409 • Rank: 22/34



**COPING CAPACITY (CC) - High**

Score: 0.519 • Rank: 12/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Low**

Score: 0.483 • Rank: 25/34



Population (2020 Projected)

**39,886,300**



Population in Poverty

**10.2%**



Adult Literacy Rate

**92.3%**



Access to improved water

**94.4%**



Average life expectancy

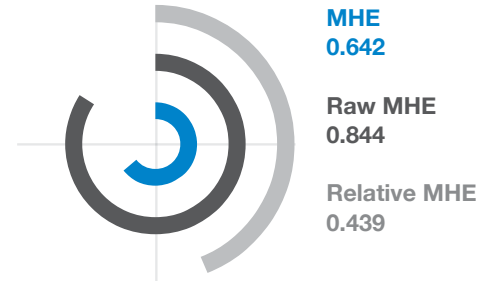
**71.2 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 7 / 34 PROVINCES  
SCORE: 0.642



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**38%**

14,783,898  
\$67.5 Billion



Tsunami

**<1%**

181,992  
\$804.1 Million



Flood

**52%**

20,324,917  
\$96.01 Billion



Flash Flood

**3%**

1,353,259  
\$6.4 Billion



Landslide

**2%**

793,851  
\$3.1 Billion



Volcano

**2%**

772,642  
\$3.3 Billion



Drought

**34%**

13,206,537  
\$58.1 Billion



Wildfire

**8%**

2,990,535  
\$11.5 Billion



Extreme Weather

**90%**

35,441,148  
\$161.9 Billion



## VULNERABILITY (V)

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.409**

Vulnerability in Jawa Timur is primarily driven by Environmental Stress and Information Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.592 RANK: 3/34 PROVINCES ASSESSED**

<b>19.6%</b> Land susceptible to severe erosion	<b>211.71</b> Livestock Density (per sq km)	<b>3298.6</b> Net Deforestation (hectares per year)
--	--	--



### Vulnerable Health Status

**SCORE: 0.371 RANK: 23/34 PROVINCES ASSESSED**

<b>71.18</b> Life expectancy (years)	<b>30</b> Infant mortality rate (per 1,000 live births)	<b>136.61</b> Maternal mortality ratio	<b>9.2%</b> Children (under 5) Wasting	<b>9.4%</b> Disability	<b>4.7%</b> Unmet health care needs	<b>4.3%</b> Households with limited access to health facility
<b>2.3%</b> Households with catastrophic health expenditure	<b>21.39</b> Dengue incidence per 100,000 population	<b>1.02</b> Measles incidence per 100,000 population	<b>0.01</b> Malaria incidence per 100,000 population	<b>187</b> TB case notification per 100,000 population	<b>50.2</b> HIV & AIDS incidence per 100,000 population	<b>0.9</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.323 RANK: 24/34 PROVINCES ASSESSED**

<b>94.4%</b> Households with improved water	<b>78.8%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.579 RANK: 8/34 PROVINCES ASSESSED**

<b>92.3%</b> Adult literacy rate	<b>98.0%</b> Net primary school enrollment rate	<b>7.59</b> Average years of schooling	<b>73.2%</b> Households using internet
-------------------------------------	--	---	---



### Economic Constraints

**SCORE: 0.350 RANK: 26/34 PROVINCES ASSESSED**

<b>3.9%</b> Unemployment rate	<b>43.9</b> Age dependency ratio	<b>10.2%</b> Poverty rate	<b>0.37</b> GINI ratio
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### Gender Inequality

**SCORE: 0.498 RANK: 16/34 PROVINCES ASSESSED**

<b>0.94</b> Female to male literacy rate	<b>0.69</b> Female to male labor ratio	<b>1.03</b> Female to male secondary school enrollment ratio	<b>15.0%</b> Percent female seats in government
---	---	---	--



### Population Pressures

**SCORE: 0.152 RANK: 34/34 PROVINCES ASSESSED**

<b>0.6%</b> Average annual total population change	<b>2.2%</b> Average annual urban population change	<b>-2.7%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.519**

Jawa Timur exhibits weaker Coping Capacity in the areas of Economic Capacity and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.392 RANK: 15/34 PROVINCES ASSESSED**

<b>69.5%</b> Labor force participation	<b>2,479,910</b> Average monthly income (IDR)	<b>39.9</b> GDP per capita (Million IDR)
---	--	---



### Governance

**SCORE: 0.608 RANK: 16/34 PROVINCES ASSESSED**

<b>67</b> Crime rate per 100,000 population	<b>58.7%</b> Crime clearance rate	<b>82.5%</b> Voter participation
--	--------------------------------------	-------------------------------------



### Environmental Capacity

**SCORE: 0.189 RANK: 27/34 PROVINCES ASSESSED**

**5.0%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.668 RANK: 7/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.498 RANK: 14/34 PROVINCES ASSESSED

<b>10.7</b> Hospital beds per 10,000 people	<b>3.62</b> Physicians per 10,000 people	<b>11.62</b> Nurses and midwives per 10,000 people	<b>12.1%</b> Time to public hospital (over 1 hour)	<b>57.2%</b> Immunization rate (children under 5)	<b>91.5%</b> Health care accreditation rate	<b>63.0%</b> Population covered by health insurance
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### Transportation Capacity SCORE: 0.643 RANK: 7/34 PROVINCES ASSESSED

<b>1.10</b> Road and rail density	<b>29.56</b> Average distance to port or airport
--------------------------------------	---



### Communications Capacity SCORE: 0.645 RANK: 14/34 PROVINCES ASSESSED

<b>62.2%</b> Mobile phone ownership	<b>1.6%</b> Households with Fixed Phones
--	---



### Energy Capacity SCORE: 0.885 RANK: 2/34 PROVINCES ASSESSED

<b>99.4%</b> Households served by state electricity	<b>20.0%</b> Percentage of total national electricity generated in province	<b>140.36</b> Electricity generation GWh per 100,000 Population	<b>80.5%</b> Households with gas for cooking
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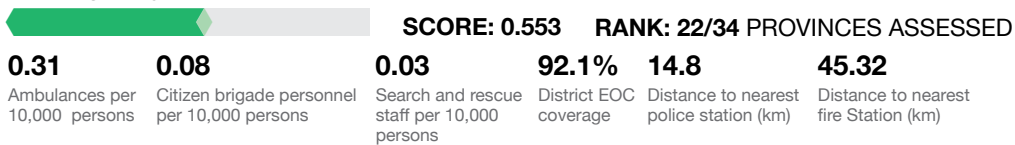
## DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 25 / 34** PROVINCES ASSESSED  
**SCORE: 0.483**

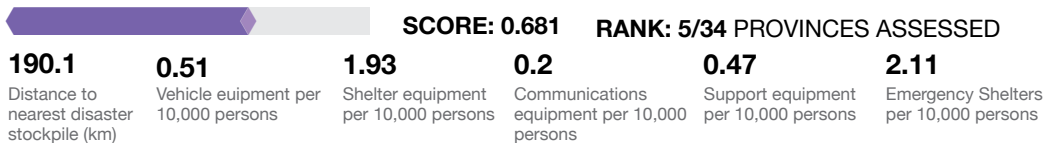
Jawa Timur exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



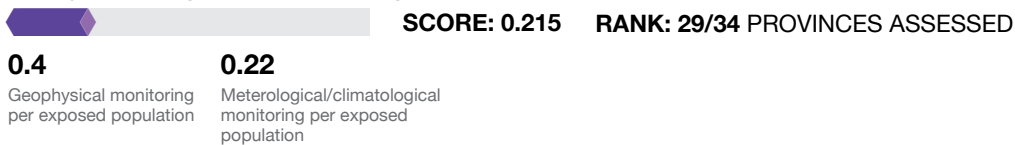
### Emergency Services



### Mass Care Support



### Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.531**

Jawa Timur's Moderate Resilience score and ranking are due to Low Vulnerability combined with High Coping Capacity, and Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Environmental Stress**



**Information Access Vulnerability**



**Economic Capacity**



**Health Care Capacity**



**Early Warning and Monitoring**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.237**



**Tsunami**

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.186**



**Flood**

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.301**



**Flash Flood**

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.248**



**Landslide**

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.220**



**Volcano**

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.264**



**Drought**

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.247**



**Wildfire**

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.257**



**Extreme Weather**

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.288**





## MULTI-HAZARD RISK (MHR)

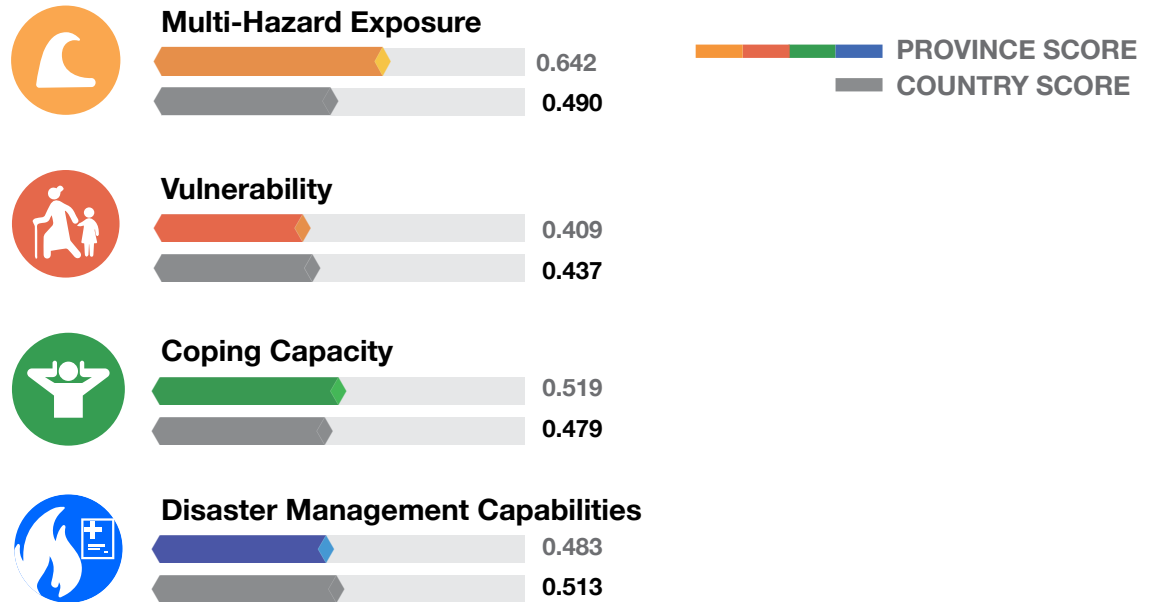
**12 / 34**

RANK WITHIN PROVINCES  
Score: 0.512



Jawa Timur's High Multi-hazard Risk score and ranking are due to High Multi-hazard exposure combined with Low Vulnerability, High Coping Capacity, and Low Disaster Management Capabilities scores.

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



# JAWA TIMUR RECOMMENDATIONS

1

## Environmental Stress

Findings show that Jawa Timur has the 3rd highest Environmental Stress in Indonesia due to a high Livestock Density (211.71 animals per square km) and 19.56% of the province prone to Severe Erosion Rates of over 180 tons per hectare per year. Jawa Timur also experiences a high rate of flooding.

Strengthen environmental policies to reduce environmental degradation as a result of unsustainable agricultural practices.

Support farmers through education, training and extension services to share best practices in soil and water conservation and animal husbandry. Invest in infrastructure and supplies to support implementation of best practices (e.g., modern irrigation equipment, fencing, etc.)

2

## Information Access Vulnerability

Jawa Timur has the 8th highest ranking for Information Access Vulnerability, with the 3rd lowest Adult Literacy Rate (92.32%) and only 7.59 years of schooling on average.

Improving literacy and education levels will help to increase economic opportunities in the province. Continue partnership engagements with the Ministry of Education and I/NGOs to implement programs focused on overcoming challenges in education service delivery and improving learning outcomes among students.

Build community resilience through the implementation of community outreach and education programs focused on hazard awareness, disaster preparedness and health and safety practices.

# JAWA TIMUR RECOMMENDATIONS

## 3

### Economic Capacity

---

Jawa Timur ranks 15th for overall Economic Capacity, influenced by the 13th lowest score for Average Monthly Income (2.4 million IDR).

Implement programs geared toward building the entrepreneurial and technical skills of small business owners and household enterprises.

Increase access to financing and support structures (e.g. microfinance services and loans) for poor and vulnerable populations.

## 4

### Health Care Capacity

---

Health Care Capacity in Jawa Timur is constrained by the number of Nurses and Midwives (11.62 per 10,000 persons), the number of Hospital Beds (10.7 per 10,000 persons) and the percentage of the population without Health Insurance (37%).

Continue efforts to improve access to and affordability of health care through infrastructure enhancement and programs with special focus on mothers, children, adolescents, elderly, and those with chronic health conditions.

---

# JAWA TIMUR RECOMMENDATIONS

## 5

### Early Warning and Monitoring

---

Findings show that Jawa Timur has the 6th lowest ranking for Early Warning and Monitoring. Work closely with issuing agencies and media outlets (including radio stations) to strengthen receipt and broad dissemination of hazard alert and warning information.

## 6

### Emergency Services

---

Jawa Timur ranks 22nd for overall Emergency Services capabilities. Focus areas for enhancement on increasing the Number of Ambulances (currently 0.31 per 10,000 persons) and trained emergency medical technicians in the province.

Increase participation, training and exercising of Search and Rescue teams and Citizen Brigades.

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INDONESIA

# KALIMANTAN BARAT

NDPBA PROVINCE PROFILE



# KALIMANTAN BARAT

**CAPITAL: PONTIANAK**

Area: 147,307 km<sup>2</sup>



Kalimantan Barat (West Kalimantan) on the island of Borneo borders the Malaysian province of Sarawak and the Java Sea and is an ethnically and linguistically diverse region

with expansive natural resources. Historically, large wildland fires have impacted the region both economically and by reducing air quality. Countering increasing levels of drought influenced by periodic El Nino events and climate change is a key concern and may be challenging for the province given its high vulnerability and low coping capacity and disaster management capabilities.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Low**

Score: 0.471 • Rank: 24/34



**RESILIENCE (R) - Low**

Score: 0.482 • Rank: 26/34



**MULTI-HAZARD EXPOSURE (MHE) - Very Low**

Score: 0.330 • Rank: 30/34



**VULNERABILITY (V) - High**

Score: 0.482 • Rank: 8/34



**COPING CAPACITY (CC) - Low**

Score: 0.440 • Rank: 23/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Low**

Score: 0.488 • Rank: 24/34



Population (2020 Projected)

**5,134,800**



Population in Poverty

**7.3%**



Adult Literacy Rate

**93.2%**



Access to improved water

**77.1%**



Average life expectancy

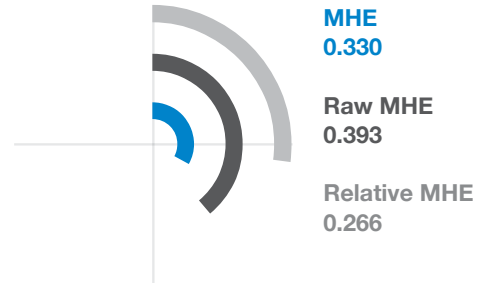
**70.6 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 30 / 34 PROVINCES  
SCORE: 0.330



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**0%**

👤 -

-



Tsunami

**0%**

👤 -

-



Flood

**52%**

👤 2,543,846

**\$45.76 Billion**



Flash Flood

**<1%**

👤 9,312

**\$64.3 Million**



Landslide

**1%**

👤 35,468

**\$246.1 Million**



Volcano

**0%**

👤 -

-



Drought

**22%**

👤 1,088,066

**\$7.6 Billion**



Wildfire

**12%**

👤 595,245

**\$3.9 Billion**



Extreme Weather

**96%**

👤 4,673,872

**\$60.8 Billion**





## VULNERABILITY (V)

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.482**

Vulnerability in Kalimantan Barat is primarily driven by Information Access Vulnerability and Clean Water Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.325 RANK: 24/34 PROVINCES ASSESSED**

<b>4.3%</b>	<b>5.4</b>	<b>13157.8</b>
Land susceptible to severe erosion	Livestock Density (per sq km)	Net Deforestation (hectares per year)



### Vulnerable Health Status

**SCORE: 0.461 RANK: 14/34 PROVINCES ASSESSED**

<b>70.56</b>	<b>31</b>	<b>133.48</b>	<b>14.3%</b>	<b>8.3%</b>	<b>5.7%</b>	<b>31.2%</b>
Life expectancy (years)	Infant mortality rate (per 1,000 live births)	Maternal mortality ratio	Children (under 5) Wasting	Disability	Unmet health care needs	Households with limited access to health facility
<b>0.7%</b>	<b>61.92</b>	<b>2.44</b>	<b>0</b>	<b>147</b>	<b>53.88</b>	<b>0.08</b>
Households with catastrophic health expenditure	Dengue incidence per 100,000 population	Measles incidence per 100,000 population	Malaria incidence per 100,000 population	TB case notification per 100,000 population	HIV & AIDS incidence per 100,000 population	Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.637 RANK: 8/34 PROVINCES ASSESSED**

<b>77.1%</b>	<b>72.1%</b>
Households with improved water	Households with improved sanitation



### Information Access Vulnerability

**SCORE: 0.668 RANK: 5/34 PROVINCES ASSESSED**

<b>93.2%</b>	<b>97.1%</b>	<b>7.31</b>	<b>64.7%</b>
Adult literacy rate	Net primary school enrollment rate	Average years of schooling	Households using internet



### Economic Constraints

**SCORE: 0.337 RANK: 27/34 PROVINCES ASSESSED**

<b>4.5%</b>	<b>49.7</b>	<b>7.3%</b>	<b>0.327</b>
Unemployment rate	Age dependency ratio	Poverty rate	GINI ratio



### Gender Inequality

**SCORE: 0.578 RANK: 7/34 PROVINCES ASSESSED**

<b>0.94</b>	<b>0.62</b>	<b>1.03</b>	<b>10.8%</b>
Female to male literacy rate	Female to male labor ratio	Female to male secondary school enrollment ratio	Percent female seats in government



### Population Pressures

**SCORE: 0.367 RANK: 22/34 PROVINCES ASSESSED**

<b>1.6%</b>	<b>4.0%</b>	<b>0.5%</b>
Average annual total population change	Average annual urban population change	Recent Net migration



## COPING CAPACITY (CC)

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.440**

Kalimantan Barat exhibits weaker Coping Capacity in the areas of Health Care Capacity and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.317 RANK: 21/34 PROVINCES ASSESSED**

<b>68.3%</b> Labor force participation	<b>2,528,607</b> Average monthly income (IDR)	<b>27.9</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.649 RANK: 13/34 PROVINCES ASSESSED**

<b>118</b> Crime rate per 100,000 population	<b>77.0%</b> Crime clearance rate	<b>82.2%</b> Voter participation
---	--------------------------------------	-------------------------------------



### Environmental Capacity

**SCORE: 0.403 RANK: 16/34 PROVINCES ASSESSED**

**10.0%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.365 RANK: 29/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.243 RANK: 33/34 PROVINCES ASSESSED

<b>10.3</b> Hospital beds per 10,000 people	<b>1.59</b> Physicians per 10,000 people	<b>12.56</b> Nurses and midwives per 10,000 people	<b>45.4%</b> Time to public hospital (over 1 hour)	<b>42.2%</b> Immunization rate (children under 5)	<b>75.0%</b> Health care accreditation rate	<b>57.7%</b> Population covered by health insurance
--	---	---	---	--	--	--



### Transportation Capacity SCORE: 0.257 RANK: 29/34 PROVINCES ASSESSED

<b>0.05</b> Road and rail density	<b>38.3</b> Average distance to port or airport
--------------------------------------	--



### Communications Capacity SCORE: 0.540 RANK: 24/34 PROVINCES ASSESSED

<b>58.6%</b> Mobile phone ownership	<b>0.9%</b> Households with Fixed Phones
--	---



### Energy Capacity SCORE: 0.420 RANK: 27/34 PROVINCES ASSESSED

<b>85.2%</b> Households served by state electricity	<b>0.3%</b> Percentage of total national electricity generated in province	<b>16.97</b> Electricity generation GWh per 100,000 Population	<b>80.1%</b> Households with gas for cooking
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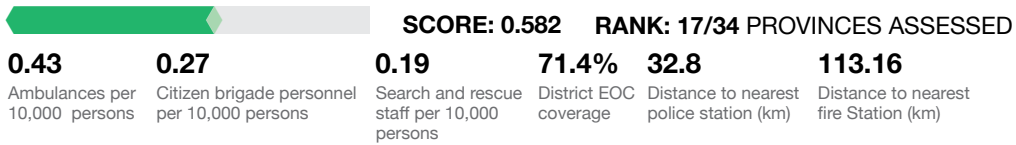
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.488**

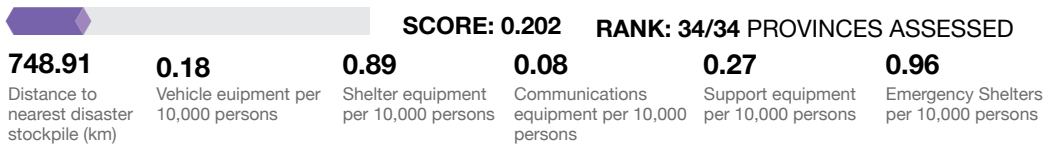
Kalimantan Barat exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



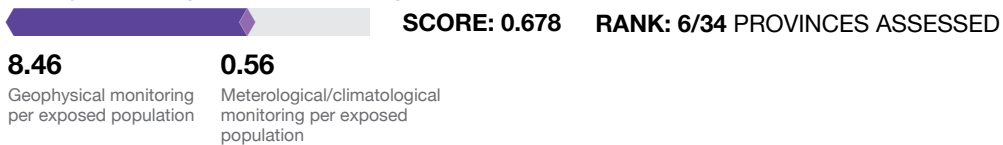
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.482**

Kalimantan Barat's Low Resilience score and ranking are due to High Vulnerability combined with Low Coping Capacity, and Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Information Access Vulnerability**



**Clean Water Access Vulnerability**



**Health Care Capacity**



**Transportation Capacity**



**Mass Care Support**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.119**



**Tsunami**

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.119**



**Flood**

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.331**



**Flash Flood**

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.169**



**Landslide**

**RANK: 20 / 34 PROVINCES ASSESSED**  
**SCORE: 0.182**



**Volcano**

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.119**



**Drought**

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.205**



**Wildfire**

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.262**



**Extreme Weather**

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.322**



## MULTI-HAZARD RISK (MHR)

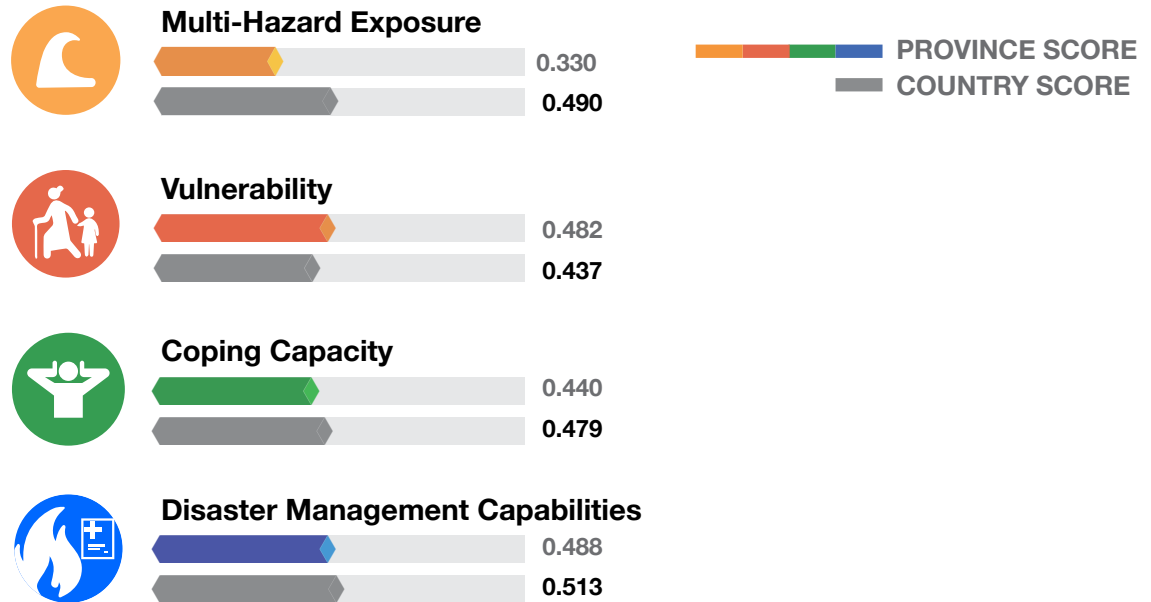
**24 / 34**

RANK WITHIN PROVINCES  
Score: 0.471



Kalimantan Barat's Low Multi-hazard Risk score and ranking are due to Very Low Multi-hazard exposure combined with High Vulnerability, Low Coping Capacity, and Low Disaster Management Capabilities scores.

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



# KALIMANTAN BARAT RECOMMENDATIONS

# 1

## Information Access Vulnerability

Kalimantan Barat ranks 5th for overall Information Access Vulnerability, with just 7.31 Average Years of Schooling and an Adult Literacy Rate of 93.21.

Continue partnership engagements with NGOs and stakeholders to implement programs focused on overcoming challenges in education service delivery and improving learning outcomes among students.

# 2

## Clean Water Access Vulnerability

Kalimantan Barat has the 8th highest Clean Water Access Vulnerability in the country, with 77% of households in the province having access to an Improved Water Source, and 72% of households having access to Improved Sanitation services. The province is also exposed to multiple hazards, including extreme weather (tornadoes), drought, wildfires, landslides, flooding and flash flooding. Flooding is one of the most prevalent hazards.

While Kalimantan has an abundant water supply, sedimentation in surface water often causes households and industries to consume more groundwater. Investments are needed to improve clean water infrastructure and management practices to improve treatment and service delivery, especially in rural and remote areas.

Strengthen and enforce regulations that protect watersheds and water sources from contamination and/or environmental degradation by factories, landfills, agricultural runoff, mining operations, etc.

# KALIMANTAN BARAT RECOMMENDATIONS

## 3

### Health Care Capacity

Findings show that Kalimantan Barat has the 2nd lowest Health Care Capacity in Indonesia with the 2nd fewest Physicians (1.59 per 10,000 persons). Nearly half of households (45.4%) must travel over an hour to reach the nearest public hospital. Moreover, over 40% of the population does not have Health Insurance.

Improve access to and quality of health care services in rural areas through expansion of infrastructure, equitable distribution of medical equipment and supplies, and incentives to increase the number of physicians serving remote areas.

Strengthen village-level programs focused on disease prevention and health promotion to counter preventable diseases through vaccination, and the growing number of non-communicable diseases in the country (e.g. diabetes and heart disease).

## 4

### Transportation Capacity

Kalimantan Barat has the 6th lowest Transportation Capacity in the country, with the 3rd lowest Road and Railway Density (0.05 per square km). Develop public/private partnerships to secure investments to expand road networks, particularly in underserved areas, to improve delivery of goods and services and facilitate disaster management response and relief operations.

# KALIMANTAN BARAT RECOMMENDATIONS

## 5

### Mass Care Support

Kalimantan Barat has the lowest Mass Care Support capabilities in the country. The nearest Disaster Stockpile is (on average) nearly 750 km away from populated areas. The province has less than one Emergency Shelter per 10,000 persons.

Limitations in transportation capacity hinder disaster response and recovery activities. Enhance logistical planning efforts to identify strategic locations for more accessible disaster stockpiles and emergency shelters and better meet the needs of a disaster affected population.

## 6

### Emergency Services

Kalimantan Barat ranks 17th for overall Emergency Services capabilities. While Citizen Brigade participation is relatively high by comparison to other provinces, capability enhancements in other areas such as access to police and fire stations, and coverage of emergency operations centers are needed.

As Transportation Capacity is increased in the province, identify strategic locations for development of new emergency service infrastructure to broaden reach and availability of services.



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INDONESIA

# KALIMANTAN SELATAN

NDPBA PROVINCE PROFILE

# KALIMANTAN SELATAN

**CAPITAL: BANJARMASIN**

Area: 38,744 km<sup>2</sup>



Kalimantan Selatan (South Kalimantan) on the island of Borneo is a region of agricultural and extractive activities affected by both frequent wildland fires and

flooding. Despite the province's very low hazard exposure ranking, the capital city of Banjarmasin and surrounding areas encounter frequent fires. Improvements in clean water and sanitation access, health, transportation and economic capacity will ensure the geographically and culturally diverse region is equipped to counter the effects of future hazards and climate change.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Very Low**

Score: 0.379 • Rank: 33/34



**RESILIENCE (R) - Very High**

Score: 0.608 • Rank: 2/34



**MULTI-HAZARD EXPOSURE (MHE) - Very Low**

Score: 0.342 • Rank: 28/34



**VULNERABILITY (V) - Low**

Score: 0.427 • Rank: 20/34



**COPING CAPACITY (CC) - High**

Score: 0.532 • Rank: 10/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Very High**

Score: 0.719 • Rank: 1/34



Population (2020 Projected)

**4,304,000**



Population in Poverty

**4.5%**



Adult Literacy Rate

**98.5%**



Access to improved water

**69.5%**



Average life expectancy

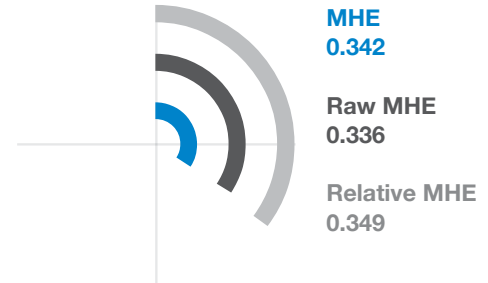
**68.5 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 28 / 34 PROVINCES  
SCORE: 0.342



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**0%**

👤 -  
-



Tsunami

**<1%**

👤 7,153  
\$64.9 Million



Flood

**66%**

👤 2,709,928  
\$24.48 Billion



Flash Flood

**2%**

👤 77,602  
\$679.2 Million



Landslide

**1%**

👤 22,374  
\$186.3 Million



Volcano

**0%**

👤 -  
-



Drought

**31%**

👤 1,279,736  
\$10.9 Billion



Wildfire

**11%**

👤 459,808  
\$3.8 Billion



Extreme Weather

**96%**

👤 3,934,778  
\$35.1 Billion



## VULNERABILITY (V)

**RANK: 20 / 34 PROVINCES ASSESSED**  
**SCORE: 0.427**

Vulnerability in Kalimantan Selatan is primarily driven by Clean Water Access Vulnerability and Vulnerable Health Status. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.365 RANK: 17/34 PROVINCES ASSESSED**

<b>15.2%</b> Land susceptible to severe erosion	<b>6.14</b> Livestock Density (per sq km)	<b>5396</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.467 RANK: 12/34 PROVINCES ASSESSED**

<b>68.49</b> Life expectancy (years)	<b>44</b> Infant mortality rate (per 1,000 live births)	<b>164.29</b> Maternal mortality ratio	<b>13.1%</b> Children (under 5) Wasting	<b>8.0%</b> Disability	<b>5.5%</b> Unmet health care needs	<b>12.7%</b> Households with limited access to health facility
<b>1.2%</b> Households with catastrophic health expenditure	<b>47.84</b> Dengue incidence per 100,000 population	<b>6</b> Measles incidence per 100,000 population	<b>0.18</b> Malaria incidence per 100,000 population	<b>223</b> TB case notification per 100,000 population	<b>9.68</b> HIV & AIDS incidence per 100,000 population	<b>0.43</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.655 RANK: 7/34 PROVINCES ASSESSED**

<b>69.5%</b> Households with improved water	<b>76.6%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.366 RANK: 23/34 PROVINCES ASSESSED**

<b>98.5%</b> Adult literacy rate	<b>98.8%</b> Net primary school enrollment rate	<b>8.2</b> Average years of schooling	<b>74.4%</b> Households using internet
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### Economic Constraints

**SCORE: 0.289 RANK: 29/34 PROVINCES ASSESSED**

<b>4.3%</b> Unemployment rate	<b>47.7</b> Age dependency ratio	<b>4.5%</b> Poverty rate	<b>0.334</b> GINI ratio
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### Gender Inequality

**SCORE: 0.392 RANK: 29/34 PROVINCES ASSESSED**

<b>0.99</b> Female to male literacy rate	<b>0.65</b> Female to male labor ratio	<b>1.02</b> Female to male secondary school enrollment ratio	<b>16.4%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.452 RANK: 13/34 PROVINCES ASSESSED**

<b>1.8%</b> Average annual total population change	<b>3.6%</b> Average annual urban population change	<b>7.9%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.532**

Kalimantan Selatan exhibits weaker Coping Capacity in the areas of Economic Capacity and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.420 RANK: 11/34 PROVINCES ASSESSED**

**69.4%** Labor force participation  
**2,851,734** Average monthly income (IDR)  
**33.5** GDP per capita (Million IDR)



### Governance

**SCORE: 0.681 RANK: 7/34 PROVINCES ASSESSED**

**102** Crime rate per 100,000 population  
**75.9%** Crime clearance rate  
**83.0%** Voter participation



### Environmental Capacity

**SCORE: 0.211 RANK: 25/34 PROVINCES ASSESSED**

**5.5%** Protected area



### Infrastructure Capacity

**SCORE: 0.603 RANK: 10/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.548 RANK: 12/34 PROVINCES ASSESSED

**11.4** Hospital beds per 10,000 people  
**2.45** Physicians per 10,000 people  
**15.74** Nurses and midwives per 10,000 people  
**13.4%** Time to public hospital (over 1 hour)  
**53.7%** Immunization rate (children under 5)  
**84.1%** Health care accreditation rate  
**86.5%** Population covered by health insurance



### Transportation Capacity SCORE: 0.427 RANK: 15/34 PROVINCES ASSESSED

**0.29** Road and rail density  
**34.12** Average distance to port or airport



### Communications Capacity SCORE: 0.663 RANK: 11/34 PROVINCES ASSESSED

**69.0%** Mobile phone ownership  
**0.8%** Households with Fixed Phones



### Energy Capacity SCORE: 0.773 RANK: 8/34 PROVINCES ASSESSED

**98.0%** Households served by state electricity  
**2.2%** Percentage of total national electricity generated in province  
**145.92** Electricity generation GWh per 100,000 Population  
**88.9%** Households with gas for cooking



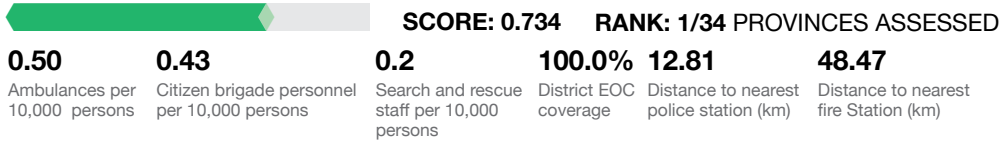
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.719**

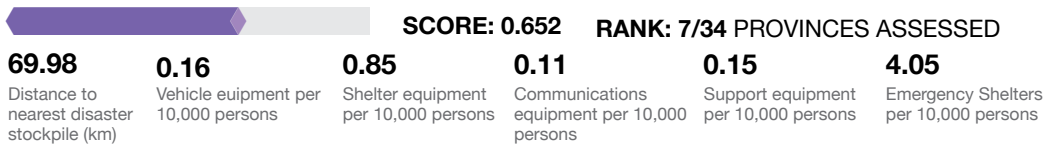
Kalimantan Selatan exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



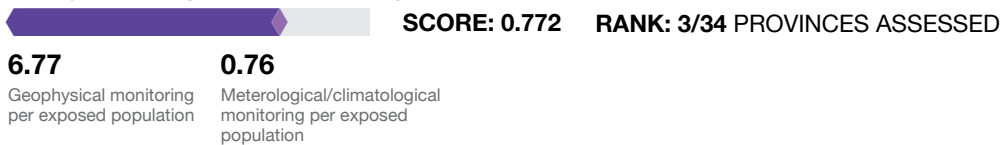
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.608**

Kalimantan Selatan's Very High Resilience score and ranking are due to Low Vulnerability combined with High Coping Capacity, and Very High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Clean Water Access Vulnerability**



**Vulnerable Health Status**



**Economic Capacity**



**Transportation Capacity**



**Mass Care Support**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 34 / 34 PROVINCES ASSESSED**  
**SCORE: 0.060**



**Tsunami**

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.09**



**Flood**

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.222**



**Flash Flood**

**RANK: 30 / 34 PROVINCES ASSESSED**  
**SCORE: 0.123**



**Landslide**

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.101**



**Volcano**

**RANK: 34 / 34 PROVINCES ASSESSED**  
**SCORE: 0.060**



**Drought**

**RANK: 30 / 34 PROVINCES ASSESSED**  
**SCORE: 0.133**



**Wildfire**

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.165**



**Extreme Weather**

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.205**





## MULTI-HAZARD RISK (MHR)

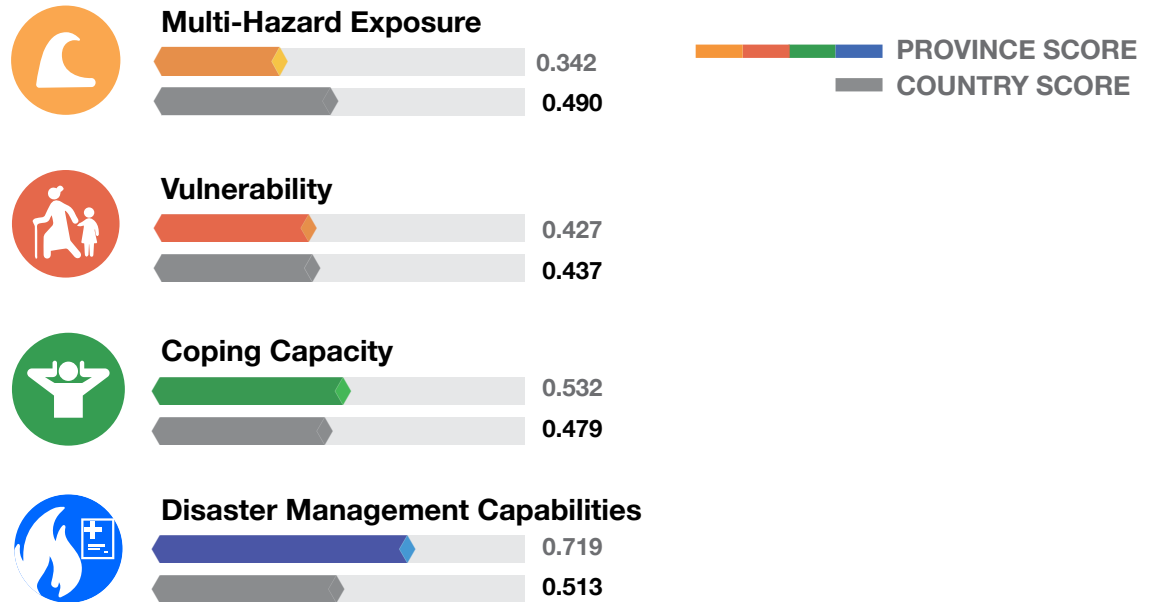
**33 / 34**

RANK WITHIN PROVINCES  
Score: 0.379



Kalimantan Selatan's Very Low Multi-hazard Risk score and ranking are due to Very Low Multi-hazard exposure combined with Low Vulnerability, High Coping Capacity, and Very High Disaster Management Capabilities scores.

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



# KALIMANTAN SELATAN RECOMMENDATIONS

## 1

### Clean Water Access Vulnerability

Kalimantan Selatan has the 7th highest Clean Water Access Vulnerability in Indonesia, driven by the 3rd lowest access to an Improved Water Source (69.5% of households), and the 17th lowest access to Improved Sanitation services (76.6% of households). The province is also exposed to multiple hazards, including extreme weather, drought, wildfires, landslides, flooding and flash flooding.

Continue collaboration and coordination among local government ministries, NGOs and community-based organizations to implement strategies to expand improvements in clean water, sanitation and hygiene throughout the province.

Secure investments to strengthen existing clean water and sanitation infrastructure to reduce hazard-related impacts (e.g., repair or replace pipes to reduce leakage in drought prone areas and reduce likelihood of health hazards and spread of communicable diseases due to contamination during floods).

## 2

### Vulnerable Health Status

Findings show Kalimantan Selatan ranks 12th for overall Vulnerable Health Status and 12th for Infectious Diseases. Malaria, dengue and measles are the most prevalent infectious diseases. The province has the 5th highest percentage of children under the age of 5 experiencing wasting or severe wasting (13.1%).

Improved water and sanitation in the country will reduce the incidence of diarrheal disease, a contributor to child mortality and wasting, reduce vulnerabilities linked to disaster impacts, and reduce overall health care costs.

Enhance water management practices to protect water supplies (watershed and catchment areas), reduce waste, and reduce or eliminate mosquito-borne disease vectors.

## KALIMANTAN SELATAN RECOMMENDATIONS

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### 3

#### Economic Capacity

Kalimantan Selatan ranks 11th for overall Economic Capacity. While Labor Force Participation is relatively high (69.41%), GDP per Capita (33.5 million IDR) and Average Monthly Income (2.8 million IDR) could be strengthened.

Implement programs that diversify the economy to generate public revenue, increase household incomes, and support small businesses.

Increase access to financing and support structures (e.g. microfinance services and loans) for informal sector enterprises.

### 4

#### Transportation Capacity

Kalimantan Selatan ranks 15th for overall Transportation Capacity. Secure funding for new and improved transportation networks. Investments in transportation capacity will have the added benefits of expanding clean water access and sanitation service delivery, increasing access to health care, improving market accessibility for farmers, and facilitating disaster management operations.

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# KALIMANTAN SELATAN RECOMMENDATIONS

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# 5

## Mass Care Support

Increasing supplies of Disaster Equipment (e.g., vehicles, shelter equipment, communications equipment) would bolster Kalimantan Selatan's capabilities to coordinate and manage the care needs of disaster affected populations.

# 6

## Emergency Services

Emergency Services capabilities in Kalimantan Selatan could be strengthened through increased participation and training of Search and Rescue personnel and expanding firefighting infrastructure, equipment and personnel. The Average Distance to a Fire Station in the province is 48.5 km.

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**INDONESIA**

# **KALIMANTAN TENGAH**

**NDPBA PROVINCE PROFILE**



# KALIMANTAN TENGAH

## CAPITAL: PALANGKA RAYA

Area: 153,565 km<sup>2</sup>



Kalimantan Tengah (Central Kalimantan) is an environmentally rich area of Borneo dominated by forests and peatlands. In collaboration with international organizations and multi-lateral funding entities, Kalimantan Tengah has worked to enhance ongoing programs for reducing emissions from deforestation and forest degradation (e.g. REDD) along with exposure to wildland fires that have historically affected the region. With high resilience and disaster management capabilities, Kalimantan Tengah has countered frequent flooding challenges to build its eco-tourism offerings.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Low

Score: 0.437 • Rank: 26/34



### RESILIENCE (R) - High

Score: 0.557 • Rank: 7/34



### MULTI-HAZARD EXPOSURE (MHE) - Low

Score: 0.418 • Rank: 24/34



### VULNERABILITY (V) - Moderate

Score: 0.452 • Rank: 13/34



### COPING CAPACITY (CC) - Low

Score: 0.462 • Rank: 20/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Very High

Score: 0.660 • Rank: 2/34



Population (2020 Projected)

**2,769,200**



Population in Poverty

**4.8%**



Adult Literacy Rate

**99.2%**



Access to improved water

**73.3%**



Average life expectancy

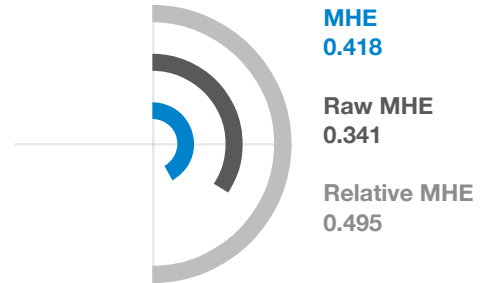
**69.7 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 24 / 34 PROVINCES  
SCORE: 0.418



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**0%**

👤 -

-



Tsunami

**0%**

👤 -

-



Flood

**59%**

👤 1,526,586

**\$28.05 Billion**



Flash Flood

**<1%**

👤 3,945

**\$53.7 Million**



Landslide

**2%**

👤 45,985

**\$579.1 Million**



Volcano

**0%**

👤 -

-



Drought

**55%**

👤 1,417,170

**\$25.5 Billion**



Wildfire

**37%**

👤 972,798

**\$12.6 Billion**



Extreme Weather

**90%**

👤 2,332,826

**\$40.2 Billion**





## VULNERABILITY (V)

**RANK: 13 / 34 PROVINCES ASSESSED**  
**SCORE: 0.452**

Vulnerability in Kalimantan Tengah is primarily driven by Clean Water Access Vulnerability and Population Pressures. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.328 RANK: 23/34 PROVINCES ASSESSED**

<b>3.0%</b> Land susceptible to severe erosion	<b>2.23</b> Livestock Density (per sq km)	<b>20234.6</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.508 RANK: 8/34 PROVINCES ASSESSED**

<b>69.69</b> Life expectancy (years)	<b>49</b> Infant mortality rate (per 1,000 live births)	<b>242.86</b> Maternal mortality ratio	<b>13.9%</b> Children (under 5) Wasting	<b>8.0%</b> Disability	<b>6.8%</b> Unmet health care needs	<b>13.3%</b> Households with limited access to health facility
<b>0.8%</b> Households with catastrophic health expenditure	<b>84.39</b> Dengue incidence per 100,000 population	<b>2.22</b> Measles incidence per 100,000 population	<b>0.03</b> Malaria incidence per 100,000 population	<b>139</b> TB case notification per 100,000 population	<b>10.22</b> HIV & AIDS incidence per 100,000 population	<b>0.37</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.729 RANK: 3/34 PROVINCES ASSESSED**

<b>73.3%</b> Households with improved water	<b>69.2%</b> Households with improved sanitation
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### Information Access Vulnerability

**SCORE: 0.319 RANK: 30/34 PROVINCES ASSESSED**

<b>99.2%</b> Adult literacy rate	<b>99.1%</b> Net primary school enrollment rate	<b>8.51</b> Average years of schooling	<b>71.8%</b> Households using internet
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### Economic Constraints

**SCORE: 0.237 RANK: 32/34 PROVINCES ASSESSED**

<b>4.1%</b> Unemployment rate	<b>43.3</b> Age dependency ratio	<b>4.8%</b> Poverty rate	<b>0.336</b> GINI ratio
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### Gender Inequality

**SCORE: 0.389 RANK: 31/34 PROVINCES ASSESSED**

<b>0.99</b> Female to male literacy rate	<b>0.53</b> Female to male labor ratio	<b>1.03</b> Female to male secondary school enrollment ratio	<b>24.4%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.652 RANK: 4/34 PROVINCES ASSESSED**

<b>2.5%</b> Average annual total population change	<b>5.0%</b> Average annual urban population change	<b>10.4%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 20 / 34 PROVINCES ASSESSED**  
**SCORE: 0.462**

Kalimantan Tengah exhibits weaker Coping Capacity in the areas of Transportation Capacity and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.462 RANK: 8/34 PROVINCES ASSESSED**

<b>69.7%</b> Labor force participation	<b>2,999,391</b> Average monthly income (IDR)	<b>36.8</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.543 RANK: 26/34 PROVINCES ASSESSED**

<b>138</b> Crime rate per 100,000 population	<b>72.2%</b> Crime clearance rate	<b>80.0%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.422 RANK: 14/34 PROVINCES ASSESSED**

**10.5%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.395 RANK: 27/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.321 RANK: 30/34 PROVINCES ASSESSED

<b>9.1</b> Hospital beds per 10,000 people	<b>1.99</b> Physicians per 10,000 people	<b>18.97</b> Nurses and midwives per 10,000 people	<b>34.4%</b> Time to public hospital (over 1 hour)	<b>42.0%</b> Immunization rate (children under 5)	<b>68.6%</b> Health care accreditation rate	<b>57.6%</b> Population covered by health insurance
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### Transportation Capacity SCORE: 0.211 RANK: 33/34 PROVINCES ASSESSED

<b>0.06</b> Road and rail density	<b>43.41</b> Average distance to port or airport
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### Communications Capacity SCORE: 0.648 RANK: 13/34 PROVINCES ASSESSED

<b>70.3%</b> Mobile phone ownership	<b>0.6%</b> Households with Fixed Phones
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### Energy Capacity SCORE: 0.399 RANK: 28/34 PROVINCES ASSESSED

<b>84.5%</b> Households served by state electricity	<b>0.1%</b> Percentage of total national electricity generated in province	<b>13.38</b> Electricity generation GWh per 100,000 Population	<b>82.3%</b> Households with gas for cooking
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# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.660**

Kalimantan Tengah exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



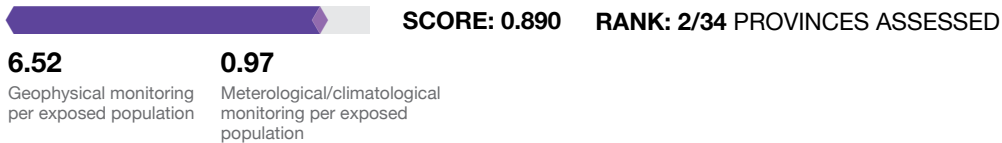
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.557**

Kalimantan Tengah's High Resilience score and ranking are due to Moderate Vulnerability combined with Low Coping Capacity, and Very High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Clean Water Access Vulnerability**



**Population Pressures**



**Transportation Capacity**



**Health Care Capacity**



**Mass Care Support**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 30 / 34 PROVINCES ASSESSED**  
**SCORE: 0.092**



**Tsunami**

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.092**



**Flood**

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.234**



**Flash Flood**

**RANK: 32 / 34 PROVINCES ASSESSED**  
**SCORE: 0.093**



**Landslide**

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.150**



**Volcano**

**RANK: 29 / 34 PROVINCES ASSESSED**  
**SCORE: 0.092**



**Drought**

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.194**



**Wildfire**

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.255**



**Extreme Weather**

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.205**



## MULTI-HAZARD RISK (MHR)

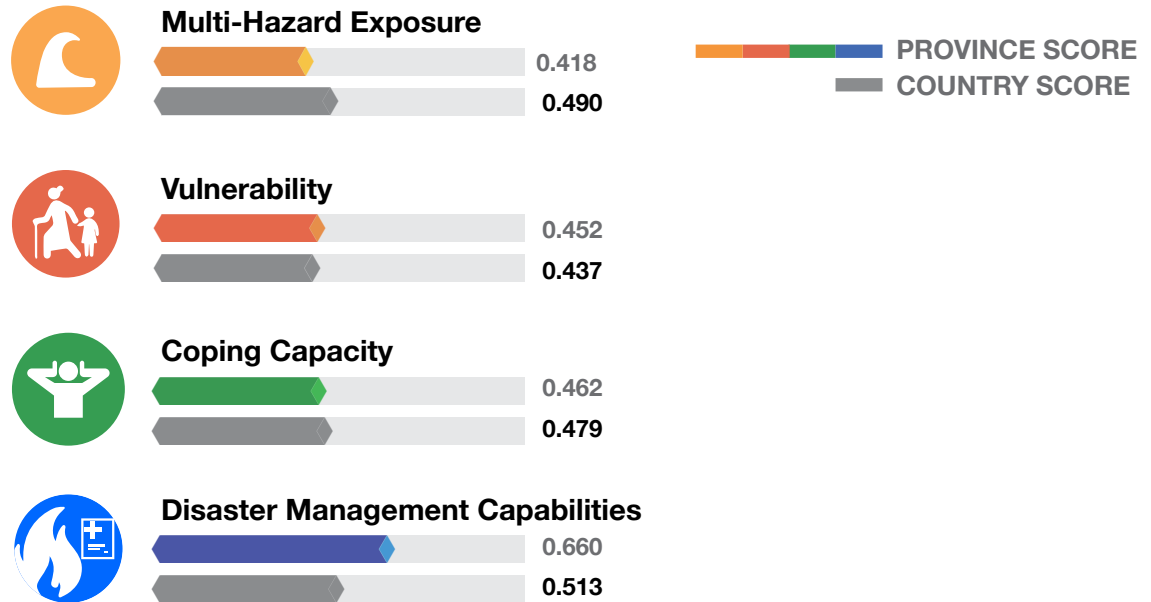
**26 / 34**

RANK WITHIN PROVINCES  
Score: 0.437



Kalimantan Tengah's Low Multi-hazard Risk score and ranking are due to Low Multi-hazard exposure combined with Moderate Vulnerability, Low Coping Capacity, and Very High Disaster Management Capabilities scores.

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



# KALIMANTAN TENGAH RECOMMENDATIONS

## 1

### Clean Water Access Vulnerability

Kalimantan Tengah has the 3rd highest Clean Water Access Vulnerability in the country, driven by the 4th lowest access to Improved Sanitation services (69% of households), and the 5th lowest access to an Improved Water Source (73% of households). The province is also exposed to multiple hazards, including extreme weather (tornadoes), drought, wildfires, landslides, flooding and flash flooding.

While Kalimantan has an abundant water supply, investments are needed to improve sanitation and sewerage infrastructure, and clean water treatment and delivery systems. Expand clean water infrastructure and sanitation services to meet the need of growing urban areas, including the urban poor.

## 2

### Population Pressures

Kalimantan Tengah ranks 4th for Population Pressures, driven by the 4th highest ranking for Urban Population Change, the 5th highest ranking for Average Population Change, and the 9th highest score for Net Recent Migration. As the provincial population grows, the need for jobs and services will increase.

Promote interagency engagement and collaboration in sustainable development planning to anticipate the social, economic and infrastructure needs of the growing population.

# KALIMANTAN TENGAH RECOMMENDATIONS

## 3

### Transportation Capacity

Kalimantan Tengah has the 2nd lowest ranking for overall Transportation Capacity in the country, with the 4th lowest rank for Road and Railway Density (0.06 km per square km), and the 5th lowest rank for Average Distance to a Port or Airport (43.41 km). Meeting the needs of a growing population will be challenging with limited transportation networks, health care capacity constraints and inadequate access to clean water and sanitation.

Develop public/private partnerships to identify synergies for growth and development across sectors. Adopt a multi-agency approach to infrastructure improvement planning in alignment with sustainable development goals.

Incorporate environmental protections and hazard mitigation strategies in infrastructure expansion projects to protect against hazard impacts and preserve natural resources.

## 4

### Health Care Capacity

Kalimantan Tengah has the 5th lowest overall Health Care Capacity in the country, driven by the 2nd lowest percentage of the population with Health Insurance (only 57.56% are insured). The province also has a shortage of Hospital Beds (9.1 per 10,000 persons) and Physicians (1.99 per 10,000 persons). For more than a third (34.37%) of households, it takes over an hour to travel to the nearest hospital. The Health Care Accreditation rate in the province is 68.58%.

Secure funding to invest in long-term health care capacity improvements. Align efforts with other related infrastructure and service delivery improvements (e.g., transportation, water).

Improve accreditation of health care facilities by addressing disparities related to infrastructure, budget, personnel, medical equipment and supplies. To better meet the needs of a growing health care system, adopt best practices in governance, data and information collection, and referral processes. Continue to implement programs and partnerships that increase accessibility of health care for poor and vulnerable populations.

# KALIMANTAN TENGAH RECOMMENDATIONS

## 5

### Mass Care Support

Findings show that Kalimantan Tengah has the 6th lowest capacity to provide Mass Care Support. As Kalimantan Tengah's population grows, the need for adequate shelter, disaster supplies and strategically located stockpiles will also increase.

Establish mechanisms (e.g., database) to track availability of supplies and adjust quantities to meet the needs of the population.

## 6

### Emergency Services

The accessibility of emergency services in Kalimantan Tengah is limited. The average distance from populated areas to a fire station is approximately 100 km, while the average distance to a police station is 23 km. Ambulance are also in short supply.

Consider bolstering the capacity of emergency services within the province to better meet the needs of the population during an emergency through strategic placement of new services in densely populated areas.



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**INDONESIA**

# **KALIMANTAN TIMUR**

**NDPBA PROVINCE PROFILE**

# KALIMANTAN TIMUR

## CAPITAL: SAMARINDA

Area: 129,067 km<sup>2</sup>



Given the ongoing and heightened risks of flooding in Jakarta, Indonesia is looking to the far eastern province of Kalimantan Timur (East Kalimantan) to potentially relocate the nation's capital in the coming decades. Timber and agriculture dominate the local economy and frequent forest fires combine with earthquakes to present DRR challenges. The region possesses elevated resilience and coping capacities along with high level disaster management capabilities, which are enhanced by ongoing DRR and CCA capacity building in the province by local, national and international actors.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Very Low

Score: 0.415 • Rank: 29/34



### RESILIENCE (R) - Very High

Score: 0.598 • Rank: 4/34



### MULTI-HAZARD EXPOSURE (MHE) - Moderate

Score: 0.454 • Rank: 19/34



### VULNERABILITY (V) - Very Low

Score: 0.333 • Rank: 32/34



### COPING CAPACITY (CC) - High

Score: 0.567 • Rank: 7/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - High

Score: 0.560 • Rank: 7/34



Population (2020 Projected)

**3,793,152**



Population in Poverty

**5.9%**



Adult Literacy Rate

**99.0%**



Access to improved water

**83.5%**



Average life expectancy

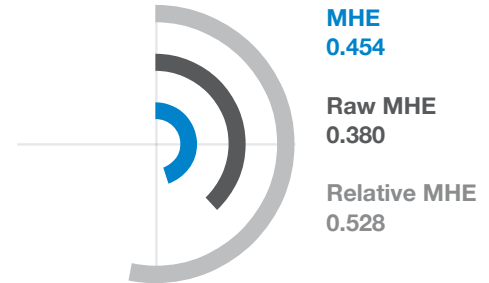
**74.2 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 19 / 34 PROVINCES  
SCORE: 0.454



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake  
**<1%**  
5,566  
\$70.5 Million



Tsunami  
**3%**  
114,675  
\$1.4 Billion



Flood  
**38%**  
1,322,712  
\$16.48 Billion



Flash Flood  
**<1%**  
2,642  
\$33.4 Million



Landslide  
**1%**  
34,185  
\$425.1 Million



Volcano  
**0%**  
-  
-



Drought  
**98%**  
3,413,429  
\$42.6 Billion



Wildfire  
**21%**  
732,178  
\$9.1 Billion



Extreme Weather  
**90%**  
3,108,750  
\$38.8 Billion



## VULNERABILITY (V)

**RANK: 32 / 34 PROVINCES ASSESSED**  
**SCORE: 0.333**

Vulnerability in Kalimantan Timur is primarily driven by Population Pressures and Gender Inequality. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.306 RANK: 25/34 PROVINCES ASSESSED**

<b>1.5%</b> Land susceptible to severe erosion	<b>2.15</b> Livestock Density (per sq km)	<b>17763.4</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.187 RANK: 34/34 PROVINCES ASSESSED**

<b>74.22</b> Life expectancy (years)	<b>21</b> Infant mortality rate (per 1,000 live births)	<b>101.79</b> Maternal mortality ratio	<b>7.5%</b> Children (under 5) Wasting	<b>6.3%</b> Disability	<b>4.0%</b> Unmet health care needs	<b>5.8%</b> Households with limited access to health facility
<b>0.9%</b> Households with catastrophic health expenditure	<b>87.81</b> Dengue incidence per 100,000 population	<b>8.17</b> Measles incidence per 100,000 population	<b>0.49</b> Malaria incidence per 100,000 population	<b>176</b> TB case notification per 100,000 population	<b>43.08</b> HIV & AIDS incidence per 100,000 population	<b>0.64</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.281 RANK: 29/34 PROVINCES ASSESSED**

<b>83.5%</b> Households with improved water	<b>89.3%</b> Households with improved sanitation
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### Information Access Vulnerability

**SCORE: 0.228 RANK: 32/34 PROVINCES ASSESSED**

<b>99.0%</b> Adult literacy rate	<b>98.4%</b> Net primary school enrollment rate	<b>9.7</b> Average years of schooling	<b>84.2%</b> Households using internet
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### Economic Constraints

**SCORE: 0.329 RANK: 28/34 PROVINCES ASSESSED**

<b>6.1%</b> Unemployment rate	<b>44.5</b> Age dependency ratio	<b>5.9%</b> Poverty rate	<b>0.330</b> GINI ratio
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### Gender Inequality

**SCORE: 0.471 RANK: 20/34 PROVINCES ASSESSED**

<b>1</b> Female to male literacy rate	<b>0.51</b> Female to male labor ratio	<b>1.01</b> Female to male secondary school enrollment ratio	<b>10.9%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.528 RANK: 8/34 PROVINCES ASSESSED**

<b>2.5%</b> Average annual total population change	<b>3.8%</b> Average annual urban population change	<b>5.5%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.567**

Kalimantan Timur exhibits weaker Coping Capacity in the areas of Transportation Capacity and Governance. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.680 RANK: 3/34 PROVINCES ASSESSED**

**66.4%** Labor force participation  
**3,906,409** Average monthly income (IDR)  
**155.1** GDP per capita (Million IDR)



### Governance

**SCORE: 0.551 RANK: 25/34 PROVINCES ASSESSED**

**176** Crime rate per 100,000 population  
**75.8%** Crime clearance rate  
**80.7%** Voter participation



### Environmental Capacity

**SCORE: 0.134 RANK: 29/34 PROVINCES ASSESSED**

**3.7%** Protected area



### Infrastructure Capacity

**SCORE: 0.613 RANK: 9/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.604 RANK: 7/34 PROVINCES ASSESSED

**18.4** Hospital beds per 10,000 people  
**4.78** Physicians per 10,000 people  
**18.62** Nurses and midwives per 10,000 people  
**19.9%** Time to public hospital (over 1 hour)  
**52.1%** Immunization rate (children under 5)  
**72.6%** Health care accreditation rate  
**78.7%** Population covered by health insurance



### Transportation Capacity SCORE: 0.298 RANK: 25/34 PROVINCES ASSESSED

**0.10** Road and rail density  
**37.96** Average distance to port or airport



### Communications Capacity SCORE: 0.904 RANK: 3/34 PROVINCES ASSESSED

**76.9%** Mobile phone ownership  
**2.8%** Households with Fixed Phones



### Energy Capacity SCORE: 0.645 RANK: 11/34 PROVINCES ASSESSED

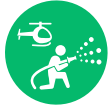
**93.8%** Households served by state electricity  
**1.1%** Percentage of total national electricity generated in province  
**80.89** Electricity generation GWh per 100,000 Population  
**95.3%** Households with gas for cooking



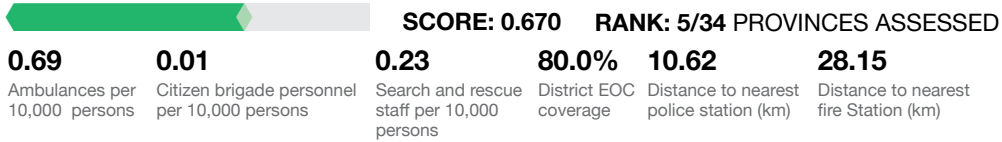
## DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.560**

Kalimantan Timur exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Mass Care Support. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



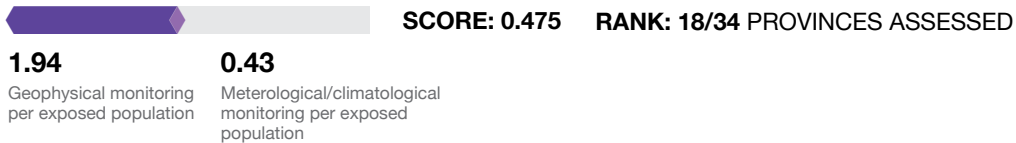
### Emergency Services



### Mass Care Support



### Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.598**

Kalimantan Timur's Very High Resilience score and ranking are due to Very Low Vulnerability combined with High Coping Capacity, and High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



Population Pressures



Gender Inequality



Transportation Capacity



Governance



Early Warning and Monitoring



Mass Care Support



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 32 / 34 PROVINCES ASSESSED**  
**SCORE: 0.079**



**Tsunami**

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.168**



**Flood**

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.170**



**Flash Flood**

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.102**



**Landslide**

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.127**



**Volcano**

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.077**



**Drought**

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.238**



**Wildfire**

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.207**



**Extreme Weather**

**RANK: 30 / 34 PROVINCES ASSESSED**  
**SCORE: 0.189**

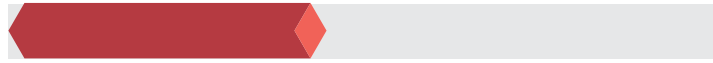




## MULTI-HAZARD RISK (MHR)

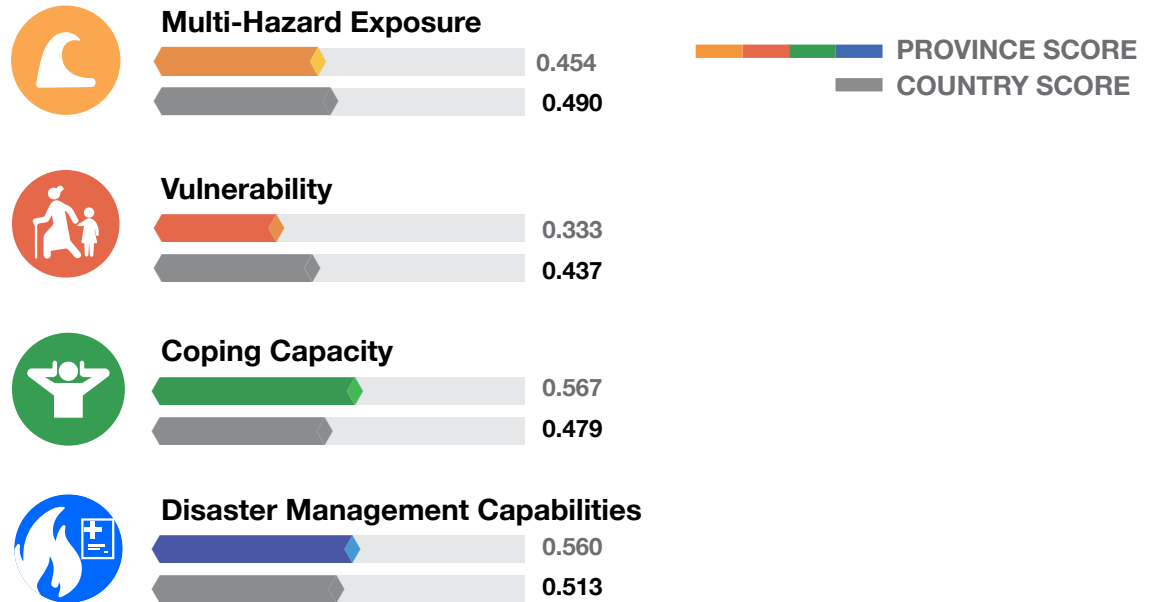
**29 / 34**

RANK WITHIN PROVINCES  
Score: 0.415



Kalimantan Timur's Very Low Multi-hazard Risk score and ranking are due to Moderate Multi-hazard exposure combined with Very Low Vulnerability, High Coping Capacity, and High Disaster Management Capabilities scores.

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



# KALIMANTAN TIMUR RECOMMENDATIONS

## 1

### Population Pressures

Kalimantan Timur ranks 8th for Population Pressures, driven by the 5th highest Average Population Growth rate (2.45). As the new capital of Indonesia moves to Kalimantan Timur in 2024, predicted growth in population will put added pressure on resources such as land and water.

Develop policies and improvement plans that establish equitable distribution of clean water and sanitation services and management of waste to protect environmental resources and enhance sustainable water management and delivery.

Adopt a whole-of-society engagement approach to promote interagency cooperation and collaboration in long-term sustainable development planning for Kalimantan Timur's future to ensure adequate and equitable distribution of services, infrastructure and economic opportunities. Provide incentives for the implementation of risk reduction initiatives as new infrastructure and housing developments ensue to minimize future damages and losses resulting from the impacts of natural hazards.

## 2

### Gender Inequality

Indicators driving Kalimantan Timur's overall Gender Inequality score include female to male Labor Ratio, ranking 3rd, and female representation in Parliament, with fewer than 11% of government seats held by women.

Invest in programs that support women's sexual and reproductive rights to facilitate increased participation in, and contribution to social and economic development. Support economic advancement of women by promoting investment opportunities such as access to micro finance programs and cash transfer programs to boost economic growth and productivity of small farms and businesses.

Empower and enhance participation of women in formal and informal leadership positions, including community disaster preparedness and recovery processes.

## KALIMANTAN TIMUR RECOMMENDATIONS

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### 3

#### Transportation Capacity

Kalimantan Timur has the 10th lowest ranking for Transportation Capacity. The Average Distance to a Port or Airport is 38 km. Road and Rail Density is 0.1 km per square km.

Improvements in transportation infrastructure will facilitate emergency response and recovery operations and contribute to positive economic outcomes.

### 4

#### Governance

Kalimantan Timur has the 10th lowest ranking for overall Governance in the country, driven by lower Voter Participation (80.73%) and the 11th highest Crime Rate (176 per 100,000 persons).

Garner support for increased public security through law enforcement presence and surveillance, youth education, community service and personal safety programs.

# KALIMANTAN TIMUR RECOMMENDATIONS

## 5

### Early Warning and Monitoring

Findings show that Kalimantan Timur ranks 18th for Early Warning and Monitoring. With a high rate of exposure to drought, extreme weather and flooding, strengthening meteorological and climate-based monitoring stations would strengthen capabilities in the province.

Boost public-private collaboration and coordination to ensure that hazard warning information is disseminated to as wide an audience as possible through multiple channels.

Strengthen education and outreach programs to promote hazard awareness and preparedness and increase community resilience.

## 6

### Mass Care Support

Kalimantan Timur ranks 15th for overall Mass Care Support, however capabilities could be strengthened through requisition of additional Disaster Equipment for transportation, sheltering support, and communications.

Enhance logistical planning to adequately meet the needs of disaster-affected populations.

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INDONESIA

# KALIMANTAN UTARA

NDPBA PROVINCE PROFILE

# KALIMANTAN UTARA

**CAPITAL: BULUNGAN**

Area: 75,468 km<sup>2</sup>



Kalimantan Utara (North Kalimantan)

is both the newest and the least populated province in Indonesia, but it also has high levels of resilience and coping capacity to help it

counter elevated risks for drought and landslides. Given the population pressures facing this region, enhancements in energy, transportation, and gender equality bode well for future challenges brought by climate change. The ongoing COVID19 response has presented challenges to local health capacities in Bulungan and enhanced coordination with national and international health security partners can help to bolster health care infrastructure and policies.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Very Low**

Score: 0.379 • Rank: 32/34



**RESILIENCE (R) - High**

Score: 0.549 • Rank: 10/34



**MULTI-HAZARD EXPOSURE (MHE) - Very Low**

Score: 0.164 • Rank: 34/34



**VULNERABILITY (V) - Moderate**

Score: 0.448 • Rank: 14/34



**COPING CAPACITY (CC) - Very High**

Score: 0.567 • Rank: 6/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Moderate**

Score: 0.528 • Rank: 15/34



Population (2020 Projected)

**768,505**



Population in Poverty

**6.5%**



Adult Literacy Rate

**96.4%**



Access to improved water

**87.9%**



Average life expectancy

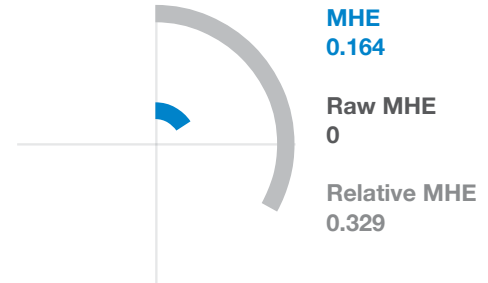
**72.5 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 34 / 34 PROVINCES  
SCORE: 0.164



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**0%**

👤 -  
-



Tsunami

**1%**

👤 5,123  
\$64.7 Million



Flood

**25%**

👤 163,841  
\$1.95 Billion



Flash Flood

**3%**

👤 20,414  
\$237.6 Million



Landslide

**12%**

👤 81,981  
\$1 Billion



Volcano

**0%**

👤 -  
-



Drought

**88%**

👤 584,662  
\$7.1 Billion



Wildfire

**9%**

👤 56,563  
\$707.6 Million



Extreme Weather

**65%**

👤 433,149  
\$5.2 Billion





## VULNERABILITY (V)

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.448**

Vulnerability in Kalimantan Utara is primarily driven by Population Pressures and Gender Inequality. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.261 RANK: 29/34 PROVINCES ASSESSED**

<b>1.8%</b> Land susceptible to severe erosion	<b>0.97</b> Livestock Density (per sq km)	<b>9044.6</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.256 RANK: 31/34 PROVINCES ASSESSED**

<b>72.54</b> Life expectancy (years)	- Infant mortality rate (per 1,000 live births)	- Maternal mortality ratio	<b>4.6%</b> Children (under 5) Wasting	<b>7.6%</b> Disability	<b>4.8%</b> Unmet health care needs	- Households with limited access to health facility
- Households with catastrophic health expenditure	<b>24.01</b> Dengue incidence per 100,000 population	<b>23.59</b> Measles incidence per 100,000 population	<b>0.07</b> Malaria incidence per 100,000 population	<b>216</b> TB case notification per 100,000 population	<b>75.24</b> HIV & AIDS incidence per 100,000 population	<b>0.61</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.426 RANK: 18/34 PROVINCES ASSESSED**

<b>87.9%</b> Households with improved water	<b>77.2%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.547 RANK: 10/34 PROVINCES ASSESSED**

<b>96.4%</b> Adult literacy rate	<b>93.2%</b> Net primary school enrollment rate	<b>8.94</b> Average years of schooling	<b>80.7%</b> Households using internet
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### Economic Constraints

**SCORE: 0.246 RANK: 31/34 PROVINCES ASSESSED**

<b>4.4%</b> Unemployment rate	- Age dependency ratio	<b>6.5%</b> Poverty rate	<b>0.295</b> GINI ratio
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### Gender Inequality

**SCORE: 0.585 RANK: 5/34 PROVINCES ASSESSED**

<b>0.98</b> Female to male literacy rate	<b>0.46</b> Female to male labor ratio	<b>1.07</b> Female to male secondary school enrollment ratio	<b>20.0%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.815 RANK: 3/34 PROVINCES ASSESSED**

<b>4.5%</b> Average annual total population change	<b>4.8%</b> Average annual urban population change	<b>25.4%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.567**

Kalimantan Utara exhibits weaker Coping Capacity in the areas of Transportation Capacity and Energy Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.536** **RANK: 7/34 PROVINCES ASSESSED**

<b>66.3%</b> Labor force participation	<b>3,374,378</b> Average monthly income (IDR)	<b>95.5</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.597** **RANK: 19/34 PROVINCES ASSESSED**

<b>57</b> Crime rate per 100,000 population	<b>70.0%</b> Crime clearance rate	<b>79.8%</b> Voter participation
--	--------------------------------------	-------------------------------------



### Environmental Capacity

**SCORE: 0.698** **RANK: 7/34 PROVINCES ASSESSED**

**17.0%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.525** **RANK: 16/34 PROVINCES ASSESSED**



### Health Care Capacity

**SCORE: 0.655** **RANK: 4/34 PROVINCES ASSESSED**

<b>14.1</b> Hospital beds per 10,000 people	<b>3.71</b> Physicians per 10,000 people	<b>25.18</b> Nurses and midwives per 10,000 people	<b>19.9%</b> Time to public hospital (over 1 hour)	<b>57.3%</b> Immunization rate (children under 5)	<b>63.6%</b> Health care accreditation rate	<b>98.4%</b> Population covered by health insurance
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### Transportation Capacity

**SCORE: 0.222** **RANK: 32/34 PROVINCES ASSESSED**

<b>0.02</b> Road and rail density	<b>35.83</b> Average distance to port or airport
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### Communications Capacity

**SCORE: 0.742** **RANK: 7/34 PROVINCES ASSESSED**

<b>74.3%</b> Mobile phone ownership	<b>0.9%</b> Households with Fixed Phones
--	---



### Energy Capacity

**SCORE: 0.482** **RANK: 20/34 PROVINCES ASSESSED**

<b>91.3%</b> Households served by state electricity	<b>0.1%</b> Percentage of total national electricity generated in province	<b>42.73</b> Electricity generation GWh per 100,000 Population	<b>78.6%</b> Households with gas for cooking
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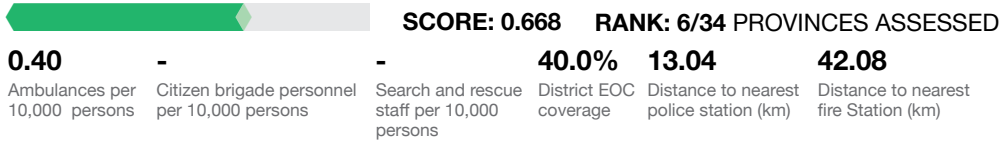
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.528**

Kalimantan Utara exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



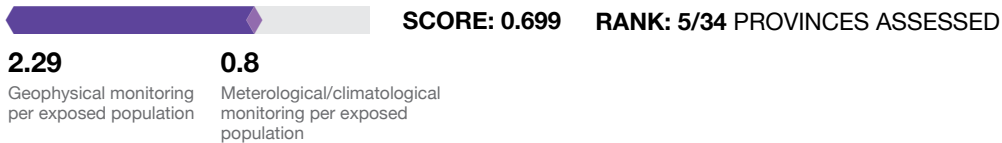
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.549**

Kalimantan Utara's High Resilience score and ranking are due to Moderate Vulnerability combined with Very High Coping Capacity, and Moderate Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Population Pressures**



**Gender Inequality**



**Transportation Capacity**



**Energy Capacity**



**Mass Care Support**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 29 / 34 PROVINCES ASSESSED**  
**SCORE: 0.110**



**Tsunami**

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.149**



**Flood**

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.127**



**Flash Flood**

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.158**



**Landslide**

**RANK: 13 / 34 PROVINCES ASSESSED**  
**SCORE: 0.226**



**Volcano**

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.110**



**Drought**

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.219**



**Wildfire**

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.166**



**Extreme Weather**

**RANK: 34 / 34 PROVINCES ASSESSED**  
**SCORE: 0.101**



## MULTI-HAZARD RISK (MHR)

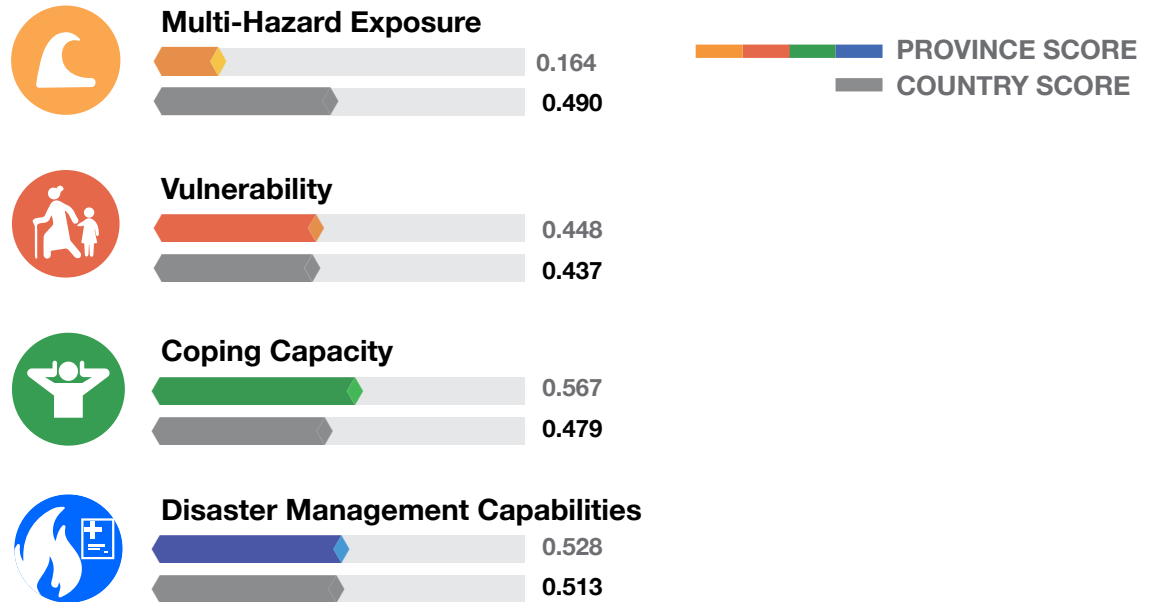
**32 / 34**

RANK WITHIN PROVINCES  
Score: 0.379



Kalimantan Utara's Very Low Multi-hazard Risk score and ranking are due to Very Low Multi-hazard exposure combined with Moderate Vulnerability, Very High Coping Capacity, and Moderate Disaster Management Capabilities scores.

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



# KALIMANTAN UTARA RECOMMENDATIONS

## 1

### Population Pressures

Kalimantan Utara has the 3rd highest Population Pressures score, with the highest Average Population growth rate (4.54%), the 4th highest Net Migration rate (25.35), and the 6th highest Average Urban Population Change (4.79%).

Kalimantan Utara's growing population is exposed to numerous hazards, such as drought, flooding, extreme weather and wildfires.

Continue to implement policies and long-term development plans that incorporate risk reduction initiatives to protect against damages and losses resulting from hazard impacts.

## 2

### Gender Inequality

Kalimantan Utara ranks 5th for overall Gender Inequality, with the highest driver being disparity between men and women in the labor force. Women comprise less than half (0.46) of the work force. Other drivers highlight gender inequalities related to literacy and schooling.

Increase opportunities to expand participation of women in education and economic activities through the enactment of policies that provide quality, affordable childcare and health care services. Strengthen access to, and participation in formal and informal justice systems.

Support economic advancement of women by promoting investment opportunities such as access to micro finance programs and cash transfer programs to boost economic growth and productivity of small farms and businesses.

## KALIMANTAN UTARA RECOMMENDATIONS

---

### 3

#### Transportation Capacity

Kalimantan Utara has the 3rd lowest ranking for Transportation Capacity, and the lowest Road and Railway Density in the country (0.02 km per square km). The average Distance to Port or Airport is 36 km away. Limitations in transportation infrastructure can hamper disaster management activities, delay arrival of emergency services and inhibit timely delivery of relief supplies.

Strengthen transportation networks through public-private partnerships and investments. Expand the capacity of existing airports and seaport facilities to accommodate growth, reduce congestion, and build efficiencies into the transport system.

In urban areas, consider options for mass transit/ public transport systems to augment transportation needs, reduce congestion and lessen environmental impacts (e.g., air pollution).

### 4

#### Energy Capacity

Kalimantan Utara ranks 20th for overall Energy Capacity in Indonesia. It has the 9th lowest percentage of National Electricity Generation (0.11%).

Strengthen public-private partnerships to improve energy development and service delivery in the province.

## KALIMANTAN UTARA RECOMMENDATIONS

### 5

#### Mass Care Support

Kalimantan Utara has the 2nd lowest rank for Mass Care Support, driven by the lowest Disaster Equipment ranking in the country. In addition, the Average Distance to a Disaster Stockpile is over 500 km away.

Strengthen logistical planning to increase sheltering capabilities and obtain the equipment required to meet the needs of a disaster affected population in the province.

Work with disaster management stakeholders to establish additional Disaster Stockpiles to improve access during disaster relief operations.

### 6

#### Emergency Services

Kalimantan Utara ranks 6th for overall Emergency Services capabilities, however, data regarding Citizen Brigades and Search and Rescue teams were not available for the province. Formalize participation and training of these groups to increase emergency service capacity in the province.



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**INDONESIA**

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# **KEPULAUAN BANGKA BELITUNG**

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**NDPBA PROVINCE PROFILE**

# KEPULAUAN BANGKA BELITUNG

**CAPITAL: PANGKA PINANG**

Area: 16,424 km<sup>2</sup>



Kepulauan Bangka Belitung (the Bangka Belitung Islands) includes two main islands, Bangka and Belitung, and smaller islands where agriculture, forestry, and tourism

are the predominate economic drivers. Despite its very low multi-hazard exposure, the province is routinely affected by extreme weather, drought and wildfires, spurring local, regional and national DRR stakeholders to collaborate on enhancing early warning systems for the growing population. While resilience and disaster management capabilities are high, strengthening efforts to improve economic capacity, gender equality, and expand health care capacity will help counter the COVID19 pandemic and all-hazard challenges in the future.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Very Low**

Score: 0.402 • Rank: 30/34



**RESILIENCE (R) - Very High**

Score: 0.567 • Rank: 6/34



**MULTI-HAZARD EXPOSURE (MHE) - Very Low**

Score: 0.311 • Rank: 31/34



**VULNERABILITY (V) - Low**

Score: 0.391 • Rank: 27/34



**COPING CAPACITY (CC) - Moderate**

Score: 0.493 • Rank: 13/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Very High**

Score: 0.599 • Rank: 3/34



Population (2020 Projected)

**1,517,600**



Population in Poverty

**4.5%**



Adult Literacy Rate

**98.1%**



Access to improved water

**73.5%**



Average life expectancy

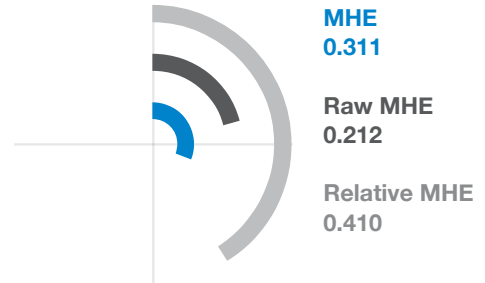
**70.5 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 31 / 34 PROVINCES  
SCORE: 0.311



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**0%**

👤 -

-



Tsunami

**0%**

👤 -

-



Flood

**14%**

👤 194,199

**\$4.75 Billion**



Flash Flood

**0%**

👤 -

-



Landslide

**<1%**

👤 2,984

-



Volcano

**0%**

👤 -

-



Drought

**91%**

👤 1,294,565

**\$25.9 Billion**



Wildfire

**27%**

👤 384,580

**\$5.2 Billion**



Extreme Weather

**97%**

👤 1,377,350

**\$29.4 Billion**



## VULNERABILITY (V)

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.391**

Vulnerability in Kepulauan Bangka Belitung is primarily driven by Gender Inequality and Population Pressures. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.222 RANK: 31/34 PROVINCES ASSESSED**

<b>0.4%</b> Land susceptible to severe erosion	<b>3.19</b> Livestock Density (per sq km)	<b>3559.1</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.327 RANK: 27/34 PROVINCES ASSESSED**

<b>70.5</b> Life expectancy (years)	<b>27</b> Infant mortality rate (per 1,000 live births)	<b>172.32</b> Maternal mortality ratio	<b>9.9%</b> Children (under 5) Wasting	<b>7.5%</b> Disability	<b>4.0%</b> Unmet health care needs	<b>11.0%</b> Households with limited access to health facility
<b>1.2%</b> Households with catastrophic health expenditure	<b>52.06</b> Dengue incidence per 100,000 population	<b>4.18</b> Measles incidence per 100,000 population	<b>0.07</b> Malaria incidence per 100,000 population	<b>150</b> TB case notification per 100,000 population	<b>34.45</b> HIV & AIDS incidence per 100,000 population	<b>0.36</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.383 RANK: 21/34 PROVINCES ASSESSED**

<b>73.5%</b> Households with improved water	<b>90.3%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.440 RANK: 17/34 PROVINCES ASSESSED**

<b>98.1%</b> Adult literacy rate	<b>97.7%</b> Net primary school enrollment rate	<b>7.98</b> Average years of schooling	<b>74.8%</b> Households using internet
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### Economic Constraints

**SCORE: 0.125 RANK: 34/34 PROVINCES ASSESSED**

<b>3.6%</b> Unemployment rate	<b>44.9</b> Age dependency ratio	<b>4.5%</b> Poverty rate	<b>0.269</b> GINI ratio
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### Gender Inequality

**SCORE: 0.686 RANK: 1/34 PROVINCES ASSESSED**

<b>0.98</b> Female to male literacy rate	<b>0.51</b> Female to male labor ratio	<b>1.08</b> Female to male secondary school enrollment ratio	<b>4.4%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.551 RANK: 7/34 PROVINCES ASSESSED**

<b>2.3%</b> Average annual total population change	<b>4.0%</b> Average annual urban population change	<b>7.9%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 13 / 34 PROVINCES ASSESSED**  
**SCORE: 0.493**

Kepulauan Bangka Belitung exhibits weaker Coping Capacity in the areas of Economic Capacity and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.410 RANK: 13/34 PROVINCES ASSESSED**

**67.7%** **2,937,123** **41.9**  
Labor force participation Average monthly income (IDR) GDP per capita (Million IDR)



### Governance

**SCORE: 0.640 RANK: 15/34 PROVINCES ASSESSED**

**143** **55.5%** **86.5%**  
Crime rate per 100,000 population Crime clearance rate Voter participation



### Environmental Capacity

**SCORE: 0.073 RANK: 31/34 PROVINCES ASSESSED**

**2.2%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.570 RANK: 13/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.482 RANK: 16/34 PROVINCES ASSESSED

**13.2** **2.68** **14.72** **20.9%** **54.8%** **86.4%** **63.9%**  
Hospital beds per 10,000 people Physicians per 10,000 people Nurses and midwives per 10,000 people Time to public hospital (over 1 hour) Immunization rate (children under 5) Health care accreditation rate Population covered by health insurance



### Transportation Capacity SCORE: 0.505 RANK: 12/34 PROVINCES ASSESSED

**0.33** **27.77**  
Road and rail density Average distance to port or airport



### Communications Capacity SCORE: 0.680 RANK: 9/34 PROVINCES ASSESSED

**67.8%** **1.2%**  
Mobile phone ownership Households with Fixed Phones



### Energy Capacity SCORE: 0.613 RANK: 13/34 PROVINCES ASSESSED

**98.6%** **0.4%** **66.57** **85.7%**  
Households served by state electricity Percentage of total national electricity generated in province Electricity generation GWh per 100,000 Population Households with gas for cooking



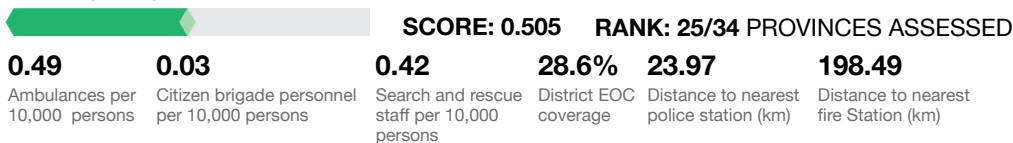
## DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.599**

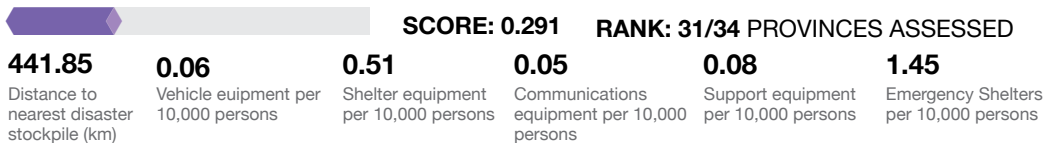
Kepulauan Bangka Belitung exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



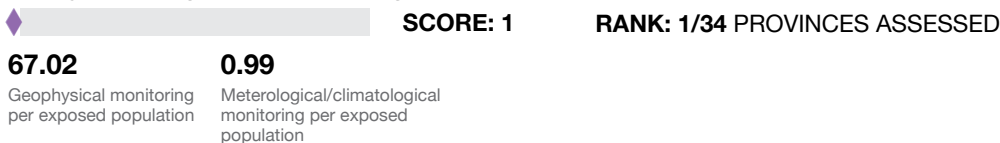
### Emergency Services



### Mass Care Support



### Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.567**

Kepulauan Bangka Belitung's Very High Resilience score and ranking are due to Low Vulnerability combined with Moderate Coping Capacity, and Very High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Gender Inequality**



**Population Pressures**



**Economic Capacity**



**Health Care Capacity**



**Mass Care Support**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.090**



**Tsunami**

**RANK: 32 / 34 PROVINCES ASSESSED**  
**SCORE: 0.09**



**Flood**

**RANK: 34 / 34 PROVINCES ASSESSED**  
**SCORE: 0.108**



**Flash Flood**

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.090**



**Landslide**

**RANK: 32 / 34 PROVINCES ASSESSED**  
**SCORE: 0.110**



**Volcano**

**RANK: 30 / 34 PROVINCES ASSESSED**  
**SCORE: 0.090**



**Drought**

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.232**



**Wildfire**

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.213**



**Extreme Weather**

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.218**





## MULTI-HAZARD RISK (MHR)

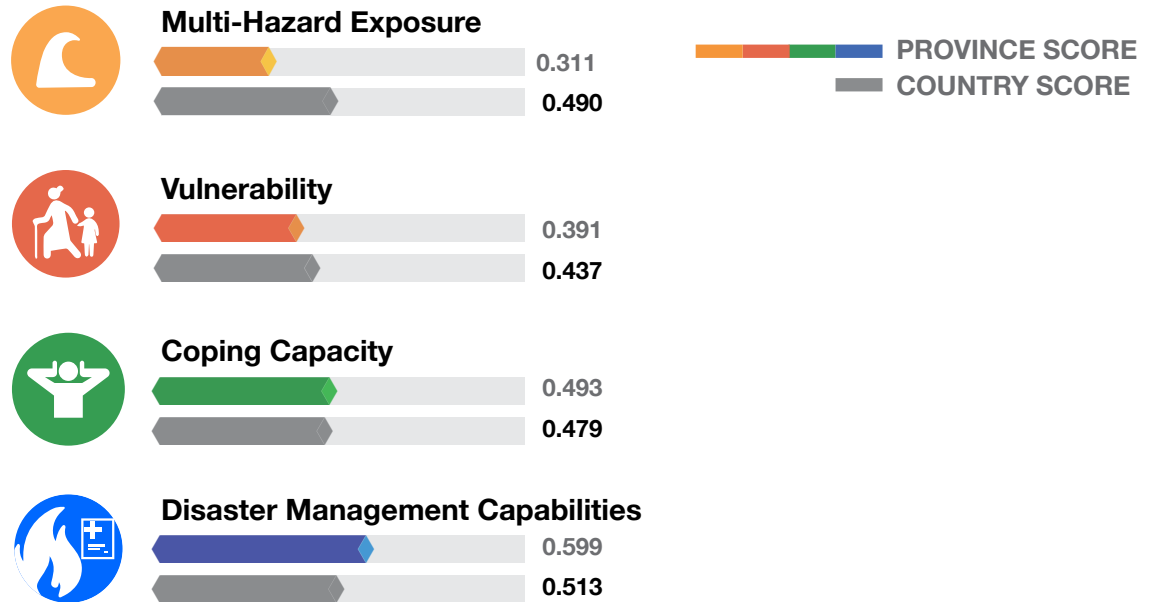
**30 / 34**

RANK WITHIN PROVINCES  
Score: 0.402



Kepulauan Bangka Belitung's Very Low Multi-hazard Risk score and ranking are due to Very Low Multi-hazard exposure combined with Low Vulnerability, Moderate Coping Capacity, and Very High Disaster Management Capabilities scores.

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



# KEPULAUAN BANGKA BELITUNG RECOMMENDATIONS

1

## Gender Inequality

Kepulauan Bangka Belitung has the highest overall Gender Inequality ranking in the country. Poor female representation in Parliament (<5%), the lowest in the country, is the most significant driver of inequality. Gender inequalities are also evident in the province's female to male Labor Ratio, with the 4th highest rank for this indicator.

Promote gender equality through the enactment and implementation of laws that establish rights, responsibilities and opportunities for women and men related to education, leadership, and employment.

Increase opportunities to expand participation of women in education and economic activities through the implementation of programs that provide quality, affordable childcare and health care services. Empower and enhance participation of women in leadership positions and community disaster preparedness and recovery processes.

2

## Population Pressures

Kepulauan Bangka Belitung ranks 7th for overall Population Pressures, driven by Average Population Change (2.34%) and average Urban Population Change (4.04%). Kepulauan Bangka Belitung's growing population is exposed to multiple hazards, including extreme weather (tornadoes), drought, flooding, landslides and wildfires.

As infrastructure projects and housing developments expand to accommodate a growing population, institute hazard mitigation strategies to reduce future damages and losses due to hazard impacts.

Continue collaboration and coordination among local government ministries, NGOs and community-based organizations to implement strategies to expand improvements in clean water, sanitation and hygiene throughout the province.

# KEPULAUAN BANGKA BELITUNG RECOMMENDATIONS

## 3

### Economic Capacity

Kepulauan Bangka Belitung ranks 13th for overall Economic Capacity, which could be strengthened through increased engagement of women in the labor force. As a primarily agricultural province, focus efforts to enhance the capacity of farmers and household enterprises to boost productivity and income generation.

Implement programs geared toward building the entrepreneurial and technical skills of small business owners and household enterprises, and improving farming practices such as adopting modern irrigation systems to conserve water, planting drought resistant plant varieties, soil conservation and enrichment, and reduction of agricultural runoff into nearby streams and water sources.

## 4

### Health Care Capacity

Kepulauan Bangka Belitung ranks 16th for overall Health Care Capacity. While Accreditation of Health Care Facilities (86.36%) and Immunization Rates in Children under Age 5 (54.84%) are relatively high, increasing access to health insurance, the number of medical personnel, and number of hospital beds would improve overall capacity in health care.

Expand minimum health service standards to improve access to, and quality of care, with special focus on mothers, children, adolescents, elderly, and those with chronic health conditions.

Secure funding to implement health care infrastructure improvements and increased numbers of medical personnel, medical equipment and supplies in anticipation of meeting Kepulauan Bangka Belitung's growing health care needs.

# KEPULAUAN BANGKA BELITUNG RECOMMENDATIONS

## 5

### Mass Care Support

Kepulauan Bangka Belitung has the 4th lowest Mass Care Support capabilities in Indonesia, driven by the 2nd lowest score for Disaster Equipment. Enhance efforts to obtain and strategically locate disaster equipment and supplies throughout the province, especially in remote areas.

## 6

### Emergency Services

Emergency Services are also limited in the province. The average distance to the nearest Disaster Stockpile is over 400 km away, presenting challenges in meeting the needs of a disaster-affected population. Kepulauan Bangka Belitung could strengthen its emergency service capability through community-based resilience-building initiatives to help fill emergency service needs during a disaster until formal assistance arrives.

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**INDONESIA**

# **KEPULAUAN RIAU**

**NDPBA PROVINCE PROFILE**

# KEPULAUAN RIAU

## CAPITAL: TANJUNG PINANG

Area: 8,202  
km<sup>2</sup>

Kepulauan Riau (the Riau Islands) archipelago of over 2,400 islands lies in a strategic location astride shipping lanes near Singapore and Malaysia. With high levels of

resilience and coping capacity, the province of Kepulauan Riau has been historically influenced by trade and both European and East Asian powers. Localization of DRR and SDG efforts in the province are under way and encouraged by BNPB and multilateral entities. Focused efforts to enhance gender equity, governance, health care capacity and disaster management capabilities will further benefit these remote islands.



## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Very Low

Score: 0.361 • Rank: 34/34



### RESILIENCE (R) - Very High

Score: 0.580 • Rank: 5/34



### MULTI-HAZARD EXPOSURE (MHE) - Very Low

Score: 0.186 • Rank: 33/34



### VULNERABILITY (V) - Very Low

Score: 0.388 • Rank: 28/34



### COPING CAPACITY (CC) - Very High

Score: 0.577 • Rank: 5/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - High

Score: 0.552 • Rank: 9/34



Population (2020 Projected)

**2,242,200**



Population in Poverty

**5.8%**



Adult Literacy Rate

**99.0%**



Access to improved water

**88.5%**



Average life expectancy

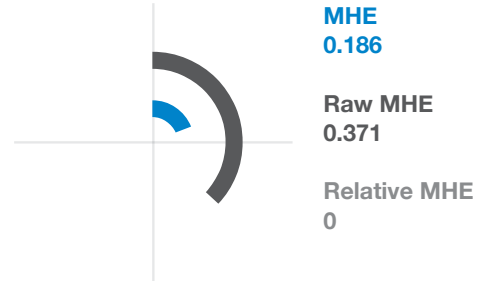
**69.8 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 33 / 34 PROVINCES  
SCORE: 0.186



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**0%**

👤 -

-



Tsunami

**0%**

👤 -

-



Flood

**19%**

👤 364,329

**\$40.89 Billion**



Flash Flood

**<1%**

👤 3,517

**\$44.5 Million**



Landslide

**1%**

👤 14,195

**\$1.1 Billion**



Volcano

**0%**

👤 -

-



Drought

**1%**

👤 21,743

**\$1.8 Billion**



Wildfire

**4%**

👤 84,599

**\$1.4 Billion**



Extreme Weather

**99%**

👤 1,917,179

**\$241.9 Billion**





## VULNERABILITY (V)

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.388**

Vulnerability in Kepulauan Riau is primarily driven by Population Pressures and Gender Inequality. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.265 RANK: 28/34 PROVINCES ASSESSED**

<b>1.0%</b> Land susceptible to severe erosion	<b>50.1</b> Livestock Density (per sq km)	<b>504</b> Net Deforestation (hectares per year)
---	--	---



### Vulnerable Health Status

**SCORE: 0.305 RANK: 28/34 PROVINCES ASSESSED**

<b>69.8</b> Life expectancy (years)	<b>35</b> Infant mortality rate (per 1,000 live births)	<b>83.93</b> Maternal mortality ratio	<b>11.2%</b> Children (under 5) Wasting	<b>6.5%</b> Disability	<b>3.5%</b> Unmet health care needs	<b>8.0%</b> Households with limited access to health facility
<b>1.2%</b> Households with catastrophic health expenditure	<b>56.35</b> Dengue incidence per 100,000 population	<b>4.12</b> Measles incidence per 100,000 population	<b>0.06</b> Malaria incidence per 100,000 population	<b>247</b> TB case notification per 100,000 population	<b>73.63</b> HIV & AIDS incidence per 100,000 population	<b>0.46</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.224 RANK: 31/34 PROVINCES ASSESSED**

<b>88.5%</b> Households with improved water	<b>89.1%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.151 RANK: 33/34 PROVINCES ASSESSED**

<b>99.0%</b> Adult literacy rate	<b>99.1%</b> Net primary school enrollment rate	<b>9.99</b> Average years of schooling	<b>88.0%</b> Households using internet
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### Economic Constraints

**SCORE: 0.398 RANK: 19/34 PROVINCES ASSESSED**

<b>6.9%</b> Unemployment rate	<b>46.4</b> Age dependency ratio	<b>5.8%</b> Poverty rate	<b>0.341</b> GINI ratio
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### Gender Inequality

**SCORE: 0.545 RANK: 9/34 PROVINCES ASSESSED**

<b>1</b> Female to male literacy rate	<b>0.52</b> Female to male labor ratio	<b>1.13</b> Female to male secondary school enrollment ratio	<b>17.8%</b> Percent female seats in government
--	---	---	--



### Population Pressures

**SCORE: 0.830 RANK: 2/34 PROVINCES ASSESSED**

<b>3.3%</b> Average annual total population change	<b>3.3%</b> Average annual urban population change	<b>62.0%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.577**

Kepulauan Riau exhibits weaker Coping Capacity in the areas of Governance and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.617 RANK: 4/34 PROVINCES ASSESSED**

<b>64.8%</b> Labor force participation	<b>4,276,449</b> Average monthly income (IDR)	<b>95.3</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.568 RANK: 22/34 PROVINCES ASSESSED**

<b>164</b> Crime rate per 100,000 population	<b>59.8%</b> Crime clearance rate	<b>83.9%</b> Voter participation
---	--------------------------------------	-------------------------------------



### Environmental Capacity

**SCORE: 0.113 RANK: 30/34 PROVINCES ASSESSED**

**3.2%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.700 RANK: 5/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.589 RANK: 8/34 PROVINCES ASSESSED

<b>14.4</b> Hospital beds per 10,000 people	<b>4.48</b> Physicians per 10,000 people	<b>16.41</b> Nurses and midwives per 10,000 people	<b>11.3%</b> Time to public hospital (over 1 hour)	<b>56.1%</b> Immunization rate (children under 5)	<b>78.5%</b> Health care accreditation rate	<b>75.0%</b> Population covered by health insurance
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### Transportation Capacity SCORE: 0.602 RANK: 9/34 PROVINCES ASSESSED

<b>0.57</b> Road and rail density	<b>24.34</b> Average distance to port or airport
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### Communications Capacity SCORE: 0.906 RANK: 2/34 PROVINCES ASSESSED

<b>76.4%</b> Mobile phone ownership	<b>3.0%</b> Households with Fixed Phones
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### Energy Capacity SCORE: 0.704 RANK: 9/34 PROVINCES ASSESSED

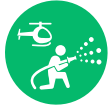
<b>96.9%</b> Households served by state electricity	<b>1.0%</b> Percentage of total national electricity generated in province	<b>133.84</b> Electricity generation GWh per 100,000 Population	<b>82.2%</b> Households with gas for cooking
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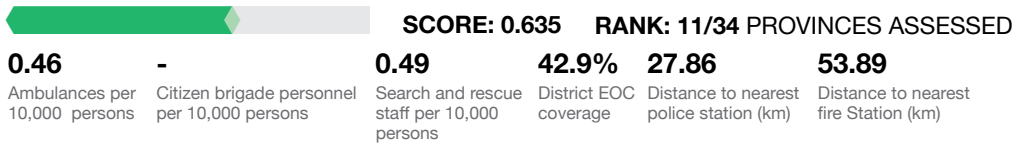
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.552**

Kepulauan Riau exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



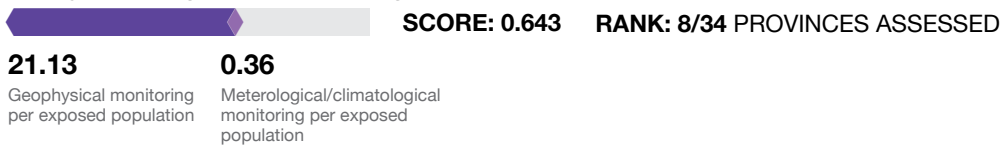
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.580**

Kepulauan Riau's Very High Resilience score and ranking are due to Very Low Vulnerability combined with Very High Coping Capacity, and High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Population Pressures**



**Gender Inequality**



**Governance**



**Health Care Capacity**



**Mass Care Support**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.067**



**Tsunami**

**RANK: 34 / 34 PROVINCES ASSESSED**  
**SCORE: 0.067**



**Flood**

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.162**



**Flash Flood**

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.128**



**Landslide**

**RANK: 30 / 34 PROVINCES ASSESSED**  
**SCORE: 0.135**



**Volcano**

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.067**



**Drought**

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.119**



**Wildfire**

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.160**



**Extreme Weather**

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.267**



## MULTI-HAZARD RISK (MHR)

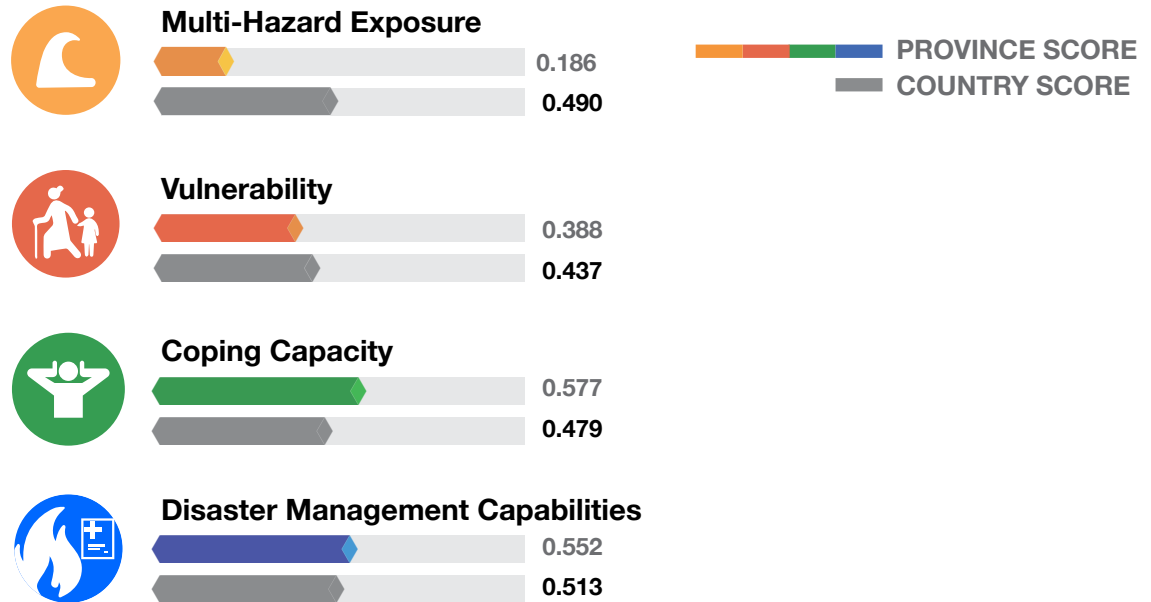
**34 / 34**

RANK WITHIN PROVINCES  
Score: 0.361



Kepulauan Riau's Very Low Multi-hazard Risk score and ranking are due to Very Low Multi-hazard exposure combined with Very Low Vulnerability, Very High Coping Capacity, and High Disaster Management Capabilities scores.

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



# KEPULAUAN RIAU RECOMMENDATIONS

# 1

## Population Pressures

Kepulauan Riau has the 2nd highest vulnerability related to Population Pressures, with Average Population Change (3.25%) and Net Recent Migration (61.97) being the most significant drivers.

Kepulauan Riau's relatively high Average Monthly Income (4.2 million IDR) and thriving energy and manufacturing-based economy have attracted an influx of migrants in recent years.

Promote interagency engagement and collaboration in sustainable development planning to anticipate the needs of the growing population.

# 2

## Gender Inequality

Kepulauan Riau ranks 9th for overall Gender Inequality. Most significant drivers are female to male Labor Ratio, and female to male Secondary Enrollment Rate. Kepulauan Riau ranks 6th for both these indicators. Female representation in government is <18%, below Indonesia's target of 30%.

Invest in programs that support women's sexual and reproductive rights to facilitate increased participation in, and contribution to, social and economic development. Increase opportunities to expand participation of women in education and economic activities through the implementation of programs that provide quality, affordable childcare and health care services.

Empower and enhance participation of women in leadership positions and community disaster preparedness and recovery processes.

## KEPULAUAN RIAU RECOMMENDATIONS

---

### 3

#### Governance

Kepulauan Riau has the 13th lowest overall Governance ranking, driven by the incidence of crime. The province has a Crime Rate of 164 per 100,000 persons, and a Crime Clearance Rate of nearly 60%.

Strengthen support for public security through increased law enforcement and surveillance, youth education and personal safety programs, and community support programs for ex-criminals.

### 4

#### Health Care Capacity

Kepulauan Riau has the 8th highest Health Care Capacity ranking in the country, however, findings show that improvements could be made in the areas of Health Insurance (25% of the population are not insured), Hospital Accreditation (22% of hospitals are not accredited), and the number of medical professionals.

Results also indicate that Kepulauan Riau has fewer than five Physicians per 10,000 persons, and fewer than 17 nurses and midwives per 10,000 persons. While not all of the province's 1,994 islands are inhabited, accessing timely medical care, particularly in an emergency presents challenges in an island environment with limited health care capacity.

## KEPULAUAN RIAU RECOMMENDATIONS

### 5

#### Mass Care Support

Kepulauan Riau province has the 6th lowest Mass Care Support capabilities in the country, primarily influenced by the availability of disaster equipment, and distance to disaster stockpiles.

The province's population is exposed to multiple hazards, including wildfire, drought, flooding and landslides. Should the population be displaced or need to evacuate, there are 4.2 Emergency Shelters per 10,000 persons.

Kepulauan Riau would benefit from enhanced shelter capacity and increased disaster equipment supplies. In addition, consider strategic placement of disaster stockpiles in the province.

### 6

#### Emergency Services

Kepulauan Riau ranks 11th for Emergency Services capabilities. Consider increasing the number and distribution of ambulances in the province (currently .46 per 10,00 persons), the number of Search and Rescue personnel, and training Citizen Brigades to assist with community-based disaster preparedness and response activities.



**Better solutions.  
Fewer disasters.**

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**INDONESIA**

**LAMPUNG**

**NDPBA PROVINCE PROFILE**

# LAMPUNG

## CAPITAL: BANDAR LAMPUNG

Area: 34,624  
km<sup>2</sup>



Having experienced one of the largest volcanic eruptions in recorded history (Krakatoa), the people of Lampung are no strangers to the various hazards that affect the region, including earthquakes, tsunamis and flooding. With mountainous regions on the western coast of the province and dense urban areas on the eastern portion encompassing the capital, Bandar Lampung, lower levels of resilience, coping capacity and disaster management capabilities may be enhanced through efforts to foster gender equality, improve access to clean water and sanitation, enhance health care and economic capacities, strengthen early warning systems and expand shelter capacities.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Moderate

Score: 0.494 • Rank: 18/34



### RESILIENCE (R) - Low

Score: 0.489 • Rank: 23/34



### MULTI-HAZARD EXPOSURE (MHE) - Low

Score: 0.446 • Rank: 23/34



### VULNERABILITY (V) - Moderate

Score: 0.441 • Rank: 17/34



### COPING CAPACITY (CC) - Low

Score: 0.453 • Rank: 21/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Very Low

Score: 0.456 • Rank: 28/34



Population (2020 Projected)

**8,521,200**



Population in Poverty

**12.3%**



Adult Literacy Rate

**97.1%**



Access to improved water

**73.3%**



Average life expectancy

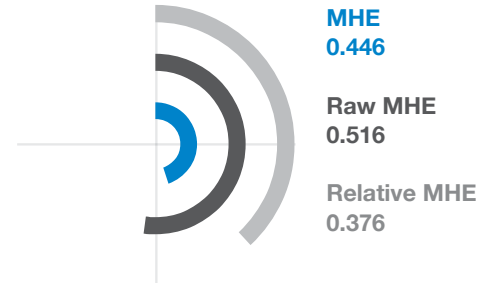
**70.5 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 23 / 34 PROVINCES  
SCORE: 0.446



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**24%**

1,959,014  
\$21.8 Billion



Tsunami

**<1%**

16,583  
\$171.1 Million



Flood

**26%**

2,155,477  
\$19.27 Billion



Flash Flood

**1%**

72,980  
\$578.1 Million



Landslide

**1%**

45,548  
\$340.2 Million



Volcano

**<1%**

6,698  
\$47.8 Million



Drought

**56%**

4,640,305  
\$39.6 Billion



Wildfire

**10%**

799,576  
\$6.1 Billion



Extreme Weather

**99%**

8,205,193  
\$77.5 Billion



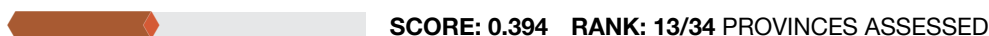
## VULNERABILITY (V)

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.441**

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



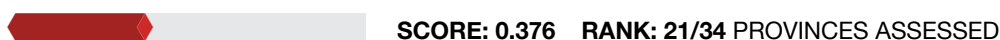
### Environmental Stress



<b>12.6%</b> Land susceptible to severe erosion	<b>69.96</b> Livestock Density (per sq km)	<b>1104.7</b> Net Deforestation (hectares per year)
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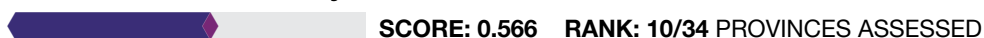
### Vulnerable Health Status



<b>70.51</b> Life expectancy (years)	<b>30</b> Infant mortality rate (per 1,000 live births)	<b>116.07</b> Maternal mortality ratio	<b>10.7%</b> Children (under 5) Wasting	<b>7.7%</b> Disability	<b>5.3%</b> Unmet health care needs	<b>9.1%</b> Households with limited access to health facility
<b>2.2%</b> Households with catastrophic health expenditure	<b>34.31</b> Dengue incidence per 100,000 population	<b>4.13</b> Measles incidence per 100,000 population	<b>0.18</b> Malaria incidence per 100,000 population	<b>191</b> TB case notification per 100,000 population	<b>10.66</b> HIV & AIDS incidence per 100,000 population	<b>0.25</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability



<b>73.3%</b> Households with improved water	<b>79.2%</b> Households with improved sanitation
--	---



### Information Access Vulnerability



<b>97.1%</b> Adult literacy rate	<b>99.2%</b> Net primary school enrollment rate	<b>7.92</b> Average years of schooling	<b>68.7%</b> Households using internet
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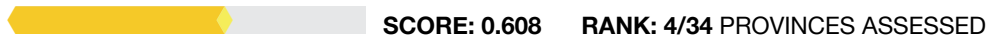
### Economic Constraints



<b>4.0%</b> Unemployment rate	<b>48.6</b> Age dependency ratio	<b>12.3%</b> Poverty rate	<b>0.329</b> GINI ratio
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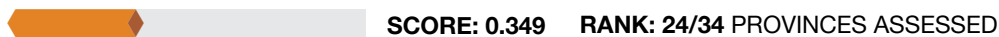
### Gender Inequality



<b>0.97</b> Female to male literacy rate	<b>0.56</b> Female to male labor ratio	<b>1.1</b> Female to male secondary school enrollment ratio	<b>14.1%</b> Percent female seats in government
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### Population Pressures



<b>1.2%</b> Average annual total population change	<b>3.6%</b> Average annual urban population change	<b>-5.3%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.453**

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



### Economic Capacity

**SCORE: 0.310** **RANK: 23/34 PROVINCES ASSESSED**

**69.1%**

Labor force participation

**2,281,692**

Average monthly income (IDR)

**28.7**

GDP per capita (Million IDR)



### Governance

**SCORE: 0.585** **RANK: 21/34 PROVINCES ASSESSED**

**108**

Crime rate per 100,000 population

**71.8%**

Crime clearance rate

**80.6%**

Voter participation



### Environmental Capacity

**SCORE: 0.509** **RANK: 10/34 PROVINCES ASSESSED**

**12.5%**

Protected area



### Infrastructure Capacity

**SCORE: 0.445** **RANK: 24/34 PROVINCES ASSESSED**



### Health Care Capacity

**SCORE: 0.389** **RANK: 23/34 PROVINCES ASSESSED**

**9.1**

Hospital beds per 10,000 people

**2.26**

Physicians per 10,000 people

**14.75**

Nurses and midwives per 10,000 people

**31.5%**

Time to public hospital (over 1 hour)

**52.9%**

Immunization rate (children under 5)

**87.9%**

Health care accreditation rate

**60.2%**

Population covered by health insurance



### Transportation Capacity

**SCORE: 0.444** **RANK: 13/34 PROVINCES ASSESSED**

**0.25**

Road and rail density

**31**

Average distance to port or airport



### Communications Capacity

**SCORE: 0.489** **RANK: 26/34 PROVINCES ASSESSED**

**61.5%**

Mobile phone ownership

**0.3%**

Households with Fixed Phones



### Energy Capacity

**SCORE: 0.459** **RANK: 21/34 PROVINCES ASSESSED**

**96.7%**

Households served by state electricity

**0.0%**

Percentage of total national electricity generated in province

**0.49**

Electricity generation GWh per 100,000 Population

**81.5%**

Households with gas for cooking



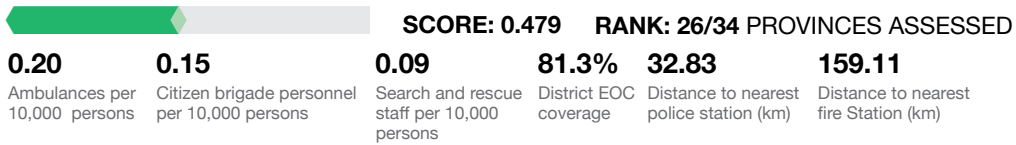
## DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.456**

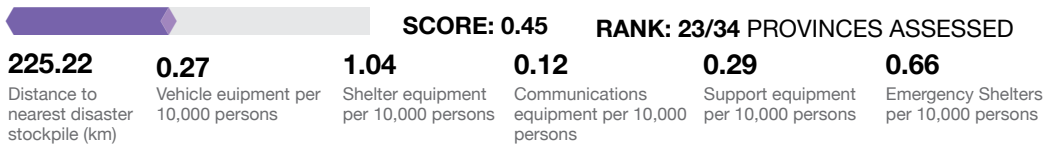
Lampung exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Mass Care Support. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



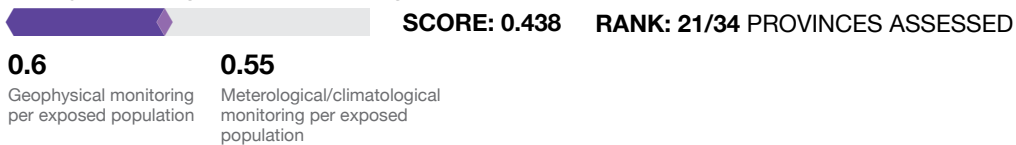
### Emergency Services



### Mass Care Support



### Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.489**

Lampung's Low Resilience score and ranking are due to Moderate Vulnerability combined with Low Coping Capacity, and Very Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Gender Inequality**



**Clean Water Access Vulnerability**



**Economic Capacity**



**Health Care Capacity**



**Early Warning and Monitoring**



**Mass Care Support**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.214**



**Tsunami**

**RANK: 20 / 34 PROVINCES ASSESSED**  
**SCORE: 0.181**



**Flood**

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.214**



**Flash Flood**

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.177**



**Landslide**

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.182**



**Volcano**

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.224**



**Drought**

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.266**



**Wildfire**

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.246**



**Extreme Weather**

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.314**





## MULTI-HAZARD RISK (MHR)

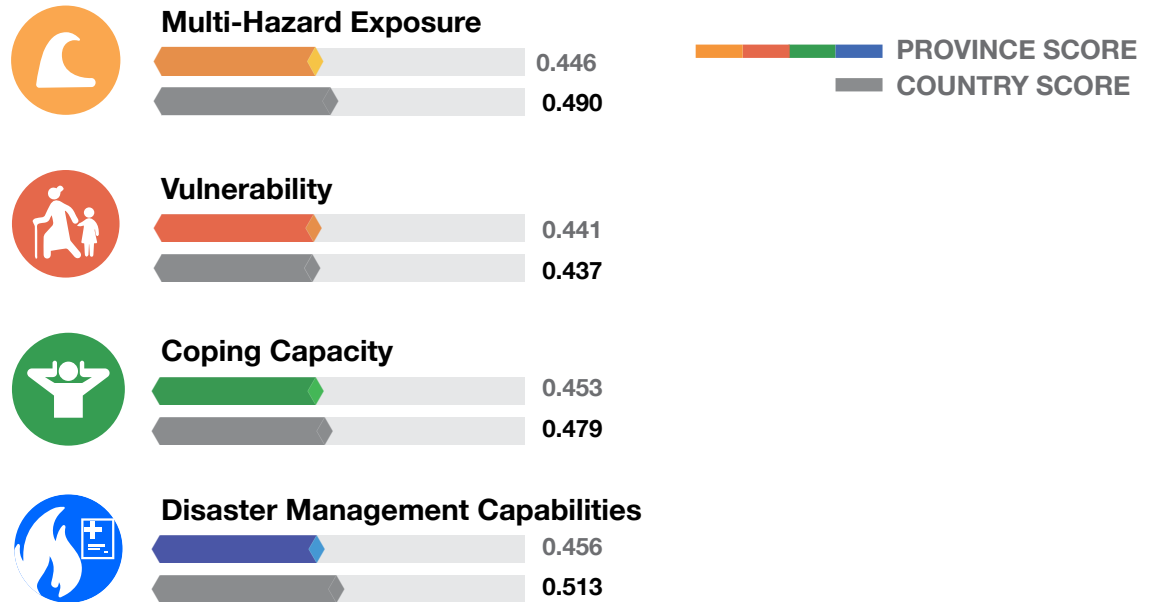
**18 / 34**

RANK WITHIN PROVINCES  
Score: 0.494



Lampung's Moderate Multi-hazard Risk score and ranking are due to Low Multi-hazard exposure combined with Moderate Vulnerability, Low Coping Capacity, and Very Low Disaster Management Capabilities scores.

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



# LAMPUNG RECOMMENDATIONS

# 1

## Gender Inequality

Lampung ranks 4th for overall Gender Inequality, driven by a rank of 8th for female to male Secondary Enrollment, a ranking of 10th for female representation in Parliament (14%), and a rank of 11th for female to male Literacy Ratio. According to a UNICEF report, 11% of young women are married before the age of 18.

Enact policies and programs that reduce gender discrimination to boost economic growth and reduce poverty, especially among women.

Promote higher education opportunities for women to provide greater economic opportunities and enhanced quality of life. Invest in programs that support women's sexual and reproductive rights to facilitate increased participation in, and contribution to social and economic development.

# 2

## Clean Water Access Vulnerability

Lampung has the 10th highest Clean Water Access Vulnerability ranking in Indonesia, with 27% of households without access to an improved water source. Access to clean drinking water, sanitation and hygiene is an important step in advancing health, education, and poverty reduction.

As a primarily agricultural province, provide training and technical assistance to farmers on modern irrigation systems that reduce water waste, drought resistant plant varieties, soil conservation and enrichment, and reduction of agricultural runoff into nearby streams and water sources.

Continue to implement community-based initiatives to educate the public about proper hygiene and sanitation, as well as water conservation, recycling and reuse.

# LAMPUNG RECOMMENDATIONS

## 3

### Economic Capacity

Lampung has the 12th lowest score for overall Economic Capacity, influenced by the 4th lowest Average Monthly Income (2.2 million IDR) and the 12th lowest GDP per Capita (28.7 million IDR). More than 12% of Lampung's population live below the poverty line. Lampung's economy is primarily based in agriculture. Deep sea fishing and some mining of coal also contribute to the economy. The informal sector contributes substantially to the nation's outputs and is an integral part of the labor market.

Implement programs geared toward building the entrepreneurial and technical skills of small business owners and household enterprises.

Increase access to financing and support structures (e.g. microfinance services and loans) to enhance productivity and provide economic opportunities for poor and vulnerable populations.

## 4

### Health Care Capacity

Lampung has the 12th lowest ranking for overall Health Care Capacity. Expand health care reach in remote areas. Over 31% of households require more than an hour to reach a public hospital.

Implement programs that provide low- or no-cost health care services to mothers, children, adolescents, elderly, the poor, and those with chronic health conditions. Only 60% of the province's population has health insurance.

Secure funding to implement health care infrastructure improvements and increase numbers of medical personnel, medical equipment and supplies to better meet the needs of the population.

---

## LAMPUNG RECOMMENDATIONS

### 5

#### Early Warning and Monitoring

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Lampung is exposed to numerous hazards, including earthquakes, volcanic eruptions, tsunamis, landslides, flooding, flash flooding, wildfire, drought, and extreme weather (tornadoes), yet has the 14th lowest Early Warning and Monitoring score in the country.

Broaden the distribution and range of early warning and monitoring systems in the province to improve hazard alerting for the population.

Improving literacy rates, particularly among women, will enhance understanding of warning messages and save lives.

### 6

#### Mass Care Support

---

Lampung has the 2nd lowest number of Emergency Shelters in the country. Increase shelter capacity and related support services (e.g., care and feeding) to better accommodate the needs of populations displaced by a disaster.

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**INDONESIA**

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**MALUKU**

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**NDPBA PROVINCE PROFILE**

# MALUKU

## CAPITAL: AMBON

Area: 46,914 km<sup>2</sup>



Maluku has both a diverse cultural and religious landscape along with a varied and mountainous setting which has benefitted from subnational DRR programs via the

UNDRR, BNPB and others. Table-top exercises and enhancing the legal framework for DRR and CCA have been implemented in Ambon and environs to help respond to volcanic, flooding and other DRR challenges. The heightened level of multi-hazard risk will need to be addressed via enhancements to coping capacity and resilience. Specifically, advancements to ameliorate economic constraints, improve sanitation and increase health care capacity will help address some of these challenges.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - High

Score: 0.521 • Rank: 10/34



### RESILIENCE (R) - Very Low

Score: 0.455 • Rank: 32/34



### MULTI-HAZARD EXPOSURE (MHE) - Low

Score: 0.447 • Rank: 21/34



### VULNERABILITY (V) - Moderate

Score: 0.430 • Rank: 19/34



### COPING CAPACITY (CC) - Very Low

Score: 0.263 • Rank: 34/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Moderate

Score: 0.530 • Rank: 14/34



Population (2020 Projected)

**1,831,900**



Population in Poverty

**17.7%**



Adult Literacy Rate

**99.4%**



Access to improved water

**90.8%**



Average life expectancy

**65.8 years**

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





## MULTI-HAZARD EXPOSURE (MHE)

RANK: 21 / 34 PROVINCES  
SCORE: 0.447



MHE  
0.447

Raw MHE  
0.167

Relative MHE  
0.728

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**65%**

990,450  
\$5.4 Billion



Tsunami

**18%**

269,483  
\$1.5 Billion



Flood

**23%**

347,805  
\$1.79 Billion



Flash Flood

**3%**

44,715  
\$218.2 Million



Landslide

**6%**

84,260  
\$408.8 Million



Volcano

**<1%**

3,773  
\$18.1 Million



Drought

**83%**

1,273,861  
\$6.9 Billion



Wildfire

**22%**

331,432  
\$1.6 Billion



Extreme Weather

**82%**

1,258,438  
\$6.8 Billion





## VULNERABILITY (V)

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.430**

Vulnerability in Maluku is primarily driven by Economic Constraints and Clean Water Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.28 RANK: 27/34 PROVINCES ASSESSED**

<b>7.1%</b> Land susceptible to severe erosion	<b>6.61</b> Livestock Density (per sq km)	<b>2967.4</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.467 RANK: 13/34 PROVINCES ASSESSED**

<b>65.82</b> Life expectancy (years)	<b>36</b> Infant mortality rate (per 1,000 live births)	<b>171.43</b> Maternal mortality ratio	<b>13.1%</b> Children (under 5) Wasting	<b>7.8%</b> Disability	<b>5.6%</b> Unmet health care needs	<b>19.1%</b> Households with limited access to health facility
<b>0.3%</b> Households with catastrophic health expenditure	<b>17.87</b> Dengue incidence per 100,000 population	<b>0.9</b> Measles incidence per 100,000 population	<b>0.51</b> Malaria incidence per 100,000 population	<b>250</b> TB case notification per 100,000 population	<b>41.1</b> HIV & AIDS incidence per 100,000 population	<b>2.54</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.508 RANK: 16/34 PROVINCES ASSESSED**

<b>90.8%</b> Households with improved water	<b>70.0%</b> Households with improved sanitation
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### Information Access Vulnerability

**SCORE: 0.446 RANK: 16/34 PROVINCES ASSESSED**

<b>99.4%</b> Adult literacy rate	<b>96.2%</b> Net primary school enrollment rate	<b>9.81</b> Average years of schooling	<b>58.5%</b> Households using internet
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### Economic Constraints

**SCORE: 0.643 RANK: 2/34 PROVINCES ASSESSED**

<b>7.1%</b> Unemployment rate	<b>58.2</b> Age dependency ratio	<b>17.7%</b> Poverty rate	<b>0.324</b> GINI ratio
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### Gender Inequality

**SCORE: 0.290 RANK: 33/34 PROVINCES ASSESSED**

<b>1</b> Female to male literacy rate	<b>0.65</b> Female to male labor ratio	<b>1.04</b> Female to male secondary school enrollment ratio	<b>26.7%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.373 RANK: 21/34 PROVINCES ASSESSED**

<b>1.9%</b> Average annual total population change	<b>2.5%</b> Average annual urban population change	<b>-7.0%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 34 / 34 PROVINCES ASSESSED**  
**SCORE: 0.263**

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



### Economic Capacity

**SCORE: 0.166** **RANK: 33/34 PROVINCES ASSESSED**

**63.0%** **2,941,409** **19.1**  
Labor force participation Average monthly income (IDR) GDP per capita (Million IDR)



### Governance

**SCORE: 0.257** **RANK: 34/34 PROVINCES ASSESSED**

**158** **24.3%** **79.3%**  
Crime rate per 100,000 population Crime clearance rate Voter participation



### Environmental Capacity

**SCORE: 0.404** **RANK: 15/34 PROVINCES ASSESSED**

**10.0%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.319** **RANK: 31/34 PROVINCES ASSESSED**



### Health Care Capacity

**SCORE: 0.231** **RANK: 34/34 PROVINCES ASSESSED**

**13.9** **2.62** **12.18** **42.0%** **40.8%** **43.6%** **59.4%**  
Hospital beds per 10,000 people Physicians per 10,000 people Nurses and midwives per 10,000 people Time to public hospital (over 1 hour) Immunization rate (children under 5) Health care accreditation rate Population covered by health insurance



### Transportation Capacity

**SCORE: 0.303** **RANK: 24/34 PROVINCES ASSESSED**

**0.13** **39.81**  
Road and rail density Average distance to port or airport



### Communications Capacity

**SCORE: 0.481** **RANK: 28/34 PROVINCES ASSESSED**

**57.0%** **0.6%**  
Mobile phone ownership Households with Fixed Phones



### Energy Capacity

**SCORE: 0.263** **RANK: 30/34 PROVINCES ASSESSED**

**89.6%** **0.2%** **34.81** **0.9%**  
Households served by state electricity Percentage of total national electricity generated in province Electricity generation GWh per 100,000 Population Households with gas for cooking



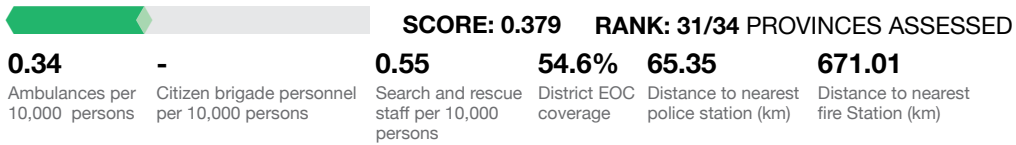
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.530**

Maluku exhibits weaker Disaster Management Capabilities in the areas of Emergency Services and Mass Care Support. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



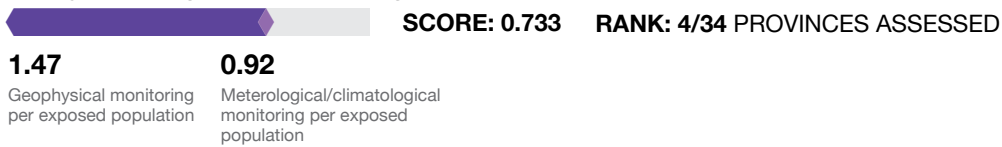
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 32 / 34 PROVINCES ASSESSED**  
**SCORE: 0.455**

Maluku's Very Low Resilience score and ranking are due to Moderate Vulnerability combined with Very Low Coping Capacity, and Moderate Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Economic Constraints**



**Clean Water Access Vulnerability**



**Economic Capacity**



**Health Care Capacity**



**Emergency Services**



**Mass Care Support**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.281**



**Tsunami**

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.39**



**Flood**

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.162**



**Flash Flood**

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.198**



**Landslide**

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.250**



**Volcano**

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.257**



**Drought**

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.281**



**Wildfire**

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.261**



**Extreme Weather**

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.207**



## MULTI-HAZARD RISK (MHR)

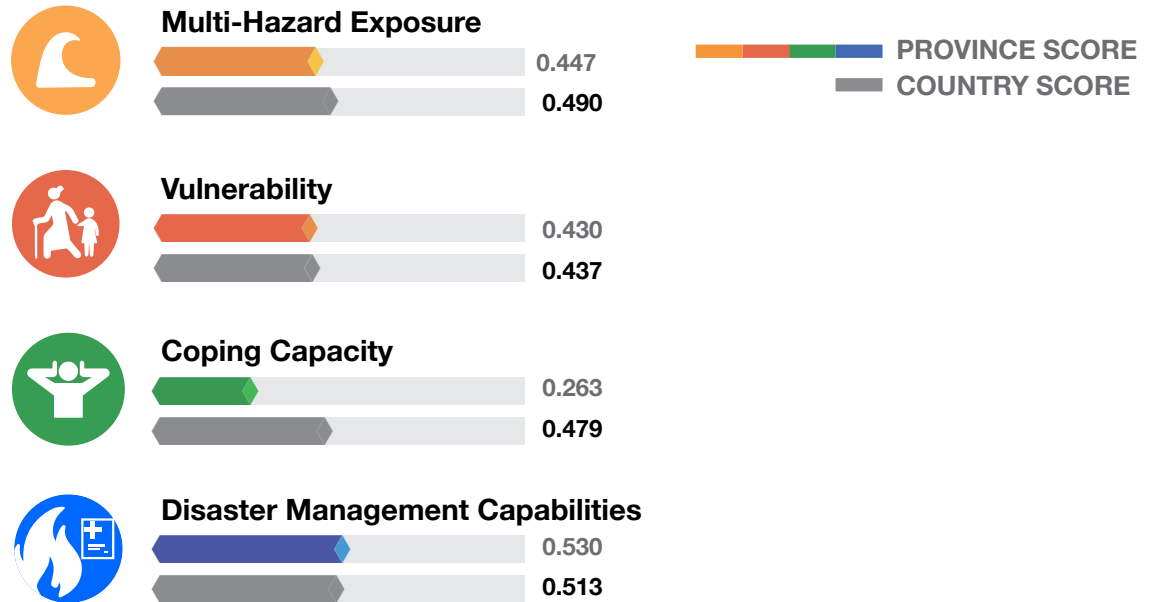
**10 / 34**

RANK WITHIN PROVINCES  
Score: 0.521



Maluku's High Multi-hazard Risk score and ranking are due to Low Multi-hazard exposure combined with Moderate Vulnerability, Very Low Coping Capacity, and Moderate Disaster Management Capabilities scores.

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



# MALUKU RECOMMENDATIONS

# 1

## Economic Constraints

Maluku ranks 2nd for overall Economic Constraints, driven by the 2nd highest Age Dependency Ratio (ratio of non-working age population to working age population), the 3rd highest Unemployment Rate, and the 4th highest poverty rate.

Consider long-term economic plans and programs that both promote social benefits for elderly, low income, and single-parent households, and allocate the revenue required to balance the costs of these benefits.

Increase opportunities to expand participation of women in education and economic activities through the enactment of policies that provide quality, affordable childcare and health care services.

# 2

## Clean Water Access Vulnerability

Maluku ranks 16th for overall Clean Water Access Vulnerability. Findings show that while the percentage of households with access to improved water is 91%, the percentage of households with access to improved sanitation is only 70%.

Continue collaboration and coordination efforts among local government ministries, NGOs and community-based organizations to implement strategies to expand improvements in clean water, sanitation and hygiene throughout the province.

Expand investments in clean water and sanitation infrastructure necessary to deliver services and reduce health risks in remote areas. Findings show a high rate of exposure to drought in Maluku province. Invest in programs that promote water conservation and support farmers through training and education on drought resistant crop varieties and farming practices to reduce water stress and drought impacts on agriculture.

# MALUKU RECOMMENDATIONS

## 3

### Economic Capacity

Maluku has the 2nd lowest overall Economic Capacity ranking in the country, with the 2nd lowest Labor Force Participation rate (63%), and the 3rd lowest GDP per Capita (19.1 million IDR).

Despite economic expansion into the energy sector in recent years, with development in crude oil, natural gas and electricity generation, Maluku's economy has not been infused with expansive growth. Agriculture, forestry and fisheries are predominant economic sectors.

Implement programs geared toward building the entrepreneurial and technical skills of small business owners and household enterprises. Increase access to financing and support structures (e.g. microfinance services and loans) for poor and vulnerable populations.

## 4

### Health Care Capacity

Findings show that Maluku has the lowest Health Care Capacity in the country. Most significant drivers include low Hospital Accreditation (only 44% of hospitals in the province are accredited), Time Required to Reach the Nearest Hospital (42% of households must travel over an hour to reach a hospital), a lack of Health Insurance (60% of the province's population is uninsured), and a shortage of Nurses and Midwives (there are only 12 trained personnel per 10,000 persons).

Multi-faceted initiatives are needed to improve overall Health Care Capacity in the province, including increased access and service provision. Efforts to increase availability and quality of clean water and sanitation services will also improve the overall health status of the population.

Continue to advance accreditation of hospitals and puskesmas (public health care centers) to improve the availability and quality of health care infrastructure, resources (personnel and equipment) and services. Prioritize accreditation in remote or underserved areas. Continue to engage NGO partners in efforts to improve access to health care for poor and vulnerable populations. Continue to implement programs that provide health insurance and preventative care to impoverished populations.

# MALUKU RECOMMENDATIONS

## 5

### Emergency Services

Maluku has the 4th lowest overall Emergency Services ranking in the country, driven by the 2nd lowest score for Average Distance to a Fire Station (671 km away from populated areas).

Encourage local initiatives to build community resilience and disaster response capabilities through preparedness activities and increased participation in Citizen Brigades, especially in remote villages.

## 6

### Mass Care Support

Finding show that Maluku has the 14th lowest Mass Care Support capabilities. Bolster shelter capacities and disaster equipment supplies to improve mass care support in the province.

During and after a disaster Maluku may require targeted mass care support due to the widespread poverty and sanitation issues faced by the province.

The constraints in Health Care Capacity evident in the province will be exacerbated during a disaster. Efforts to improve capacity will also strengthen mass care support capabilities.



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**INDONESIA**

# **MALUKU UTARA**

**NDPBA PROVINCE PROFILE**

# MALUKU UTARA

## CAPITAL: SOFIFI

Area: 31,983 km<sup>2</sup>



Maluku Utara (North Maluku) is a very young province and quite sparsely populated, with a long history of foreign influence from the Dutch and the Japanese. Frequent earthquakes and tsunami events have occurred in recent history, affecting agriculture, forestry and fisheries which are mainstays of the local economy. Coping capacity, resilience and disaster management capabilities are low and both BNPB and multilateral actors have worked to build DRR and CCA capacities. Energy and infrastructure improvements, particularly those delivering clean water and sanitation, and telecommunications services will help the region.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - High

Score: 0.533 • Rank: 7/34



### RESILIENCE (R) - Very Low

Score: 0.465 • Rank: 30/34



### MULTI-HAZARD EXPOSURE (MHE) - Moderate

Score: 0.527 • Rank: 14/34



### VULNERABILITY (V) - Moderate

Score: 0.447 • Rank: 15/34



### COPING CAPACITY (CC) - Very Low

Score: 0.352 • Rank: 32/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Low

Score: 0.491 • Rank: 23/34



Population (2020 Projected)

**1,278,800**



Population in Poverty

**6.9%**



Adult Literacy Rate

**98.8%**



Access to improved water

**85.0%**



Average life expectancy

**68.2 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 14 / 34 PROVINCES  
SCORE: 0.527



MHE  
0.527

Raw MHE  
0.231

Relative MHE  
0.822

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**97%**

960,542  
\$21.5 Billion



Tsunami

**15%**

152,479  
\$4.5 Billion



Flood

**18%**

179,681  
\$4.1 Billion



Flash Flood

**6%**

62,490  
\$1.6 Billion



Landslide

**2%**

20,373  
\$336.9 Million



Volcano

**5%**

49,874  
\$727 Million



Drought

**100%**

989,100  
\$21.5 Billion



Wildfire

**11%**

104,345  
\$1.4 Billion



Extreme Weather

**88%**

869,229  
\$19.5 Billion



## VULNERABILITY (V)

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.447**

Vulnerability in Maluku Utara is primarily driven by Clean Water Access Vulnerability and Information Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.361 RANK: 18/34 PROVINCES ASSESSED**

<b>10.5%</b> Land susceptible to severe erosion	<b>8.61</b> Livestock Density (per sq km)	<b>8903</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.480 RANK: 10/34 PROVINCES ASSESSED**

<b>68.18</b> Life expectancy (years)	<b>62</b> Infant mortality rate (per 1,000 live births)	<b>176.79</b> Maternal mortality ratio	<b>11.9%</b> Children (under 5) Wasting	<b>7.1%</b> Disability	<b>5.5%</b> Unmet health care needs	<b>24.5%</b> Households with limited access to health facility
<b>0.3%</b> Households with catastrophic health expenditure	<b>8.92</b> Dengue incidence per 100,000 population	<b>0</b> Measles incidence per 100,000 population	<b>0.35</b> Malaria incidence per 100,000 population	<b>130</b> TB case notification per 100,000 population	<b>51.68</b> HIV & AIDS incidence per 100,000 population	<b>6.36</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.536 RANK: 13/34 PROVINCES ASSESSED**

<b>85.0%</b> Households with improved water	<b>72.5%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.509 RANK: 12/34 PROVINCES ASSESSED**

<b>98.8%</b> Adult literacy rate	<b>97.1%</b> Net primary school enrollment rate	<b>9</b> Average years of schooling	<b>53.6%</b> Households using internet
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### Economic Constraints

**SCORE: 0.402 RANK: 17/34 PROVINCES ASSESSED**

<b>5.0%</b> Unemployment rate	<b>56</b> Age dependency ratio	<b>6.9%</b> Poverty rate	<b>0.312</b> GINI ratio
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### Gender Inequality

**SCORE: 0.407 RANK: 28/34 PROVINCES ASSESSED**

<b>0.99</b> Female to male literacy rate	<b>0.55</b> Female to male labor ratio	<b>1.02</b> Female to male secondary school enrollment ratio	<b>20.5%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.432 RANK: 15/34 PROVINCES ASSESSED**

<b>2.3%</b> Average annual total population change	<b>2.9%</b> Average annual urban population change	<b>4.8%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 32 / 34 PROVINCES ASSESSED**  
**SCORE: 0.352**

Maluku Utara exhibits weaker Coping Capacity in the areas of Energy Capacity and Economic Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.205** **RANK: 31/34 PROVINCES ASSESSED**

<b>64.5%</b> Labor force participation	<b>2,812,682</b> Average monthly income (IDR)	<b>21.1</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.607** **RANK: 17/34 PROVINCES ASSESSED**

<b>60</b> Crime rate per 100,000 population	<b>56.1%</b> Crime clearance rate	<b>82.8%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.272** **RANK: 21/34 PROVINCES ASSESSED**

**6.9%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.272** **RANK: 32/34 PROVINCES ASSESSED**



### Health Care Capacity

**SCORE: 0.299** **RANK: 31/34 PROVINCES ASSESSED**

<b>11</b> Hospital beds per 10,000 people	<b>2.1</b> Physicians per 10,000 people	<b>17.61</b> Nurses and midwives per 10,000 people	<b>37.0%</b> Time to public hospital (over 1 hour)	<b>34.6%</b> Immunization rate (children under 5)	<b>55.8%</b> Health care accreditation rate	<b>70.1%</b> Population covered by health insurance
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### Transportation Capacity

**SCORE: 0.323** **RANK: 21/34 PROVINCES ASSESSED**

<b>0.13</b> Road and rail density	<b>37.46</b> Average distance to port or airport
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### Communications Capacity

**SCORE: 0.272** **RANK: 32/34 PROVINCES ASSESSED**

<b>53.7%</b> Mobile phone ownership	<b>0.0%</b> Households with Fixed Phones
--	---



### Energy Capacity

**SCORE: 0.193** **RANK: 31/34 PROVINCES ASSESSED**

<b>86.5%</b> Households served by state electricity	<b>0.1%</b> Percentage of total national electricity generated in province	<b>14.39</b> Electricity generation GWh per 100,000 Population	<b>1.2%</b> Households with gas for cooking
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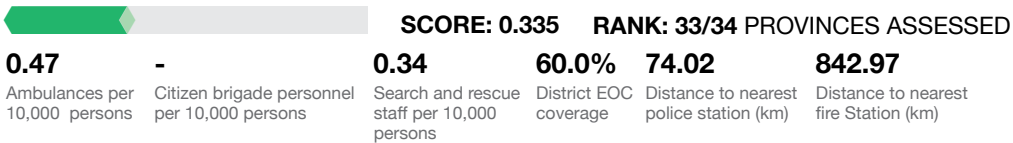
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.491**

Maluku Utara exhibits weaker Disaster Management Capabilities in the areas of Emergency Services and Mass Care Support. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



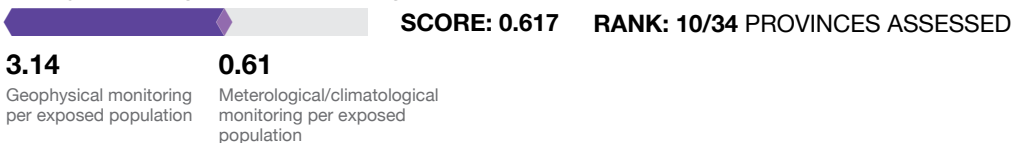
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring







## RESILIENCE (R)

**RANK: 30 / 34 PROVINCES ASSESSED**  
**SCORE: 0.465**

Maluku Utara's Very Low Resilience score and ranking are due to Moderate Vulnerability combined with Very Low Coping Capacity, and Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Clean Water  
Access  
Vulnerability**



**Information  
Access  
Vulnerability**



**Energy Capacity**



**Economic  
Capacity**



**Emergency  
Services**



**Mass Care  
Support**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.309**



**Tsunami**

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.362**



**Flood**

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.172**



**Flash Flood**

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.300**



**Landslide**

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.207**



**Volcano**

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.321**



**Drought**

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.328**



**Wildfire**

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.235**



**Extreme Weather**

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.257**





## MULTI-HAZARD RISK (MHR)

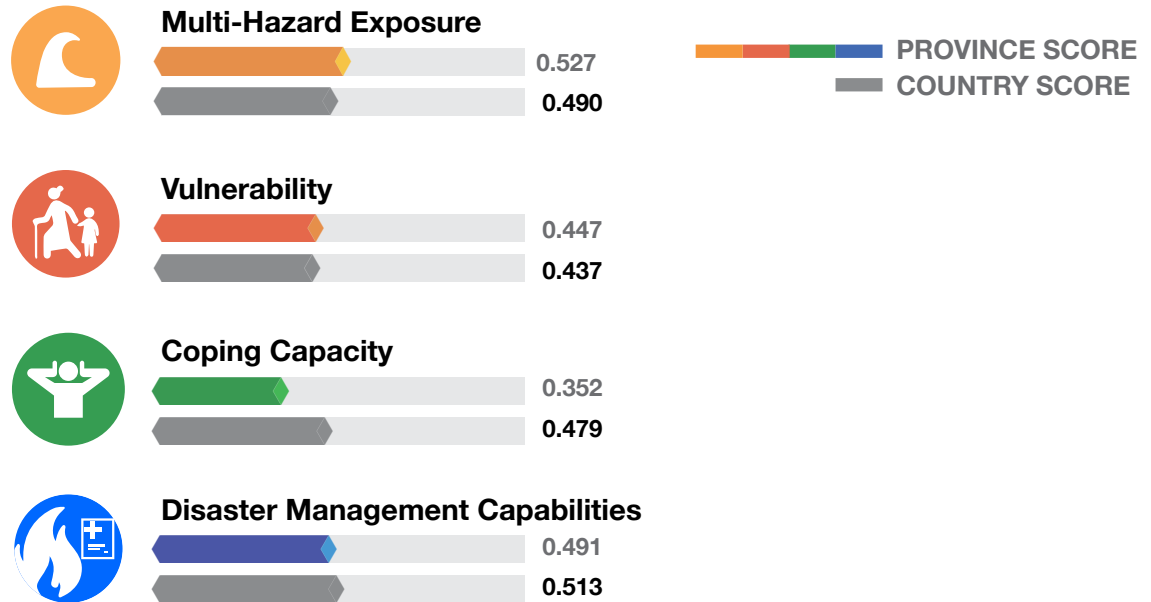
**7 / 34**

RANK WITHIN PROVINCES  
Score: 0.533



Maluku Utara's High Multi-hazard Risk score and ranking are due to Moderate Multi-hazard exposure combined with Moderate Vulnerability, Very Low Coping Capacity, and Low Disaster Management Capabilities scores.

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



# MALUKU UTARA RECOMMENDATIONS

## 1

### Clean Water Access Vulnerability

Maluku Utara ranks 13th for Clean Water Access Vulnerability, driven by the 9th lowest percentage of Households with Improved Sanitation (72.52%).

Invest in improved water and sanitation infrastructure to increase access to clean water and reduce health risks. Findings show a high rate of drought exposure in Maluku Utara. Build capacity of farmers through training and education on water conservation techniques (e.g., modern irrigation systems), drought resistant crop varieties and farming practices to reduce water stress and drought impacts on agriculture.

Maluku Utara is also at high risk of earthquakes. Incorporate risk reduction strategies into new infrastructure development to protect against hazard impacts.

## 2

### Information Access Vulnerability

Maluku Utara has the 12th highest Information Access Vulnerability, with Internet Use (53.61% of households) and Net Enrollment in Primary School (97.09%) being the greatest drivers.

Expand telecommunications infrastructure to improve overall access to information and provide additional avenues for provision of hazard alerts and warning information, especially in rural communities. Telecommunications infrastructure expansion would also benefit schools and provide teachers with opportunities to improve qualifications and skills through online learning.

# MALUKU UTARA RECOMMENDATIONS

## 3

### Energy Capacity

Maluku Utara has the 4th lowest ranking for Energy Capacity in the country. According to a Badan Pusat Statistik (BPS) National Socioeconomic Survey, 47.5% of households cook with kerosene and 48.63% cook with wood.

Expansion of energy capacity in the province would have the added benefits of boosting productive capacity of small businesses as well as bring social benefits of enhanced education support and community engagement.

## 4

### Economic Capacity

Maluku Utara has the 4th lowest overall Economic Capacity ranking in the country, with the 5th lowest Labor Force Participation rate (64.5%), and the 4th lowest GDP per Capita (21.1 million IDR). Low labor force participation rate reporting may be a result of Maluku Utara's large informal sector, as agriculture, fishing and forestry are main drivers of the economy.

Providing opportunities to expand production and marketing of goods could boost household incomes and promote economic growth. Implement programs geared toward building the entrepreneurial and technical skills of small business owners and household enterprises.

Increase access to financing and support structures (e.g. microfinance services and loans) for poor and vulnerable populations.

## MALUKU UTARA RECOMMENDATIONS

### 5

#### Emergency Services

Findings show that Maluku Utara has the 2nd lowest ranking for overall Emergency Services capabilities. The Average Distance to a Fire Station (843 km) and Average Distance to a Police Station (74 km) are the highest in the country. Access to timely services during an emergency is therefore extremely limited.

Invest in local emergency services infrastructure to include emergency operations centers, police and fire stations. Build institutional and operational capacities to effectively manage and implement emergency services within the province.

Information regarding the number of Citizen Brigade personnel was not available for Maluku Utara. Formalizing participation and training of Citizen Brigades and local organizations in disaster management activities will complement the above efforts to enhance emergency services in the province.

### 6

#### Mass Care Support

Maluku Utara's greatest mass care constraints are related to Disaster Equipment. Increasing the number of vehicles, communications equipment, sheltering and support equipment will more adequately meet the care needs of a disaster-affected population.

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# **NUSA TENGGARA BARAT**

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**NDPBA PROVINCE PROFILE**

# NUSA TENGGARA BARAT

**CAPITAL: MATARAM**

Area: 18,572 km<sup>2</sup>



Nusa Tenggara Barat (West Nusa Tenggara) lies in the western region of the Sunda archipelago and economic activities include tourism, fisheries and agriculture. Due to the

many historic occurrences of earthquakes, tsunamis and volcanism, the province has elevated levels of multi-hazard risk, exposure and vulnerability with lower levels of resilience and coping capacity. Nearly two years after the recent large Lombok earthquake, BNPB and many international partners from the IFRC, UN and other NGOs have collaborated to enhance resilience via further localization of efforts.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Very High**

Score: 0.556 • Rank: 3/34



**RESILIENCE (R) - Moderate**

Score: 0.517 • Rank: 16/34



**MULTI-HAZARD EXPOSURE (MHE) - Very High**

Score: 0.778 • Rank: 2/34



**VULNERABILITY (V) - High**

Score: 0.475 • Rank: 9/34



**COPING CAPACITY (CC) - Low**

Score: 0.436 • Rank: 24/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Very High**

Score: 0.591 • Rank: 4/34



Population (2020 Projected)

**5,125,600**



Population in Poverty

**13.9%**



Adult Literacy Rate

**87.6%**



Access to improved water

**93.9%**



Average life expectancy

**66.3 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 2 / 34 PROVINCES  
SCORE: 0.778



MHE  
0.778

Raw MHE  
0.633

Relative MHE  
0.923

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**88%**

4,312,038  
\$93.2 Billion



Tsunami

**5%**

236,820  
\$5.1 Billion



Flood

**32%**

1,557,034  
\$42.73 Billion



Flash Flood

**6%**

277,002  
\$6 Billion



Landslide

**6%**

275,869  
\$4.6 Billion



Volcano

**1%**

27,264  
\$433.8 Million



Drought

**97%**

4,753,475  
\$100.5 Billion



Wildfire

**13%**

658,490  
\$10.3 Billion



Extreme Weather

**98%**

4,781,519  
\$101.1 Billion





## VULNERABILITY (V)

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.475**

Vulnerability in Nusa Tenggara Barat is primarily driven by Information Access Vulnerability and Vulnerable Health Status. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.433 RANK: 11/34 PROVINCES ASSESSED**

<b>3.1%</b>	<b>118.59</b>	<b>7065.6</b>
Land susceptible to severe erosion	Livestock Density (per sq km)	Net Deforestation (hectares per year)



### Vulnerable Health Status

**SCORE: 0.528 RANK: 7/34 PROVINCES ASSESSED**

<b>66.28</b>	<b>57</b>	<b>127.68</b>	<b>14.4%</b>	<b>9.4%</b>	<b>7.3%</b>	<b>3.3%</b>
Life expectancy (years)	Infant mortality rate (per 1,000 live births)	Maternal mortality ratio	Children (under 5) Wasting	Disability	Unmet health care needs	Households with limited access to health facility
<b>1.0%</b>	<b>10.67</b>	<b>4.01</b>	<b>0.18</b>	<b>129</b>	<b>16.22</b>	<b>0.56</b>
Households with catastrophic health expenditure	Dengue incidence per 100,000 population	Measles incidence per 100,000 population	Malaria incidence per 100,000 population	TB case notification per 100,000 population	HIV & AIDS incidence per 100,000 population	Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.308 RANK: 26/34 PROVINCES ASSESSED**

<b>93.9%</b>	<b>80.0%</b>
Households with improved water	Households with improved sanitation



### Information Access Vulnerability

**SCORE: 0.668 RANK: 4/34 PROVINCES ASSESSED**

<b>87.6%</b>	<b>98.9%</b>	<b>7.27</b>	<b>65.3%</b>
Adult literacy rate	Net primary school enrollment rate	Average years of schooling	Households using internet



### Economic Constraints

**SCORE: 0.483 RANK: 10/34 PROVINCES ASSESSED**

<b>3.4%</b>	<b>52.2</b>	<b>13.9%</b>	<b>0.379</b>
Unemployment rate	Age dependency ratio	Poverty rate	GINI ratio



### Gender Inequality

**SCORE: 0.494 RANK: 17/34 PROVINCES ASSESSED**

<b>0.91</b>	<b>0.76</b>	<b>1</b>	<b>9.2%</b>
Female to male literacy rate	Female to male labor ratio	Female to male secondary school enrollment ratio	Percent female seats in government



### Population Pressures

**SCORE: 0.412 RANK: 20/34 PROVINCES ASSESSED**

<b>1.4%</b>	<b>3.5%</b>	<b>12.2%</b>
Average annual total population change	Average annual urban population change	Recent Net migration



## COPING CAPACITY (CC)

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.436**

Nusa Tenggara Barat exhibits weaker Coping Capacity in the areas of Economic Capacity and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.238 RANK: 28/34 PROVINCES ASSESSED**

<b>68.7%</b> Labor force participation	<b>2,339,860</b> Average monthly income (IDR)	<b>17.2</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.566 RANK: 23/34 PROVINCES ASSESSED**

<b>130</b> Crime rate per 100,000 population	<b>59.1%</b> Crime clearance rate	<b>82.9%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.386 RANK: 17/34 PROVINCES ASSESSED**

**9.6%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.520 RANK: 17/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.375 RANK: 25/34 PROVINCES ASSESSED

<b>7.1</b> Hospital beds per 10,000 people	<b>1.87</b> Physicians per 10,000 people	<b>14.05</b> Nurses and midwives per 10,000 people	<b>29.1%</b> Time to public hospital (over 1 hour)	<b>58.5%</b> Immunization rate (children under 5)	<b>78.7%</b> Health care accreditation rate	<b>66.3%</b> Population covered by health insurance
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### Transportation Capacity SCORE: 0.736 RANK: 5/34 PROVINCES ASSESSED

<b>0.82</b> Road and rail density	<b>15.82</b> Average distance to port or airport
--------------------------------------	---



### Communications Capacity SCORE: 0.454 RANK: 29/34 PROVINCES ASSESSED

<b>57.1%</b> Mobile phone ownership	<b>0.4%</b> Households with Fixed Phones
--	---



### Energy Capacity SCORE: 0.515 RANK: 16/34 PROVINCES ASSESSED

<b>99.6%</b> Households served by state electricity	<b>0.6%</b> Percentage of total national electricity generated in province	<b>31.5</b> Electricity generation GWh per 100,000 Population	<b>58.2%</b> Households with gas for cooking
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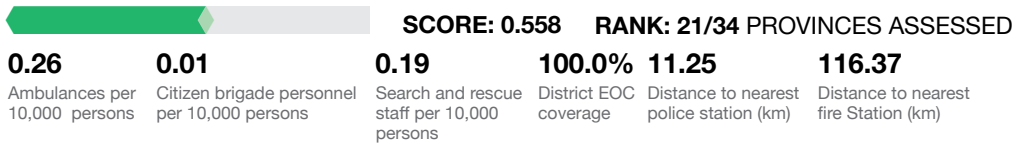
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.591**

Nusa Tenggara Barat exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



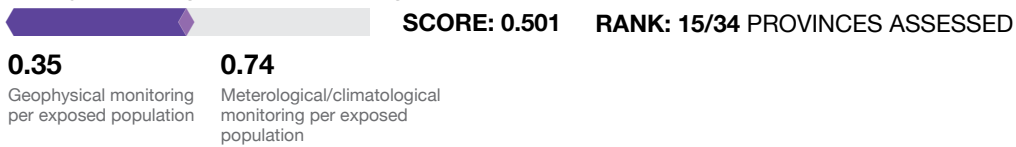
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.517**

Nusa Tenggara Barat's Moderate Resilience score and ranking are due to High Vulnerability combined with Low Coping Capacity, and Very High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Information Access Vulnerability**



**Vulnerable Health Status**



**Economic Capacity**



**Health Care Capacity**



**Early Warning and Monitoring**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.320**



**Tsunami**

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.293**



**Flood**

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.208**



**Flash Flood**

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.245**



**Landslide**

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.248**



**Volcano**

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.255**



**Drought**

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.310**



**Wildfire**

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.222**



**Extreme Weather**

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.273**



## MULTI-HAZARD RISK (MHR)

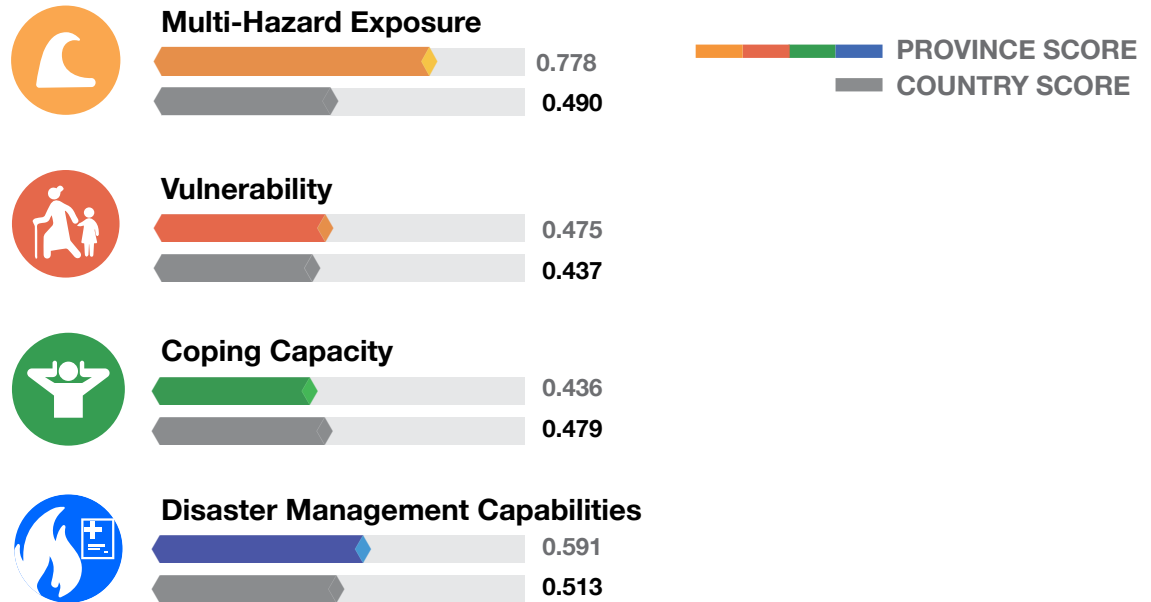
**3 / 34**

RANK WITHIN PROVINCES  
Score: 0.556



Nusa Tenggara Barat's Very High Multi-hazard Risk score and ranking are due to Very High Multi-hazard exposure combined with High Vulnerability, Low Coping Capacity, and Very High Disaster Management Capabilities scores.

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



# NUSA TENGGARA BARAT RECOMMENDATIONS

## 1

### Information Access Vulnerability

Nusa Tenggara Barat ranks 5th for overall Information Access Vulnerability, driven by the 2nd lowest Literacy Rate (87.59%), and the 2nd lowest Average Years of Schooling (7.27 years) in the country. In addition, only 65.25% of households report using the Internet.

Work with government stakeholders and I/NGO partners to implement education and outreach programs that build hazard awareness and preparedness, promote health and safety (e.g., disease prevention measures such as use of mosquito nets) and protect and conserve natural resources.

Expand telecommunications infrastructure to improve overall access to information and provide additional avenues for provision of hazard alerts and warning information, especially in rural communities. Telecommunications infrastructure expansion would also benefit schools and provide teachers with opportunities to improve qualifications and skills through online learning.

## 2

### Vulnerable Health Status

Nusa Tenggara Barat ranks 7th for overall Vulnerable Health Status, driven by the highest Percentage of Children under the Age of 5 considered to be wasting or severely wasting (14.4%), the 6th highest Infant Mortality Rate (57 per 1,000 live births), the 5th lowest Life Expectancy (66.28 years), and the 5th highest percentage of Unmet Health Care Needs (7.31%). The province has the 8th highest Malaria Incidence per 100,000 persons (0.18 cases).

Continue to engage NGOs to assist in the implementation of partnerships and programs to improve maternal, infant and child health, particularly in rural areas.

Strengthen programs focused on disease prevention and health promotion to counter preventable diseases (through vaccination or protective measures), as well as the growing number of non-communicable diseases in the country (e.g. diabetes, heart disease, etc.)

# NUSA TENGGARA BARAT RECOMMENDATIONS

## 3

### Economic Capacity

Nusa Tenggara Barat has the 7th lowest overall Economic Capacity ranking in the country, with the 2nd lowest GDP per Capita (17.2 million IDR), and the 8th lowest Average Monthly Income (2.3 million IDR).

Support programs that provide vocational and technical training to expand employment opportunities for women and youth.

Implement programs geared toward building the entrepreneurial and technical skills of small business owners and household enterprises. Increase access to financing and support structures (e.g. microfinance services and loans) for poor and vulnerable populations.

## 4

### Health Care Capacity

Nusa Tenggara Barat has the 10th lowest ranking for overall Health Care Capacity, driven by the lowest number of Hospital Beds (7.1 per 10,000 persons), and few medical personnel (1.87 Physicians per 10,000 persons, and 14.05 Nurses and Midwives per 10,000 persons).

Increase funding for personnel, medical equipment and supplies to enhance the availability of inpatient health care services.

Expand minimum health service standards to improve access to, and quality of care, with special focus on mothers, children, adolescents, elderly, and those with chronic health conditions.

# NUSA TENGGARA BARAT RECOMMENDATIONS

## 5

### Early Warning and Monitoring

Nusa Tenggara Barat ranks 15th for overall Early Warning and Monitoring capability. The province has a high rate of exposure to earthquakes, drought and extreme weather. Flooding also affects the province. Enhance multi-agency engagement to overcome telecommunications limitations and improve delivery of hazard warning information to rural communities.

## 6

### Emergency Services

Nusa Tenggara Barat ranks 21st for overall Emergency Services capabilities which could be enhanced by improving access to fire and ambulance services. Strengthening local participation in Citizen Brigades and community-based disaster preparedness activities would also boost capabilities in the province.



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# **NUSA TENGGARA TIMUR**

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**NDPBA PROVINCE PROFILE**

# NUSA TENGGARA TIMUR

## CAPITAL: KUPANG

Area: 48,718  
km<sup>2</sup>



Nusa Tenggara Timur (East Nusa Tenggara), with over 500 islands, is a predominantly Christian province and the southernmost region of Indonesia. Historically the area has

experienced heightened levels of geophysical and meteorological hazards and both coping capacity and resilience levels are not adequate to meet the elevated multi-hazard risk and vulnerability levels across this province. UNDRR standards for Multi-Hazard Early Warning (MHEWS) systems have been implemented to better prepare for and respond to the many hazards encountered in the region via coordination with BNPB and international partners.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Very High

Score: 0.555 • Rank: 5/34



### RESILIENCE (R) - Very Low

Score: 0.412 • Rank: 34/34



### MULTI-HAZARD EXPOSURE (MHE) - Low

Score: 0.453 • Rank: 20/34



### VULNERABILITY (V) - Very High

Score: 0.612 • Rank: 2/34



### COPING CAPACITY (CC) - Very Low

Score: 0.338 • Rank: 33/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Moderate

Score: 0.509 • Rank: 19/34



Population (2020 Projected)

**5,541,400**



Population in Poverty

**20.6%**



Adult Literacy Rate

**93.2%**



Access to improved water

**82.4%**



Average life expectancy

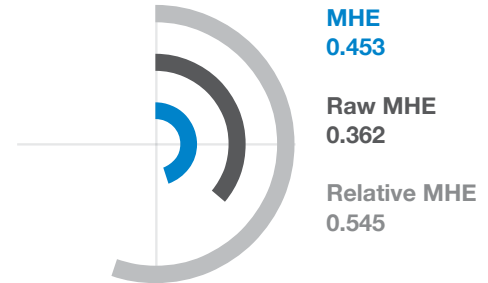
**66.9 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 20 / 34 PROVINCES  
SCORE: 0.453



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake  
**36%**  
1,903,091  
\$7.6 Billion



Tsunami  
**1%**  
76,582  
\$244 Million



Flood  
**8%**  
438,724  
\$1.93 Billion



Flash Flood  
**4%**  
228,927  
\$742.5 Million



Landslide  
**20%**  
1,050,501  
\$2.9 Billion



Volcano  
**6%**  
328,773  
\$2.6 Billion



Drought  
**84%**  
4,381,985  
\$18.1 Billion



Wildfire  
**25%**  
1,289,448  
\$3.5 Billion



Extreme Weather  
**76%**  
3,998,628  
\$19.3 Billion



## VULNERABILITY (V)

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.612**

Vulnerability in Nusa Tenggara Timur is primarily driven by Information Access Vulnerability and Clean Water Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress



**SCORE: 0.585 RANK: 4/34 PROVINCES ASSESSED**

<b>26.4%</b> Land susceptible to severe erosion	<b>96.24</b> Livestock Density (per sq km)	<b>6037.1</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status



**SCORE: 0.626 RANK: 3/34 PROVINCES ASSESSED**

<b>66.85</b> Life expectancy (years)	<b>45</b> Infant mortality rate (per 1,000 live births)	<b>339.73</b> Maternal mortality ratio	<b>12.8%</b> Children (under 5) Wasting	<b>9.6%</b> Disability	<b>8.1%</b> Unmet health care needs	<b>18.2%</b> Households with limited access to health facility
<b>0.7%</b> Households with catastrophic health expenditure	<b>24.82</b> Dengue incidence per 100,000 population	<b>1.1</b> Measles incidence per 100,000 population	<b>2.07</b> Malaria incidence per 100,000 population	<b>138</b> TB case notification per 100,000 population	<b>38.33</b> HIV & AIDS incidence per 100,000 population	<b>0.73</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability



**SCORE: 0.698 RANK: 5/34 PROVINCES ASSESSED**

<b>82.4%</b> Households with improved water	<b>64.6%</b> Households with improved sanitation
--	---



### Information Access Vulnerability



**SCORE: 0.774 RANK: 2/34 PROVINCES ASSESSED**

<b>93.2%</b> Adult literacy rate	<b>96.2%</b> Net primary school enrollment rate	<b>7.55</b> Average years of schooling	<b>49.8%</b> Households using internet
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### Economic Constraints



**SCORE: 0.647 RANK: 1/34 PROVINCES ASSESSED**

<b>3.4%</b> Unemployment rate	<b>63.4</b> Age dependency ratio	<b>20.6%</b> Poverty rate	<b>0.356</b> GINI ratio
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### Gender Inequality

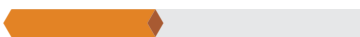


**SCORE: 0.538 RANK: 11/34 PROVINCES ASSESSED**

<b>0.97</b> Female to male literacy rate	<b>0.77</b> Female to male labor ratio	<b>1.14</b> Female to male secondary school enrollment ratio	<b>10.8%</b> Percent female seats in government
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### Population Pressures



**SCORE: 0.418 RANK: 17/34 PROVINCES ASSESSED**

<b>1.8%</b> Average annual total population change	<b>4.8%</b> Average annual urban population change	<b>0.0%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.338**

Nusa Tenggara Timur exhibits weaker Coping Capacity in the areas of Energy Capacity and Economic Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.170 RANK: 32/34 PROVINCES ASSESSED**

<b>68.5%</b> Labor force participation	<b>2,112,649</b> Average monthly income (IDR)	<b>13.6</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.556 RANK: 24/34 PROVINCES ASSESSED**

<b>118</b> Crime rate per 100,000 population	<b>70.3%</b> Crime clearance rate	<b>80.2%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.226 RANK: 24/34 PROVINCES ASSESSED**

**5.9%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.326 RANK: 30/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.376 RANK: 24/34 PROVINCES ASSESSED

<b>8.1</b> Hospital beds per 10,000 people	<b>1.82</b> Physicians per 10,000 people	<b>19.14</b> Nurses and midwives per 10,000 people	<b>33.5%</b> Time to public hospital (over 1 hour)	<b>51.6%</b> Immunization rate (children under 5)	<b>71.5%</b> Health care accreditation rate	<b>67.1%</b> Population covered by health insurance
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### Transportation Capacity SCORE: 0.542 RANK: 10/34 PROVINCES ASSESSED

<b>0.51</b> Road and rail density	<b>29.13</b> Average distance to port or airport
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### Communications Capacity SCORE: 0.313 RANK: 31/34 PROVINCES ASSESSED

<b>45.0%</b> Mobile phone ownership	<b>0.5%</b> Households with Fixed Phones
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### Energy Capacity SCORE: 0.072 RANK: 34/34 PROVINCES ASSESSED

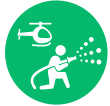
<b>70.1%</b> Households served by state electricity	<b>0.2%</b> Percentage of total national electricity generated in province	<b>11.81</b> Electricity generation GWh per 100,000 Population	<b>1.2%</b> Households with gas for cooking
--	---	---	--



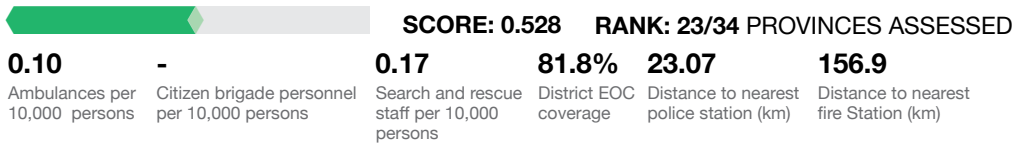
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.509**

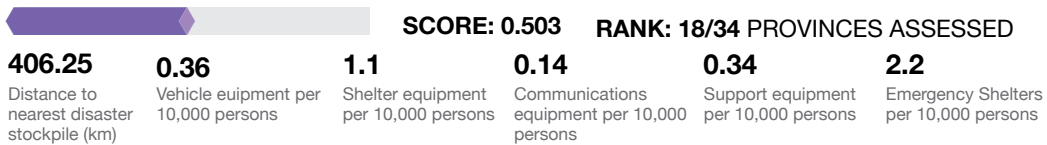
Nusa Tenggara Timur exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Mass Care Support. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



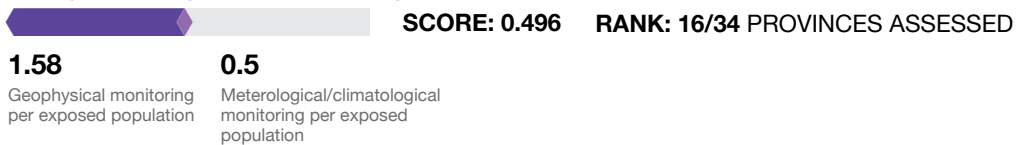
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring







## RESILIENCE (R)

**RANK: 34 / 34 PROVINCES ASSESSED**  
**SCORE: 0.412**

Nusa Tenggara Timur’s Very Low Resilience score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity, and Moderate Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Information Access Vulnerability**



**Clean Water Access Vulnerability**



**Energy Capacity**



**Economic Capacity**



**Early Warning and Monitoring**



**Mass Care Support**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.250**



**Tsunami**

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.248**



**Flood**

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.179**



**Flash Flood**

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.291**



**Landslide**

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.404**



**Volcano**

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.416**



**Drought**

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.368**



**Wildfire**

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.350**



**Extreme Weather**

**RANK: 13 / 34 PROVINCES ASSESSED**  
**SCORE: 0.278**





## MULTI-HAZARD RISK (MHR)

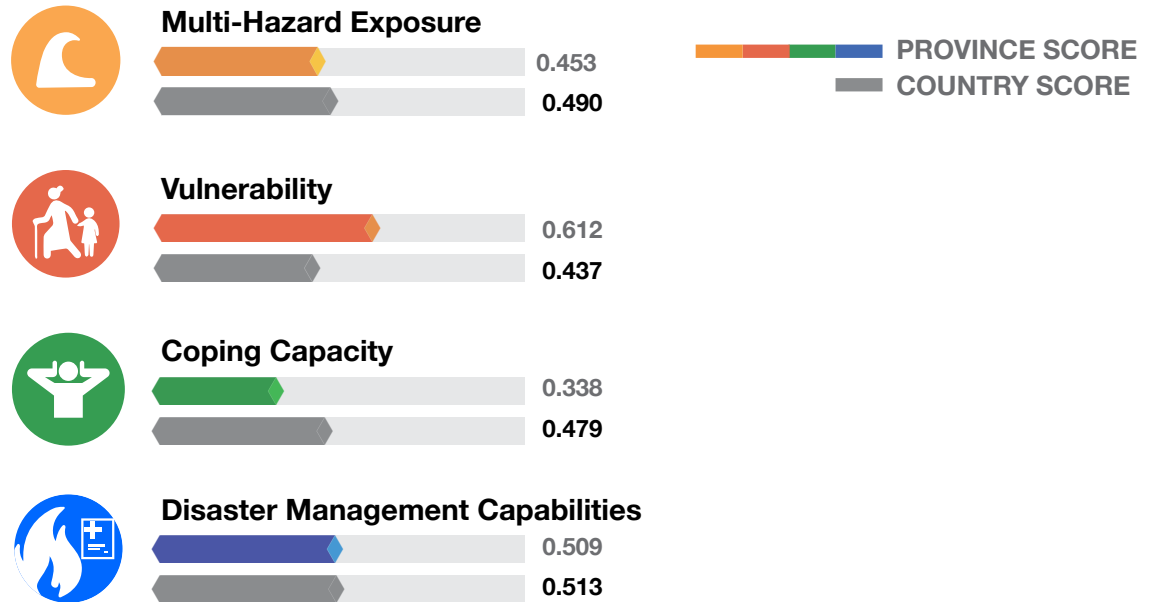
**5 / 34**

RANK WITHIN PROVINCES  
Score: 0.555



Nusa Tenggara Timur's Very High Multi-hazard Risk score and ranking are due to Low Multi-hazard exposure combined with Very High Vulnerability, Very Low Coping Capacity, and Moderate Disaster Management Capabilities scores.

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



# NUSA TENGGARA TIMUR RECOMMENDATIONS

## 1

### Information Access Vulnerability

Nusa Tenggara Timur has the 2nd highest Information Access Vulnerability in the country with the lowest Internet Use (49.83% of households). The province has the 6th lowest ranking for both Adult Literacy and Average Years of Schooling, and ranks 7th lowest for Net Primary School Enrollment.

Expand telecommunications infrastructure in the province to improve overall access to information and provide additional avenues for provision of hazard alerts and warning information, especially in rural communities. Telecommunications infrastructure expansion would also benefit schools and provide teachers with opportunities to improve qualifications and skills through online learning.

## 2

### Clean Water Access Vulnerability

Findings show that Nusa Tenggara Timur has the 5th highest Clean Water Access Vulnerability, with the 3rd lowest percentage of Households with Improved Sanitation (64.55%) and the 13th lowest percentage of Households with Improved Water (82.35%).

Invest in improved water and sanitation infrastructure to increase access to clean water and reduce health risks.

Findings show a high rate of exposure to drought and extreme weather in Nusa Tenggara Timur. Invest in infrastructure to promote water conservation and support farmers through training and education on drought resistant crop varieties and farming practices to reduce water stress and drought impacts.

# NUSA TENGGARA TIMUR RECOMMENDATIONS

## 3

### Energy Capacity

Findings show that Nusa Tenggara Timur has the lowest ranking for Energy Capacity, with the 2nd lowest number of households served by the state electricity company (70.07%) and the 2nd lowest percentage of households (1.2%) using gas for cooking purposes. According to a Badan Pusat Statistik (BPS) National Socioeconomic Survey, 26.98% of households in the province cook with kerosene and 70.94% cook with wood.

Expansion of energy capacity in the province would have the added benefits of boosting productive capacity of small businesses as well as bring social benefits of enhanced education support and community engagement.

## 4

### Economic Capacity

Nusa Tenggara Timur has the 3rd lowest overall Economic Capacity ranking in the country, with the lowest GDP per Capita (13.6 million IDR), and the lowest Average Monthly Income (2.1 million IDR). The province also has the highest ranking in the country for Economic Constraints, driven by the highest Age Dependency score and the third highest poverty score.

Given the prevalence of poverty in the province and reduced economic capacity, pursue long-term economic plans and programs that both promote social benefits for elderly, low income, and single-parent households, and allocate the revenue required to balance the costs of these benefits.

Increase access to financing and support structures (e.g. microfinance services and loans) for poor and vulnerable populations.

# NUSA TENGGARA TIMUR RECOMMENDATIONS

## 5

### Early Warning and Monitoring

Findings show that Nusa Tenggara Timur ranks 16th for Early Warning and Monitoring. Enhanced monitoring and forecasting of meteorological and climate-related hazards will assist farmers in anticipating hazard impacts on crops and expand reach to remote communities.

## 6

### Mass Care Support

Nusa Tenggara Timur ranks 18th for Mass Care Support. The Average Distance to a Disaster Stockpile is over 406 km away, and the capacity of Emergency Shelters (2.2 per 10,000 persons) is limited.

Nusa Tenggara Timur's large proportion of dependent populations will require targeted logistical planning to ensure the requirements of the very young and elderly are met.

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**INDONESIA**

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**PAPUA**

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**NDPBA PROVINCE PROFILE**



# PAPUA

## CAPITAL: JAYAPURA

Area: 319,036 km<sup>2</sup>



Papua, with the highest mountains in SE Asia, is the largest and easternmost province of Indonesia and has a special autonomous status. Along with Dutch and Japanese occupations, this expansive region with vast natural resources has also grappled with hazards such as earthquakes and challenges in public health capacity building efforts to help increase life expectancy and decrease infant mortality, maternal mortality and malnutrition. With low levels of disaster management capabilities to address high levels of vulnerability and exposure, advances in information access, clean water, energy and communications infrastructure will help ameliorate these challenges in the future.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Very High

Score: 0.556 • Rank: 4/34



### RESILIENCE (R) - Very Low

Score: 0.457 • Rank: 31/34



### MULTI-HAZARD EXPOSURE (MHE) - High

Score: 0.593 • Rank: 10/34



### VULNERABILITY (V) - Very High

Score: 0.641 • Rank: 1/34



### COPING CAPACITY (CC) - Very High

Score: 0.594 • Rank: 3/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Very Low

Score: 0.417 • Rank: 31/34



Population (2020 Projected)

**3,435,400**



Population in Poverty

**26.6%**



Adult Literacy Rate

**78.0%**



Access to improved water

**60.9%**



Average life expectancy

**65.7 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 10 / 34 PROVINCES  
SCORE: 0.593



MHE  
0.593

Raw MHE  
0.503

Relative MHE  
0.684

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**78%**

**2,447,159**  
**\$70.5 Billion**



Tsunami

**4%**

**120,087**  
**\$5.3 Billion**



Flood

**28%**

**877,142**  
**\$24.71 Billion**



Flash Flood

**2%**

**66,110**  
**\$1.6 Billion**



Landslide

**48%**

**1,496,617**  
**\$39.4 Billion**



Volcano

**0%**

**-**  
**-**



Drought

**13%**

**406,603**  
**\$12.4 Billion**



Wildfire

**52%**

**1,646,252**  
**\$40.5 Billion**



Extreme Weather

**64%**

**1,994,847**  
**\$61.5 Billion**





## VULNERABILITY (V)

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.641**

Vulnerability in Papua is primarily driven by Information Access Vulnerability and Clean Water Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.349 RANK: 22/34 PROVINCES ASSESSED**

<b>0.6%</b> Land susceptible to severe erosion	<b>2.86</b> Livestock Density (per sq km)	<b>32846.1</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.534 RANK: 6/34 PROVINCES ASSESSED**

<b>65.65</b> Life expectancy (years)	<b>54</b> Infant mortality rate (per 1,000 live births)	<b>220.09</b> Maternal mortality ratio	<b>10.3%</b> Children (under 5) Wasting	<b>8.6%</b> Disability	<b>3.0%</b> Unmet health care needs	<b>40.7%</b> Households with limited access to health facility
<b>0.3%</b> Households with catastrophic health expenditure	<b>5.81</b> Dengue incidence per 100,000 population	<b>11.77</b> Measles incidence per 100,000 population	<b>50.62</b> Malaria incidence per 100,000 population	<b>347</b> TB case notification per 100,000 population	<b>678.34</b> HIV & AIDS incidence per 100,000 population	<b>4.51</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.962 RANK: 1/34 PROVINCES ASSESSED**

<b>60.9%</b> Households with improved water	<b>38.3%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 1.000 RANK: 1/34 PROVINCES ASSESSED**

<b>78.0%</b> Adult literacy rate	<b>79.2%</b> Net primary school enrollment rate	<b>6.65</b> Average years of schooling	<b>31.3%</b> Households using internet
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### Economic Constraints

**SCORE: 0.554 RANK: 5/34 PROVINCES ASSESSED**

<b>3.7%</b> Unemployment rate	<b>43.7</b> Age dependency ratio	<b>26.6%</b> Poverty rate	<b>0.394</b> GINI ratio
----------------------------------	-------------------------------------	------------------------------	----------------------------



### Gender Inequality

**SCORE: 0.579 RANK: 6/34 PROVINCES ASSESSED**

<b>0.89</b> Female to male literacy rate	<b>0.69</b> Female to male labor ratio	<b>0.95</b> Female to male secondary school enrollment ratio	<b>16.4%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.507 RANK: 10/34 PROVINCES ASSESSED**

<b>2.0%</b> Average annual total population change	<b>4.4%</b> Average annual urban population change	<b>4.3%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.594**

Papua exhibits weaker Coping Capacity in the areas of Energy Capacity and Communications Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.741 RANK: 1/34 PROVINCES ASSESSED**

**76.9%** Labor force participation  
**4,000,706** Average monthly income (IDR)  
**39.8** GDP per capita (Million IDR)



### Governance

**SCORE: 0.697 RANK: 5/34 PROVINCES ASSESSED**

**224** Crime rate per 100,000 population  
**62.4%** Crime clearance rate  
**95.8%** Voter participation



### Environmental Capacity

**SCORE: 0.917 RANK: 2/34 PROVINCES ASSESSED**

**22.1%** Protected area



### Infrastructure Capacity

**SCORE: 0.235 RANK: 33/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.265 RANK: 32/34 PROVINCES ASSESSED

**12.4** Hospital beds per 10,000 people  
**2.18** Physicians per 10,000 people  
**12.74** Nurses and midwives per 10,000 people  
**37.2%** Time to public hospital (over 1 hour)  
**31.1%** Immunization rate (children under 5)  
**20.8%** Health care accreditation rate  
**91.0%** Population covered by health insurance



### Transportation Capacity SCORE: 0.322 RANK: 22/34 PROVINCES ASSESSED

**0.04** Road and rail density  
**30.04** Average distance to port or airport



### Communications Capacity SCORE: 0.241 RANK: 33/34 PROVINCES ASSESSED

**38.5%** Mobile phone ownership  
**0.5%** Households with Fixed Phones



### Energy Capacity SCORE: 0.114 RANK: 33/34 PROVINCES ASSESSED

**44.5%** Households served by state electricity  
**0.4%** Percentage of total national electricity generated in province  
**34.3** Electricity generation GWh per 100,000 Population  
**1.4%** Households with gas for cooking



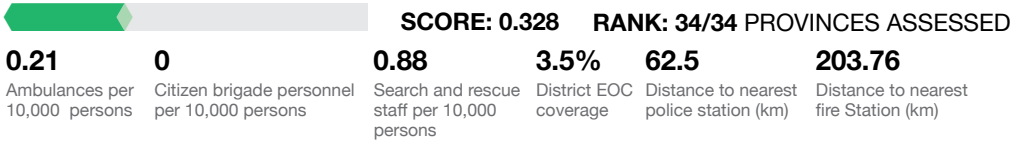
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.417**

Papua exhibits weaker Disaster Management Capabilities in the areas of Emergency Services and Early Warning and Monitoring. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



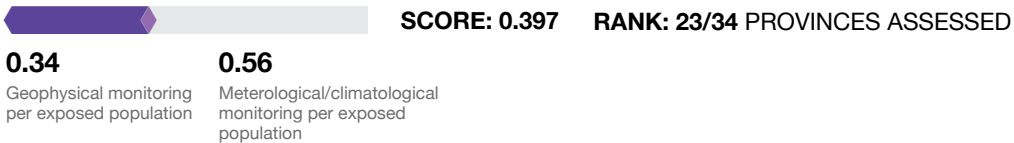
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.457**

Papua's Very Low Resilience score and ranking are due to Very High Vulnerability combined with Very High Coping Capacity, and Very Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Information Access Vulnerability**



**Clean Water Access Vulnerability**



**Energy Capacity**



**Communications Capacity**



**Emergency Services**



**Early Warning and Monitoring**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.331**



**Tsunami**

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.32**



**Flood**

**RANK: 13 / 34 PROVINCES ASSESSED**  
**SCORE: 0.229**



**Flash Flood**

**RANK: 13 / 34 PROVINCES ASSESSED**  
**SCORE: 0.217**



**Landslide**

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.408**



**Volcano**

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.162**



**Drought**

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.190**



**Wildfire**

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.387**



**Extreme Weather**

**RANK: 32 / 34 PROVINCES ASSESSED**  
**SCORE: 0.187**



## MULTI-HAZARD RISK (MHR)

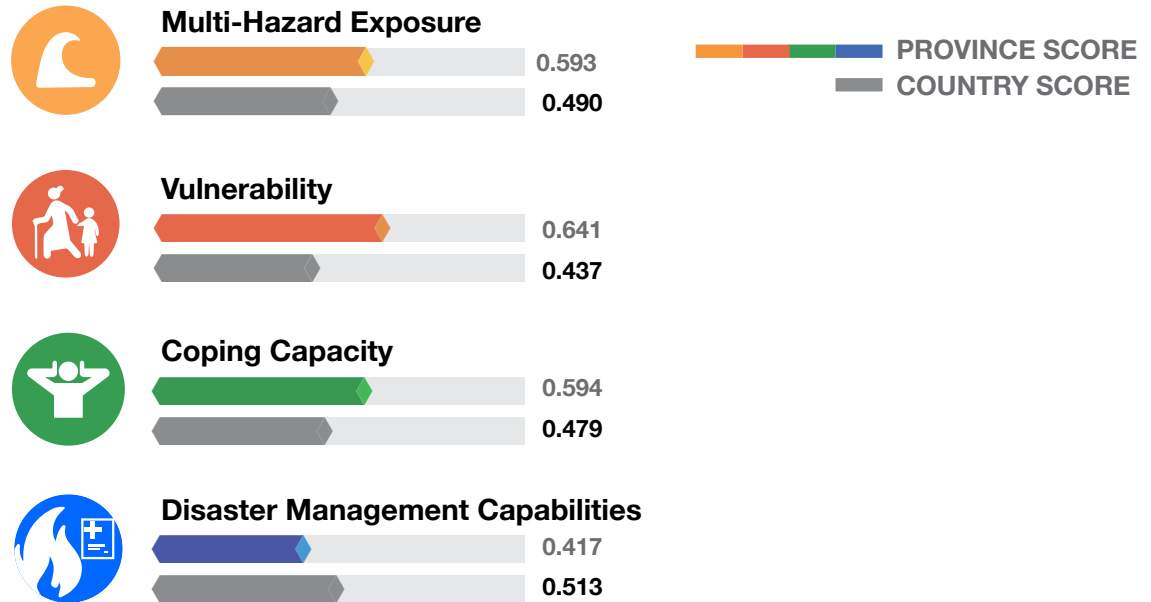
**4 / 34**

RANK WITHIN PROVINCES  
Score: 0.556



Papua's Very High Multi-hazard Risk score and ranking are due to High Multi-hazard exposure combined with Very High Vulnerability, Very High Coping Capacity, and Very Low Disaster Management Capabilities scores.

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



# PAPUA RECOMMENDATIONS

## 1

### Information Access Vulnerability

Papua has the highest overall Information Access Vulnerability in the country, driven by the lowest Adult Literacy Rate, the lowest Enrollment in Primary School, the lowest Average Years of Schooling, and the lowest Internet Usage.

Enhance partnership engagements with I/NGOs and stakeholders to implement programs focused on overcoming challenges in education access, service delivery and improving learning outcomes among students.

Invest in telecommunications infrastructure to improve connectivity and access to hazard alerts and warning information while simultaneously expanding implementation of education and outreach programs to improve community preparedness, health and safety.

## 2

### Clean Water Access Vulnerability

Papua has the highest ranking for Clean Water Access Vulnerability in Indonesia. Findings show 60.85% of households have Access to Improved Water, with only 38.27% of households having Access to Improved Sanitation. Invest in infrastructure to improve access to clean water and provide sanitation services to reduce health risks.

Findings show that Papua is susceptible to flooding and landslides. Implement community education programs to protect water sources from these hazards as well as contaminants resulting from sediment and poor sanitation practices.

## PAPUA RECOMMENDATIONS

### 3

#### Energy Capacity

---

Findings show that Papua has the 2nd lowest ranking for Energy Capacity, with the lowest number of households served by the state electricity company (44.49%). Access to gas fuel is also limited in Papua with only 1.39% using gas for cooking purposes.

Strengthen public-private partnerships to improve energy development and service delivery in Papua. Increasing access to energy sources has the potential to improve quality of life, support economic activities and enhance social welfare by increasing access to education and community services.

Due to Papua's considerable exposure to earthquakes, landslides and wildfires, implement risk reduction measures for infrastructure expansion projects to minimize damage and losses and maintain a high level of service.

### 4

#### Communications Capacity

---

Papua has the 2nd lowest Communications Capacity ranking in Indonesia, with the lowest percentage of Mobile Phone Ownership (38.5%) and the 7th lowest percentage of Households with Fixed Phones. Limited communications capacity can present challenges during emergencies and for hazard early warning that requires immediate or life-saving action such as evacuation or rescue.

Invest in improvements to telecommunications infrastructure to expand coverage and service delivery to rural populations.

## PAPUA RECOMMENDATIONS

### 5

#### Emergency Services

Papua has the lowest overall Emergency Services capabilities ranking in the country. Remoteness is a contributor. Only 3.45% of districts in the province have Emergency Operations Centers. The Average Distance to a Fire Station is over 203 km away, and Average Distance to a Police Station is 62.5 km away. Thus, response times during an emergency will be slow, reducing the population's reliance on important services.

Invest in local emergency management and emergency service infrastructure to include emergency operations centers, police and fire stations, and ambulance services.

Build institutional capacities at district levels to financially support and manage emergency service operations. Develop community-based education and outreach programs and citizen brigades to increase hazard awareness and preparedness and strengthen response capabilities.

### 6

#### Early Warning and Monitoring

Papua ranks 23rd for Early Warning and Monitoring capabilities based on density of monitoring station and hazard type. Given Papua's communications infrastructure limitations, delays in receiving and disseminating warning information is likely. Work with stakeholders and available media sources to optimize distribution of hazard warning messages within existing constraints. As improvements to infrastructure advance, continue partnership engagement to maximize reach and effectiveness of hazard alerting.



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**INDONESIA**

# **PAPUA BARAT**

**NDPBA PROVINCE PROFILE**

# PAPUA BARAT

**CAPITAL: MANOKWARI**

Area: 102,955 km<sup>2</sup>



Papua Barat (West Papua) is one of the newest administrative regions in Indonesia (1999) and due to transmigration policies in recent decades has seen a significant

increase in population. Historical hazards have included recent earthquakes and resultant tsunamis and the province has both low resilience levels and coping capacity in the face of very high vulnerability levels. Multiple international organizations have worked in the region to help further DRR and CCA efforts and enhancements in information access, transportation and energy capacity will be important in the coming decades.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Low**

Score: 0.479 • Rank: 21/34



**RESILIENCE (R) - Low**

Score: 0.479 • Rank: 27/34



**MULTI-HAZARD EXPOSURE (MHE) - Low**

Score: 0.352 • Rank: 26/34



**VULNERABILITY (V) - Very High**

Score: 0.560 • Rank: 3/34



**COPING CAPACITY (CC) - Low**

Score: 0.450 • Rank: 22/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - High**

Score: 0.547 • Rank: 11/34



Population (2020 Projected)

**981,800**



Population in Poverty

**21.5%**



Adult Literacy Rate

**97.7%**



Access to improved water

**81.9%**



Average life expectancy

**65.9 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 26 / 34 PROVINCES  
SCORE: 0.352



MHE  
0.352

Raw MHE  
0.128

Relative MHE  
0.576

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**62%**

524,723  
\$11.3 Billion



Tsunami

**7%**

55,435  
\$1.3 Billion



Flood

**26%**

221,982  
\$3.86 Billion



Flash Flood

**3%**

23,549  
\$538.2 Million



Landslide

**20%**

168,018  
\$3.4 Billion



Volcano

**0%**

-  
-



Drought

**55%**

458,382  
\$8.9 Billion



Wildfire

**35%**

293,610  
\$4.1 Billion



Extreme Weather

**53%**

444,119  
\$9.4 Billion



## VULNERABILITY (V)

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.560**

Vulnerability in Papua Barat is primarily driven by Population Pressures and Information Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.039 RANK: 34/34 PROVINCES ASSESSED**

<b>4.6%</b> Land susceptible to severe erosion	<b>1.57</b> Livestock Density (per sq km)	<b>-1683.8</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.619 RANK: 4/34 PROVINCES ASSESSED**

<b>65.9</b> Life expectancy (years)	<b>74</b> Infant mortality rate (per 1,000 live births)	<b>280.36</b> Maternal mortality ratio	<b>12.2%</b> Children (under 5) Wasting	<b>7.3%</b> Disability	<b>4.3%</b> Unmet health care needs	<b>29.3%</b> Households with limited access to health facility
<b>0.7%</b> Households with catastrophic health expenditure	<b>24.32</b> Dengue incidence per 100,000 population	<b>0.21</b> Measles incidence per 100,000 population	<b>6.02</b> Malaria incidence per 100,000 population	<b>245</b> TB case notification per 100,000 population	<b>185.71</b> HIV & AIDS incidence per 100,000 population	<b>9.28</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.511 RANK: 15/34 PROVINCES ASSESSED**

<b>81.9%</b> Households with improved water	<b>76.4%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.664 RANK: 6/34 PROVINCES ASSESSED**

<b>97.7%</b> Adult literacy rate	<b>93.8%</b> Net primary school enrollment rate	<b>7.44</b> Average years of schooling	<b>66.6%</b> Households using internet
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### Economic Constraints

**SCORE: 0.624 RANK: 3/34 PROVINCES ASSESSED**

<b>6.2%</b> Unemployment rate	<b>47.1</b> Age dependency ratio	<b>21.5%</b> Poverty rate	<b>0.386</b> GINI ratio
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### Gender Inequality

**SCORE: 0.618 RANK: 3/34 PROVINCES ASSESSED**

<b>0.98</b> Female to male literacy rate	<b>0.56</b> Female to male labor ratio	<b>1.06</b> Female to male secondary school enrollment ratio	<b>5.4%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.848 RANK: 1/34 PROVINCES ASSESSED**

<b>2.8%</b> Average annual total population change	<b>5.0%</b> Average annual urban population change	<b>45.6%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.450**

Papua Barat exhibits weaker Coping Capacity in the areas of Energy Capacity and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.552 RANK: 6/34 PROVINCES ASSESSED**

<b>68.3%</b> Labor force participation	<b>3,364,838</b> Average monthly income (IDR)	<b>68.5</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.321 RANK: 31/34 PROVINCES ASSESSED**

<b>380</b> Crime rate per 100,000 population	<b>27.5%</b> Crime clearance rate	<b>87.6%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.741 RANK: 4/34 PROVINCES ASSESSED**

**18.0%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.381 RANK: 28/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.466 RANK: 18/34 PROVINCES ASSESSED

<b>13.8</b> Hospital beds per 10,000 people	<b>3.92</b> Physicians per 10,000 people	<b>22.09</b> Nurses and midwives per 10,000 people	<b>14.6%</b> Time to public hospital (over 1 hour)	<b>41.1%</b> Immunization rate (children under 5)	<b>36.2%</b> Health care accreditation rate	<b>77.1%</b> Population covered by health insurance
--	---	---	---	--	--	--



### Transportation Capacity SCORE: 0.249 RANK: 30/34 PROVINCES ASSESSED

<b>0.07</b> Road and rail density	<b>41</b> Average distance to port or airport
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### Communications Capacity SCORE: 0.618 RANK: 18/34 PROVINCES ASSESSED

<b>66.5%</b> Mobile phone ownership	<b>0.7%</b> Households with Fixed Phones
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### Energy Capacity SCORE: 0.192 RANK: 32/34 PROVINCES ASSESSED

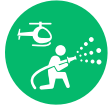
<b>81.3%</b> Households served by state electricity	<b>0.1%</b> Percentage of total national electricity generated in province	<b>34.28</b> Electricity generation GWh per 100,000 Population	<b>4.3%</b> Households with gas for cooking
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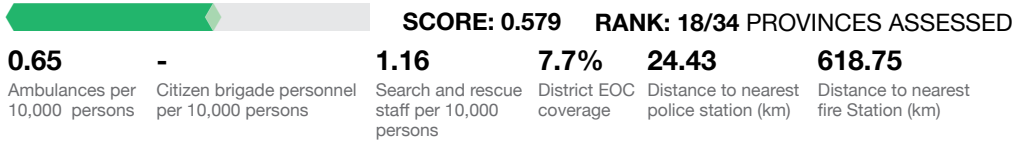
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.547**

Papua Barat exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Early Warning and Monitoring. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



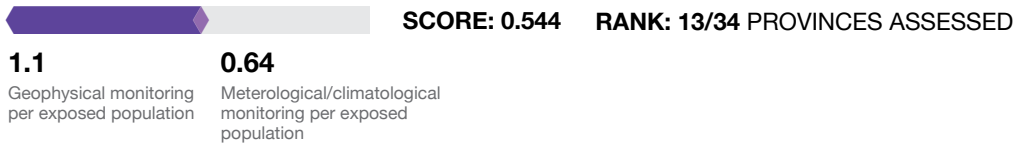
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.479**

Papua Barat's Low Resilience score and ranking are due to Very High Vulnerability combined with Low Coping Capacity, and High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Population Pressures**



**Information Access Vulnerability**



**Energy Capacity**



**Transportation Capacity**



**Mass Care Support**



**Early Warning and Monitoring**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.252**



**Tsunami**

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.279**



**Flood**

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.167**



**Flash Flood**

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.204**



**Landslide**

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.335**



**Volcano**

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.131**



**Drought**

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.227**



**Wildfire**

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.283**



**Extreme Weather**

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.125**





## MULTI-HAZARD RISK (MHR)

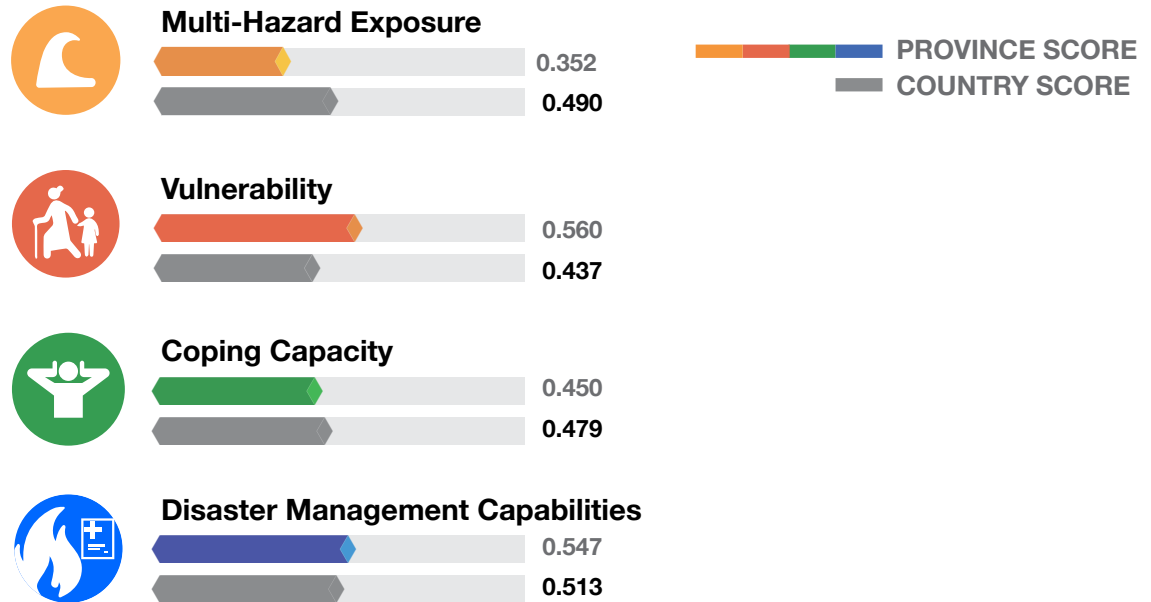
**21 / 34**

RANK WITHIN PROVINCES  
Score: 0.479



Papua Barat's Low Multi-hazard Risk score and ranking are due to Low Multi-hazard exposure combined with Very High Vulnerability, Low Coping Capacity, and High Disaster Management Capabilities scores.

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



# PAPUA BARAT RECOMMENDATIONS

# 1

## Population Pressures

Papua Barat has the highest ranking for Population Pressures in Indonesia based on the 2nd highest ranking for Net Recent Migration (45.57) and the 3rd highest ranking for both Average Population Change (2.83%) and Urban Population Change (4.97%). Significant changes in population in Papua Barat are a result of the transmigration program, initiated by the Dutch colonial government and later continued by the government of Indonesia until 2015. The program has been the source of internal conflict between indigenous peoples and migrants from other parts of Indonesia.

Rapid changes in population without adequate infrastructure, services and employment opportunities can contribute to negative outcomes and increased vulnerability. Findings show that Papua Barat has the 6th highest unemployment score in the country, and nearly 22% of the population lives in poverty.

# 2

## Information Access Vulnerability

Papua Barat has the 6th highest Information Access Vulnerability, driven by the 4th lowest Net Enrollment in Primary School (0.93%) and the 4th lowest Average Years of Schooling (7.44 years).

Improve physical access to education, especially in rural areas through infrastructure improvements (e.g., roads, electricity and telecommunication services).

Reduce absenteeism and strengthen accountability of teachers through increased community participation engaging parents, teachers and school administrators. Provide financial or infrastructure incentives (e.g., housing) for teachers in rural areas to encourage more equitable learning opportunities.

## PAPUA BARAT RECOMMENDATIONS

### 3

#### Energy Capacity

Papua Barat has the 3rd lowest Energy Capacity ranking with the 3rd lowest percentage of households served by the state electricity company (81.33%) and the 5th lowest percentage of households using gas as cooking fuel (4.32%).

Strengthen public-private partnerships to improve energy development and service delivery in Papua Barat to improve quality of life, support economic activities and enhance social welfare by increasing access to education and community services.

Findings show that Papua Barat has a high rate of exposure to earthquakes. As improvements to energy infrastructure take place, implement risk reduction measures to minimize potential damage and losses.

### 4

#### Transportation Capacity

Findings show that Papua Barat has the 5th lowest ranking for Transportation Capacity in the country. Cultivate public-private partnerships to invest in transportation infrastructure expansion to improve connectivity between seaports and land-based infrastructure.

In urban areas, consider options for mass transit/public transport systems to augment transportation needs, reduce congestion and lessen environment impacts (e.g., air pollution).

---

# PAPUA BARAT RECOMMENDATIONS

## 5

### Mass Care Support

Mass Care Support in Papua Barat could be improved through increased numbers of Disaster Equipment such as vehicles and communications and shelter equipment. Disaster Stockpiles are on average, a distance of over 300 km away.

Strengthen logistical planning to accommodate the care needs of a disaster affected population.

## 6

### Early Warning and Monitoring

Papua Barat ranks 13th for Early Warning and Monitoring capabilities. Strengthen community education and outreach programs with a focus on disaster preparedness, health and safety to build community resilience.

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**INDONESIA**

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**RIAU**

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**NDPBA PROVINCE PROFILE**

# RIAU

## CAPITAL: PEKANBARU

Area: 87,024 km<sup>2</sup>



Riau has suffered large scale deforestation and fires in recent years and has a dynamic economy based on extractive industries such as mining, petroleum, natural gas and palm oil plantations. Along with the public health consequences of large scale fires, extreme weather and flooding routinely impact the region, which has moderate levels of coping capacity and resilience. Efforts to reduce population pressures and gender inequalities and enhance transportation and health care capacities are needed to reduce overall risk and strengthen resilience in the region.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Moderate

Score: 0.497 · Rank: 16/34



### RESILIENCE (R) - Moderate

Score: 0.510 · Rank: 19/34



### MULTI-HAZARD EXPOSURE (MHE) - Moderate

Score: 0.520 · Rank: 15/34



### VULNERABILITY (V) - Low

Score: 0.413 · Rank: 21/34



### COPING CAPACITY (CC) - Moderate

Score: 0.479 · Rank: 18/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Low

Score: 0.466 · Rank: 26/34



Population (2020 Projected)

**7,128,300**



Population in Poverty

**6.9%**



Adult Literacy Rate

**99.2%**



Access to improved water

**87.4%**



Average life expectancy

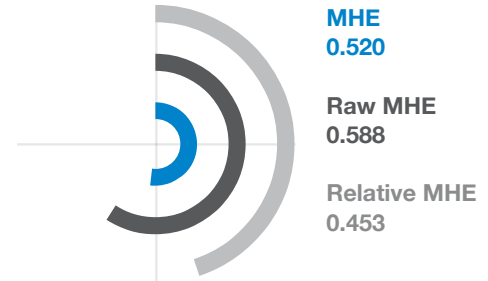
**71.5 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 15 / 34 PROVINCES  
SCORE: 0.520



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**14%**

953,634

\$14.4 Billion



Tsunami

**0%**

-

-



Flood

**51%**

3,368,466

\$64.11 Billion



Flash Flood

**1%**

95,493

\$1.4 Billion



Landslide

**<1%**

32,294

\$377.6 Million



Volcano

**0%**

-

-



Drought

**34%**

2,255,958

\$53.1 Billion



Wildfire

**39%**

2,568,135

\$40.9 Billion



Extreme Weather

**94%**

6,216,814

\$122 Billion





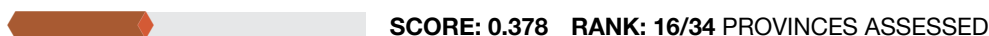
## VULNERABILITY (V)

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.413**

Vulnerability in Riau is primarily driven by Population Pressures and Gender Inequality. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



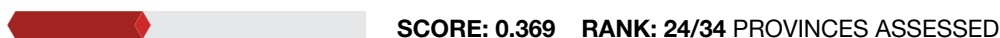
### Environmental Stress



<b>6.2%</b>	<b>5.48</b>	<b>23672.3</b>
Land susceptible to severe erosion	Livestock Density (per sq km)	Net Deforestation (hectares per year)



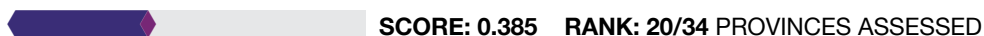
### Vulnerable Health Status



<b>71.48</b>	<b>24</b>	<b>115.18</b>	<b>12.2%</b>	<b>8.1%</b>	<b>6.1%</b>	<b>11.8%</b>
Life expectancy (years)	Infant mortality rate (per 1,000 live births)	Maternal mortality ratio	Children (under 5) Wasting	Disability	Unmet health care needs	Households with limited access to health facility
<b>1.4%</b>	<b>13.47</b>	<b>2.35</b>	<b>0.02</b>	<b>197</b>	<b>36.24</b>	<b>0.24</b>
Households with catastrophic health expenditure	Dengue incidence per 100,000 population	Measles incidence per 100,000 population	Malaria incidence per 100,000 population	TB case notification per 100,000 population	HIV & AIDS incidence per 100,000 population	Prevalence of Leprosy per 10,000 population



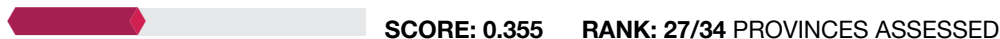
### Clean Water Vulnerability



<b>87.4%</b>	<b>80.0%</b>
Households with improved water	Households with improved sanitation



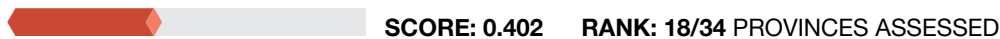
### Information Access Vulnerability



<b>99.2%</b>	<b>97.3%</b>	<b>9.03</b>	<b>76.0%</b>
Adult literacy rate	Net primary school enrollment rate	Average years of schooling	Households using internet



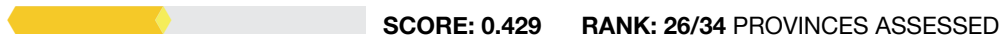
### Economic Constraints



<b>6.0%</b>	<b>49.7</b>	<b>6.9%</b>	<b>0.334</b>
Unemployment rate	Age dependency ratio	Poverty rate	GINI ratio



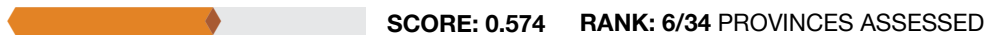
### Gender Inequality



<b>0.99</b>	<b>0.51</b>	<b>1.07</b>	<b>28.1%</b>
Female to male literacy rate	Female to male labor ratio	Female to male secondary school enrollment ratio	Percent female seats in government



### Population Pressures



<b>2.8%</b>	<b>3.1%</b>	<b>13.2%</b>
Average annual total population change	Average annual urban population change	Recent Net migration



## COPING CAPACITY (CC)

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.479**

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



### Economic Capacity

**SCORE: 0.437 RANK: 9/34 PROVINCES ASSESSED**

**65.1%** Labor force participation  
**2,800,135** Average monthly income (IDR)  
**109.8** GDP per capita (Million IDR)



### Governance

**SCORE: 0.596 RANK: 20/34 PROVINCES ASSESSED**

**109** Crime rate per 100,000 population  
**51.7%** Crime clearance rate  
**84.7%** Voter participation



### Environmental Capacity

**SCORE: 0.288 RANK: 20/34 PROVINCES ASSESSED**

**7.3%** Protected area



### Infrastructure Capacity

**SCORE: 0.466 RANK: 20/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.392 RANK: 22/34 PROVINCES ASSESSED

**9.8** Hospital beds per 10,000 people  
**4.2** Physicians per 10,000 people  
**17.9** Nurses and midwives per 10,000 people  
**28.2%** Time to public hospital (over 1 hour)  
**30.8%** Immunization rate (children under 5)  
**77.2%** Health care accreditation rate  
**65.6%** Population covered by health insurance



### Transportation Capacity SCORE: 0.325 RANK: 20/34 PROVINCES ASSESSED

**0.14** Road and rail density  
**37.71** Average distance to port or airport



### Communications Capacity SCORE: 0.656 RANK: 12/34 PROVINCES ASSESSED

**67.3%** Mobile phone ownership  
**1.0%** Households with Fixed Phones



### Energy Capacity SCORE: 0.492 RANK: 19/34 PROVINCES ASSESSED

**91.4%** Households served by state electricity  
**0.4%** Percentage of total national electricity generated in province  
**15.09** Electricity generation GWh per 100,000 Population  
**87.0%** Households with gas for cooking



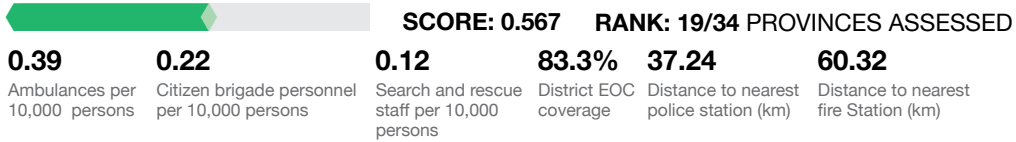
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.466**

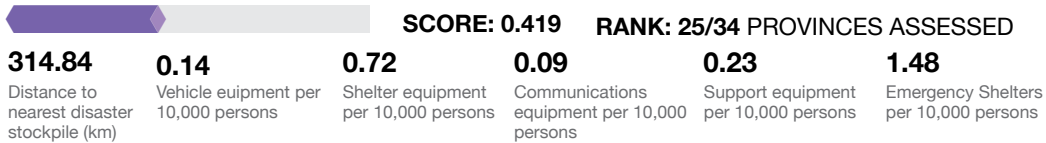
Riau exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Mass Care Support. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



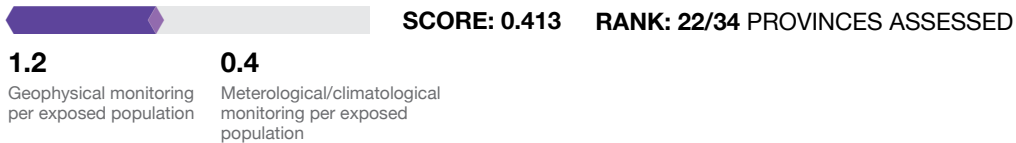
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.510**

Riau's Moderate Resilience score and ranking are due to Low Vulnerability combined with Moderate Coping Capacity, and Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Population Pressures**



**Gender Inequality**



**Transportation Capacity**



**Health Care Capacity**



**Early Warning and Monitoring**



**Mass Care Support**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.163**



**Tsunami**

**RANK: 29 / 34 PROVINCES ASSESSED**  
**SCORE: 0.118**



**Flood**

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.284**



**Flash Flood**

**RANK: 20 / 34 PROVINCES ASSESSED**  
**SCORE: 0.190**



**Landslide**

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.167**



**Volcano**

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.118**



**Drought**

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.237**



**Wildfire**

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.343**



**Extreme Weather**

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.293**



## MULTI-HAZARD RISK (MHR)

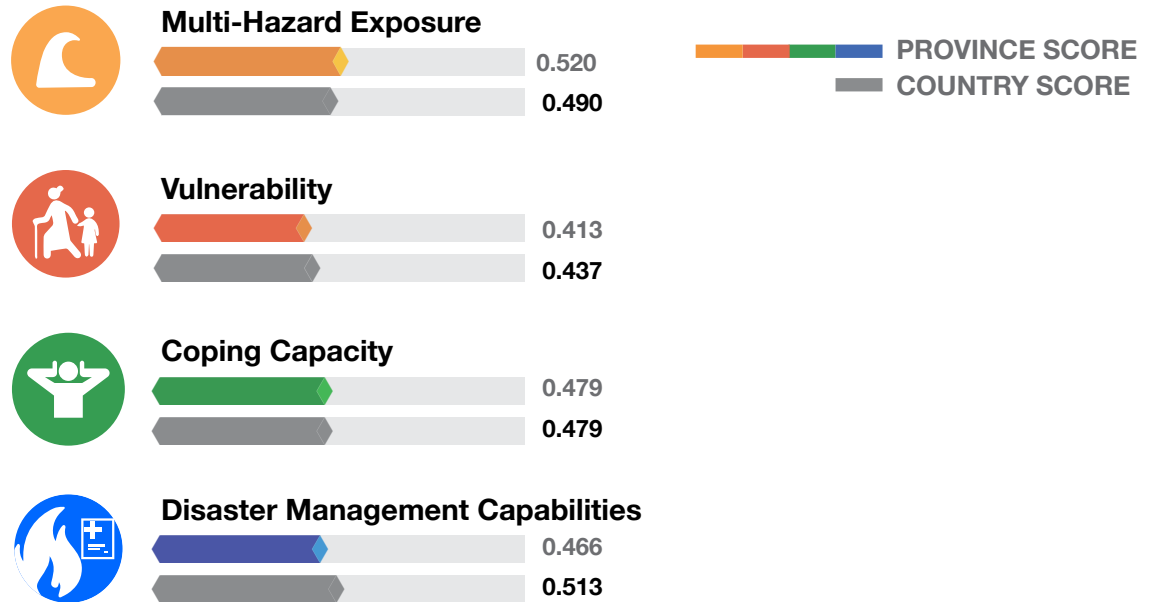
**16 / 34**

RANK WITHIN PROVINCES  
Score: 0.497



Riau's Moderate Multi-hazard Risk score and ranking are due to Moderate Multi-hazard exposure combined with Low Vulnerability, Moderate Coping Capacity, and Low Disaster Management Capabilities scores.

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



# RIAU RECOMMENDATIONS

## 1

### Population Pressures

Findings show that Riau ranks 6th for overall Population Pressures, with significant Average Population Growth (2.79%), and a Net Recent Migration rate of 13.21%.

Riau is exposed to multiple hazards, including extreme weather (tornadoes), drought, earthquakes, floods, flash floods, landslides in the south and southwestern portions of the province, and wildfires. As the population increases, hazard exposure to residents and economic assets will also increase.

Focus efforts to initiate risk reduction initiatives into long-term development plans and policies to reduce potential damages and losses resulting from hazard impacts.

## 2

### Gender Inequality

Riau's overall Gender Inequality score is driven by gender inequities in the labor force. In addition, fewer than 50% of those attending secondary school are female. Promote higher education opportunities for women to provide greater economic opportunities and enhanced quality of life.

Promote gender equality through the enactment and implementation of laws that establish rights, responsibilities and opportunities for women, men, girls and boys related to education, leadership, employment.

Strengthen access to, and participation of women in formal and informal justice systems to promote equitable rights and resolution of issues.

## RIAU RECOMMENDATIONS

### 3

#### Transportation Capacity

Findings show that Riau has the 14th lowest ranking for density of transportation networks, including Rail and Road Density and average Distance to Port Facilities (38 km) from populated areas.

Limited transportation networks hamper evacuation activities as well as the delivery of disaster relief supplies and care services to populations affected by natural disasters.

Secure investments to improve existing transportation capacity and expand transportation infrastructure to meet the needs of the growing population and those in underserved areas.

### 4

#### Health Care Capacity

Riau has the 13th lowest Health Care Capacity in the country, driven by the 2nd lowest Immunization Rate in children under 5 years of age (31%). In addition, findings show that 28% of households require over an hour to reach the nearest hospital, and 34% of the population in the province are uninsured. Improvements in overall health care capacity are needed with regard to improved access and preventative care.

Expand health care infrastructure in remote areas to meet the needs of underserved populations and reduce travel time required to reach health care services. Continue efforts to expand insurance coverage and health education programs to improve maternal, infant, and child health.

Continue to collaborate with NGO partners to fund initiatives focused on health care capacity improvements and reduction of the transmission of infectious diseases.

---

## RIAU RECOMMENDATIONS

### 5

#### Early Warning and Monitoring

---

Findings show that Riau has greater Early Warning and Monitoring capabilities regarding geophysical hazards. Given that the province has significant exposure to meteorological and climate-related hazards, efforts to expand instrumentation and early warning systems for these hazards would increase the capacity of provincial disaster managers to provide adequate hazard warning information to the population.

### 6

#### Mass Care Support

---

Riau has the 10th lowest Mass Care Support ranking. As Riau's population grows, the need for pre-positioned disaster equipment and adequate supplies will also increase.

Anticipate the increased demand for disaster equipment and requisition additional supplies to be able to better accommodate the growing population during a disaster.



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**INDONESIA**

# **SULAWESI BARAT**

**NDPBA PROVINCE PROFILE**

# SULAWESI BARAT

**CAPITAL: MAMUJU**

Area: 16,787 km<sup>2</sup>



Sulawesi Barat (West Sulawesi) is also a recent provincial addition (2004) and has historically been affected by earthquakes, floods and tsunamis. Whilst the region’s multi-hazard risk and exposure are low to moderate, coping capacity and resilience levels are also low with higher levels of disaster management capabilities. Information access and clean water are challenges and improvements in transportation and communications will help build the DRR capabilities of the region.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Moderate**

Score: 0.506 • Rank: 14/34



**RESILIENCE (R) - Very Low**

Score: 0.474 • Rank: 29/34



**MULTI-HAZARD EXPOSURE (MHE) - Low**

Score: 0.447 • Rank: 22/34



**VULNERABILITY (V) - Very High**

Score: 0.538 • Rank: 4/34



**COPING CAPACITY (CC) - Very Low**

Score: 0.392 • Rank: 28/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Very High**

Score: 0.567 • Rank: 6/34



Population (2020 Projected)

**1,405,000**



Population in Poverty

**11.0%**



Adult Literacy Rate

**93.6%**



Access to improved water

**71.5%**



Average life expectancy

**64.8 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 22 / 34 PROVINCES  
SCORE: 0.447



MHE  
0.447

Raw MHE  
0.257

Relative MHE  
0.636

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**92%**

1,170,305  
\$32.2 Billion



Tsunami

**10%**

128,607  
\$6.1 Billion



Flood

**38%**

478,542  
\$16.4 Billion



Flash Flood

**4%**

55,462  
\$1.4 Billion



Landslide

**17%**

215,166  
\$2.3 Billion



Volcano

**0%**

-  
-



Drought

**2%**

28,504  
\$296.5 Million



Wildfire

**12%**

146,670  
\$1.6 Billion



Extreme Weather

**98%**

1,238,125  
\$32.7 Billion



## VULNERABILITY (V)

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.538**

Vulnerability in Sulawesi Barat is primarily driven by Information Access Vulnerability and Clean Water Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.356 RANK: 19/34 PROVINCES ASSESSED**

<b>17.2%</b> Land susceptible to severe erosion	<b>26.24</b> Livestock Density (per sq km)	<b>566.4</b> Net Deforestation (hectares per year)
--	---	---



### Vulnerable Health Status

**SCORE: 0.584 RANK: 5/34 PROVINCES ASSESSED**

<b>64.82</b> Life expectancy (years)	<b>60</b> Infant mortality rate (per 1,000 live births)	<b>338.39</b> Maternal mortality ratio	<b>10.5%</b> Children (under 5) Wasting	<b>7.8%</b> Disability	<b>5.9%</b> Unmet health care needs	<b>22.1%</b> Households with limited access to health facility
<b>0.7%</b> Households with catastrophic health expenditure	<b>39.25</b> Dengue incidence per 100,000 population	<b>11.66</b> Measles incidence per 100,000 population	<b>0.14</b> Malaria incidence per 100,000 population	<b>162</b> TB case notification per 100,000 population	<b>1.84</b> HIV & AIDS incidence per 100,000 population	<b>1.59</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.682 RANK: 6/34 PROVINCES ASSESSED**

<b>71.5%</b> Households with improved water	<b>73.4%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.715 RANK: 3/34 PROVINCES ASSESSED**

<b>93.6%</b> Adult literacy rate	<b>95.9%</b> Net primary school enrollment rate	<b>7.73</b> Average years of schooling	<b>59.1%</b> Households using internet
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### Economic Constraints

**SCORE: 0.438 RANK: 13/34 PROVINCES ASSESSED**

<b>3.2%</b> Unemployment rate	<b>53.8</b> Age dependency ratio	<b>11.0%</b> Poverty rate	<b>0.365</b> GINI ratio
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### Gender Inequality

**SCORE: 0.637 RANK: 2/34 PROVINCES ASSESSED**

<b>0.98</b> Female to male literacy rate	<b>0.61</b> Female to male labor ratio	<b>1.24</b> Female to male secondary school enrollment ratio	<b>17.8%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.355 RANK: 23/34 PROVINCES ASSESSED**

<b>2.1%</b> Average annual total population change	<b>2.1%</b> Average annual urban population change	<b>5.1%</b> Recent Net migration
---	---	-------------------------------------



## COPING CAPACITY (CC)

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.392**

Sulawesi Barat exhibits weaker Coping Capacity in the areas of Transportation Capacity and Communications Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.271 RANK: 27/34 PROVINCES ASSESSED**

**69.3%** Labor force participation  
**2,161,381** Average monthly income (IDR)  
**23.3** GDP per capita (Million IDR)



### Governance

**SCORE: 0.651 RANK: 12/34 PROVINCES ASSESSED**

**144** Crime rate per 100,000 population  
**56.2%** Crime clearance rate  
**86.8%** Voter participation



### Environmental Capacity

**SCORE: 0.467 RANK: 11/34 PROVINCES ASSESSED**

**11.5%** Protected area



### Infrastructure Capacity

**SCORE: 0.231 RANK: 34/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.321 RANK: 29/34 PROVINCES ASSESSED

**9.1** Hospital beds per 10,000 people  
**1.24** Physicians per 10,000 people  
**11.94** Nurses and midwives per 10,000 people  
**40.1%** Time to public hospital (over 1 hour)  
**46.3%** Immunization rate (children under 5)  
**53.8%** Health care accreditation rate  
**103.9%** Population covered by health insurance



### Transportation Capacity SCORE: 0.076 RANK: 34/34 PROVINCES ASSESSED

**0.07** Road and rail density  
**58.18** Average distance to port or airport



### Communications Capacity SCORE: 0.171 RANK: 34/34 PROVINCES ASSESSED

**52.2%** Mobile phone ownership  
**0.0%** Households with Fixed Phones



### Energy Capacity SCORE: 0.356 RANK: 29/34 PROVINCES ASSESSED

**84.8%** Households served by state electricity  
**0.0%** Percentage of total national electricity generated in province  
**3.26** Electricity generation GWh per 100,000 Population  
**78.4%** Households with gas for cooking



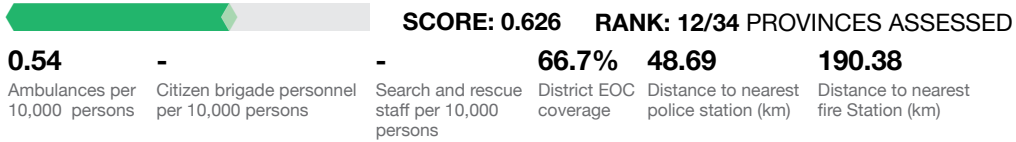
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.567**

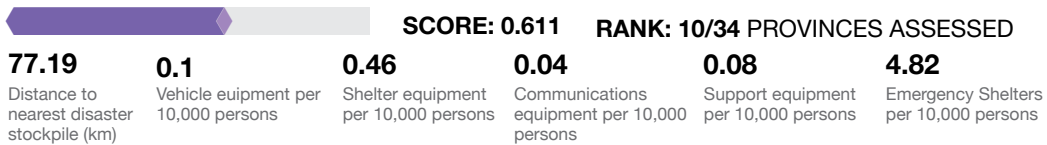
Sulawesi Barat exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Mass Care Support. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



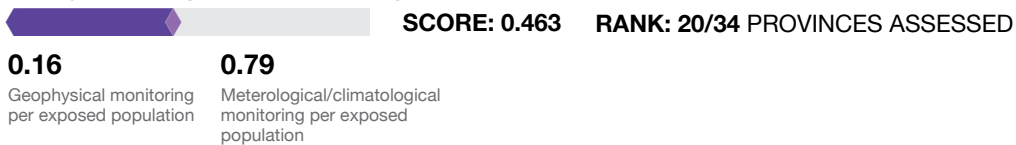
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring







## RESILIENCE (R)

**RANK: 29 / 34 PROVINCES ASSESSED**  
**SCORE: 0.474**

Sulawesi Barat's Very Low Resilience score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity, and Very High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Information Access Vulnerability**



**Clean Water Access Vulnerability**



**Transportation Capacity**



**Communications Capacity**



**Early Warning and Monitoring**



**Mass Care Support**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.339**



**Tsunami**

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.379**



**Flood**

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.210**



**Flash Flood**

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.214**



**Landslide**

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.299**



**Volcano**

**RANK: 20 / 34 PROVINCES ASSESSED**  
**SCORE: 0.154**



**Drought**

**RANK: 34 / 34 PROVINCES ASSESSED**  
**SCORE: 0.096**



**Wildfire**

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.192**



**Extreme Weather**

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.265**





## MULTI-HAZARD RISK (MHR)

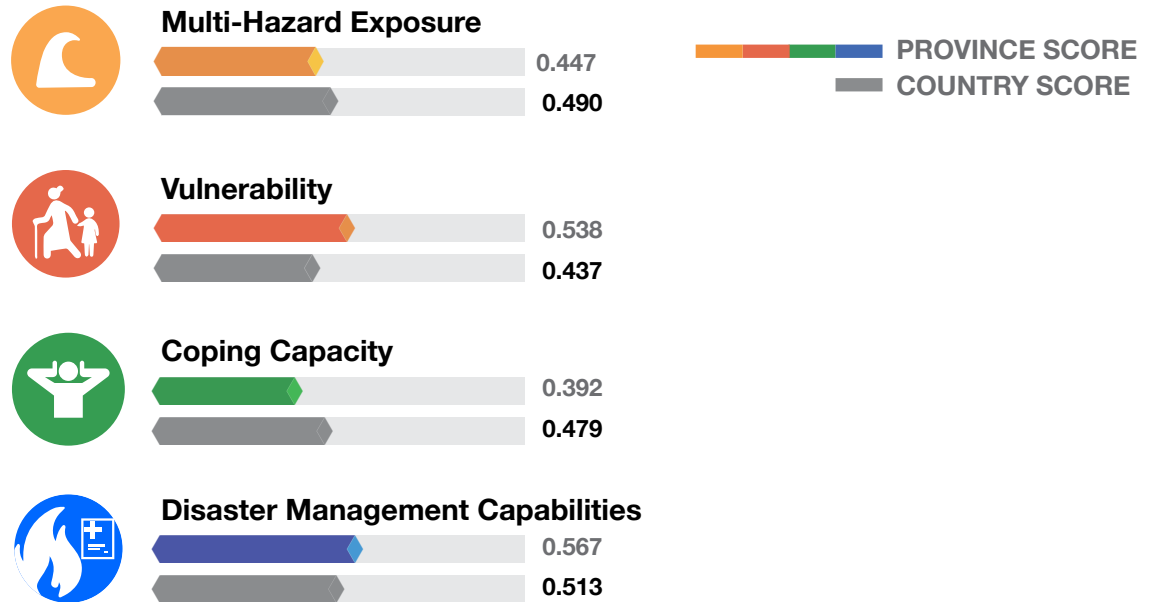
**14 / 34**

RANK WITHIN PROVINCES  
Score: 0.506



Sulawesi Barat's Moderate Multi-hazard Risk score and ranking are due to Low Multi-hazard exposure combined with Very High Vulnerability, Very Low Coping Capacity, and Very High Disaster Management Capabilities scores.

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



# SULAWESI BARAT RECOMMENDATIONS

# 1

## Information Access Vulnerability

Sulawesi Barat has the 3rd highest Information Access Vulnerability in Indonesia, driven by the 6th lowest Net Enrollment in Primary School. In addition, over 40% of households do not have Internet Access.

Improve physical access to education, especially in rural areas through infrastructure improvements (e.g., roads, electricity and telecommunication services).

Continue partnership engagements with I/ NGOs and stakeholders to implement programs focused on overcoming challenges in education service delivery and improving learning outcomes among students. Foster engagement among parents, teachers and school administrators through participation in school committees to raise awareness of parental roles in supporting student learning, reduce absenteeism, and reinforce the value of education.

# 2

## Clean Water Access Vulnerability

Sulawesi Barat has the 6th highest Clean Water Access Vulnerability in Indonesia, with only 71.5% of households having Access to Improved Water and 73.39% of households having Access to Improved Sanitation.

Invest in clean water infrastructure to improve access and service delivery to remote areas.

Implement risk reduction measures that protect investments and reduce potential health risks arising as a result of hazard induced impacts (i.e., earthquakes and flooding).

## SULAWESI BARAT RECOMMENDATIONS

### 3

#### Transportation Capacity

Findings show that Sulawesi Barat has the lowest Transportation Capacity in the country, with the greatest Average Distance to a Port or Airport (58.18 km), and the 5th lowest Road and Railway Density (0.07 km per square km).

Continue to invest in long-term planning and development of transportation infrastructure and improvements. Prioritize infrastructure development in remote areas to improve access to services and facilitate response operations during a disaster.

Multi-stakeholder approaches to improving transportation capacity could also facilitate enhancements to other much needed infrastructure services (e.g., water, telecommunications, energy), as these are often installed along improved roadways.

### 4

#### Communications Capacity

Sulawesi Barat has the lowest ranking for overall Communications Capacity in the country. Data indicate that no households have Fixed Phones, and only 52.18% of residents own Mobile Phones.

Limited Communications Capacity has direct bearing on the receipt of timely warning information. Utilize all available communication channels (e.g., TV, radio, SMS, Internet) for disseminating hazard alerts, and implement outreach campaigns to increase hazard awareness and community preparedness.

Pursue public/private partnerships to expand telecommunications infrastructure and reach, especially in rural areas.

# SULAWESI BARAT RECOMMENDATIONS

## 5

### Early Warning and Monitoring

Findings show that the province has the 2nd lowest geophysical hazard monitoring coverage in the country. Given the province's exposure to earthquake, landslide and tsunami hazards, work with existing institutions to improve coverage of monitoring stations.

Strengthen mechanisms for receiving timely warning information and explore ways to increase efficiency and redundancy in disseminating alerts and warnings to the population given the limited penetration of telecommunications infrastructure in the province.

## 6

### Mass Care Support

Findings show that the province has the 10th highest ranking for Mass Care Support, primarily due to the Number of Shelters (4.82 per 10,000 persons) and its proximity to a Disaster Stockpile (77.19 km). However, Sulawesi Barat's capabilities to provide mass care are hampered by a lack of Disaster Equipment.

Invest in vehicles and equipment to support communications, sheltering and other needs (e.g., lighting, generators, chainsaws) to enhance the province's ability to meet the care needs of the population during a disaster.

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**INDONESIA**

# **SULAWESI SELATAN**

**NDPBA PROVINCE PROFILE**

# SULAWESI SELATAN

**CAPITAL: MAKASSAR**

Area: 46,717 km<sup>2</sup>



Sulawesi Selatan (South Sulawesi) is the sixth most populous province in Indonesia, and via its capital city, Makassar, plays a critical role connecting eastern and western

parts of the country. In collaboration with UN, WHO and NGOs, stakeholders in the region are focused on DRR initiatives to reduce risks posed by hazards frequenting the province and boost low levels of coping capacity and resilience. Analyses indicate that enhancements to governance, economic capacity and information access will bode well for future DRR, SDG and CCA endeavours.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Moderate**

Score: 0.488 • Rank: 19/34



**RESILIENCE (R) - Low**

Score: 0.502 • Rank: 21/34



**MULTI-HAZARD EXPOSURE (MHE) - Moderate**

Score: 0.456 • Rank: 18/34



**VULNERABILITY (V) - Moderate**

Score: 0.433 • Rank: 18/34



**COPING CAPACITY (CC) - Very Low**

Score: 0.389 • Rank: 29/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - High**

Score: 0.549 • Rank: 10/34



Population (2020 Projected)

**8,928,000**



Population in Poverty

**8.6%**



Adult Literacy Rate

**92.5%**



Access to improved water

**89.4%**



Average life expectancy

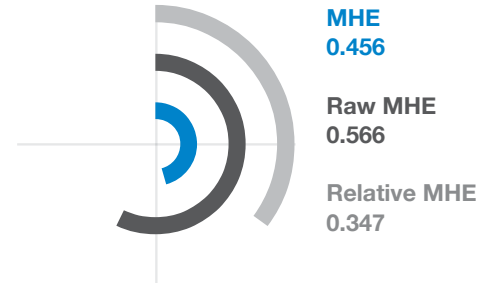
**70.4 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 18 / 34 PROVINCES  
SCORE: 0.456



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**25%**

2,147,469  
\$27.1 Billion



Tsunami

**5%**

413,270  
\$5.6 Billion



Flood

**41%**

3,526,299  
\$55.66 Billion



Flash Flood

**3%**

263,836  
\$3.1 Billion



Landslide

**12%**

1,001,484  
\$10.2 Billion



Volcano

**0%**

-  
-



Drought

**18%**

1,519,243  
\$18.8 Billion



Wildfire

**4%**

372,892  
\$4.5 Billion



Extreme Weather

**98%**

8,425,705  
\$111.1 Billion





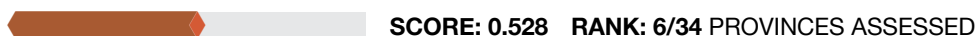
## VULNERABILITY (V)

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.433**

Vulnerability in Sulawesi Selatan is primarily driven by Information Access Vulnerability and Environmental Stress. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



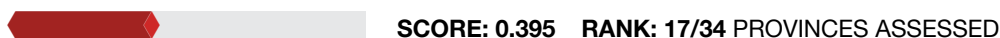
### Environmental Stress



<b>26.6%</b> Land susceptible to severe erosion	<b>70.61</b> Livestock Density (per sq km)	<b>2528.3</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status



<b>70.43</b> Life expectancy (years)	<b>25</b> Infant mortality rate (per 1,000 live births)	<b>158.93</b> Maternal mortality ratio	<b>10.0%</b> Children (under 5) Wasting	<b>10.2%</b> Disability	<b>5.5%</b> Unmet health care needs	<b>6.8%</b> Households with limited access to health facility
<b>1.1%</b> Households with catastrophic health expenditure	<b>24.1</b> Dengue incidence per 100,000 population	<b>3.76</b> Measles incidence per 100,000 population	<b>0.09</b> Malaria incidence per 100,000 population	<b>357</b> TB case notification per 100,000 population	<b>38.94</b> HIV & AIDS incidence per 100,000 population	<b>1.18</b> Prevalence of Leprosy per 10,000 population



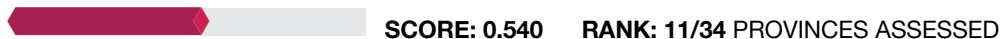
### Clean Water Vulnerability



<b>89.4%</b> Households with improved water	<b>87.8%</b> Households with improved sanitation
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### Information Access Vulnerability



<b>92.5%</b> Adult literacy rate	<b>98.1%</b> Net primary school enrollment rate	<b>8.26</b> Average years of schooling	<b>72.6%</b> Households using internet
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### Economic Constraints



<b>5.0%</b> Unemployment rate	<b>51.3</b> Age dependency ratio	<b>8.6%</b> Poverty rate	<b>0.389</b> GINI ratio
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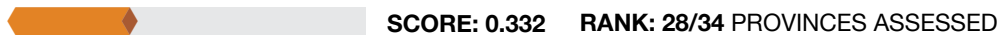
### Gender Inequality



<b>0.97</b> Female to male literacy rate	<b>0.63</b> Female to male labor ratio	<b>1.06</b> Female to male secondary school enrollment ratio	<b>19.1%</b> Percent female seats in government
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### Population Pressures



<b>1.1%</b> Average annual total population change	<b>3.6%</b> Average annual urban population change	<b>-4.8%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 29 / 34 PROVINCES ASSESSED**  
**SCORE: 0.389**

Sulawesi Selatan exhibits weaker Coping Capacity in the areas of Economic Capacity and Governance. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.231 RANK: 29/34 PROVINCES ASSESSED**

<b>62.9%</b> Labor force participation	<b>2,855,170</b> Average monthly income (IDR)	<b>35.5</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.393 RANK: 29/34 PROVINCES ASSESSED**

<b>255</b> Crime rate per 100,000 population	<b>53.6%</b> Crime clearance rate	<b>81.6%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.227 RANK: 23/34 PROVINCES ASSESSED**

**5.9%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.599 RANK: 11/34 PROVINCES ASSESSED**



### Health Care Capacity **SCORE: 0.584 RANK: 9/34 PROVINCES ASSESSED**

<b>15.3</b> Hospital beds per 10,000 people	<b>4.56</b> Physicians per 10,000 people	<b>15.39</b> Nurses and midwives per 10,000 people	<b>11.0%</b> Time to public hospital (over 1 hour)	<b>49.9%</b> Immunization rate (children under 5)	<b>84.2%</b> Health care accreditation rate	<b>74.9%</b> Population covered by health insurance
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### Transportation Capacity **SCORE: 0.518 RANK: 11/34 PROVINCES ASSESSED**

<b>0.51</b> Road and rail density	<b>31.39</b> Average distance to port or airport
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### Communications Capacity **SCORE: 0.591 RANK: 22/34 PROVINCES ASSESSED**

<b>65.1%</b> Mobile phone ownership	<b>0.6%</b> Households with Fixed Phones
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### Energy Capacity **SCORE: 0.703 RANK: 10/34 PROVINCES ASSESSED**

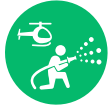
<b>96.8%</b> Households served by state electricity	<b>2.9%</b> Percentage of total national electricity generated in province	<b>91.03</b> Electricity generation GWh per 100,000 Population	<b>88.5%</b> Households with gas for cooking
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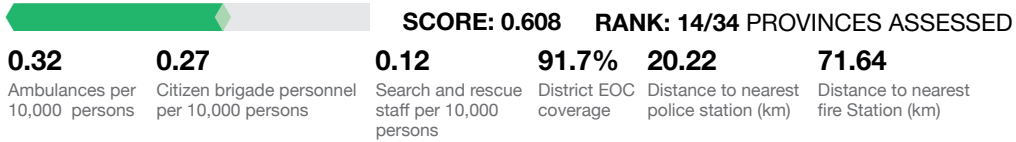
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 10 / 34** PROVINCES ASSESSED  
**SCORE: 0.549**

Sulawesi Selatan exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



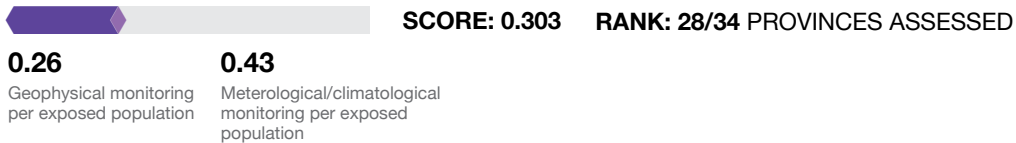
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.502**

Sulawesi Selatan’s Low Resilience score and ranking are due to Moderate Vulnerability combined with Very Low Coping Capacity, and High Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Information Access Vulnerability**



**Environmental Stress**



**Economic Capacity**



**Governance**



**Early Warning and Monitoring**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.204**



**Tsunami**

**RANK: 8 / 34 PROVINCES ASSESSED**  
**SCORE: 0.309**



**Flood**

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.267**



**Flash Flood**

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.217**



**Landslide**

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.326**



**Volcano**

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.123**



**Drought**

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.181**



**Wildfire**

**RANK: 20 / 34 PROVINCES ASSESSED**  
**SCORE: 0.204**



**Extreme Weather**

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.308**



## MULTI-HAZARD RISK (MHR)

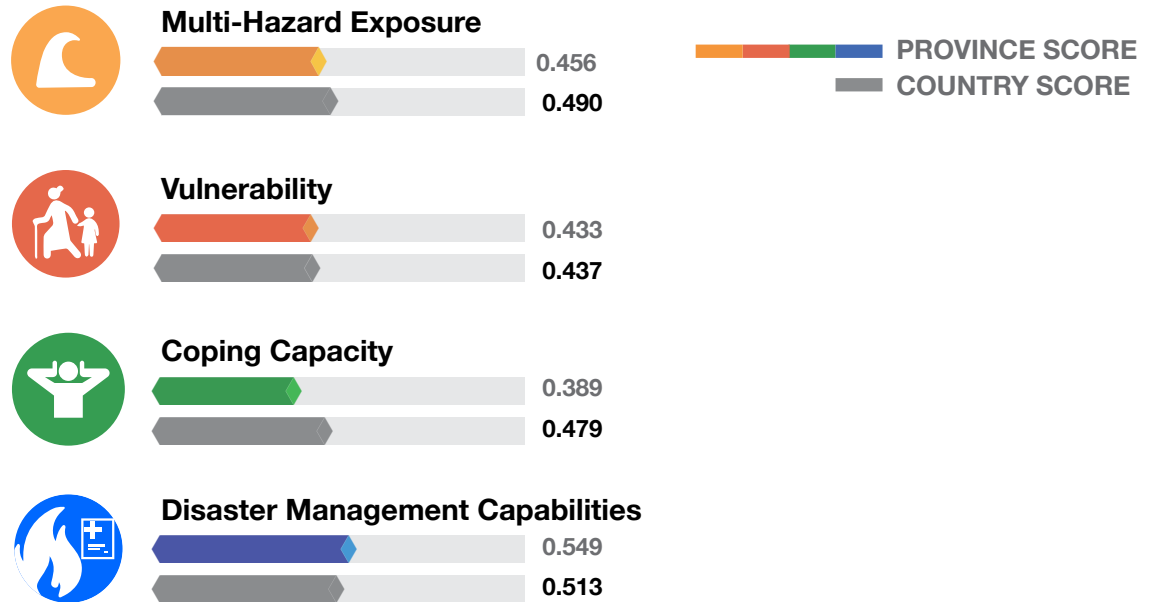
**19 / 34**

RANK WITHIN PROVINCES  
Score: 0.488



Sulawesi Selatan's Moderate Multi-hazard Risk score and ranking are due to Moderate Multi-hazard exposure combined with Moderate Vulnerability, Very Low Coping Capacity, and High Disaster Management Capabilities scores.

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



# SULAWESI SELATAN RECOMMENDATIONS

## 1

### Information Access Vulnerability

Sulawesi Selatan ranks 11th for overall Information Access Vulnerability, driven by the 4th lowest Adult Literacy Rate (92.45%). The Average Years of Schooling for the province is 8.26 years.

Continue partnership engagements with I/NGOs and stakeholders to implement programs focused on overcoming challenges in education service delivery and improving learning outcomes among students, including physical access to education, especially in rural areas through infrastructure improvements (e.g., roads, electricity and telecommunication services).

Implement community outreach and education programs focused on hazard awareness, disaster preparedness, and health and safety practices to build community resilience.

## 2

### Environmental Stress

Sulawesi Selatan has the 6th highest overall Environmental Stress in the country. Nearly 27% of the province is subject to Severe Erosion rates of >180 tons per hectare per year. In addition, the province has the 9th highest Livestock Density (70.61 animals per square km). High densities of livestock can lead to overgrazing of pastures, potentially causing desertification in drought-prone areas and significant soil loss in places susceptible to flooding. Flooding in areas where high animal densities are in close proximity to fresh water sources can pose risks to human health.

Agriculture, forestry and fisheries account for a substantial part of Sulawesi Selatan's economy. Improve access of agricultural workers and farmers to agricultural extension services offering best practices in farming, horticulture and animal husbandry that promote sustainable practices such as soil and water conservation and protection.

Promote public-private partnerships to monitor and explore solutions to environmental problems facing the province, including those that are exacerbated by hazard impacts.

## SULAWESI SELATAN RECOMMENDATIONS

### 3

#### Economic Capacity

Sulawesi Selatan has the 6th lowest overall Economic Capacity in the country, and the lowest Labor Force Participation rate (62.9%). Increase access to financing and support structures (e.g. microfinance services and loans) to build the capacity of farmers, small businesses and household enterprises to enhance production and increase household incomes.

Boost efficiency of financial sector systems to streamline access to credit and processing of loans for informal sector enterprises.

Establish programs that gear education toward labor market needs to promote job creation and employment opportunities for youth.

### 4

#### Governance

Findings show Sulawesi Selatan has the 6th lowest Governance ranking in the country, with the 4th highest Crime Rate (255 per 100,000 persons). The Crime Clearance Rate and Voter Participation Rate in the province are low.

Strengthen support for public security through increased law enforcement and surveillance.

Implement community youth education and personal safety programs.

# SULAWESI SELATAN RECOMMENDATIONS

## 5

### Early Warning and Monitoring

Sulawesi Selatan has the 7th lowest Early Warning and Monitoring capabilities in the country, representing limitations in monitoring both geophysical and meteorological and climate-related hazards.

Given the lower literacy levels in the province, efforts by disaster managers to make warning messages as understandable as possible would ensure that even those who are illiterate or who have lower levels of education can take life-saving action.

## 6

### Emergency Services

Sulawesi Selatan ranks 14th for overall Emergency Services capabilities. Increasing the number of ambulances and trained emergency medical technicians, as well as trained Search and Rescue staff, would bolster capabilities in the province.



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**INDONESIA**

# **SULAWESI TENGAH**

**NDPBA PROVINCE PROFILE**

# SULAWESI TENGAH

## CAPITAL: PALU

Area: 61,841 km<sup>2</sup>



As the name implies, Sulawesi Tengah (Central Sulawesi) is located at the center of the island of Sulawesi and is the largest among all provinces on the island. The

administrative capital and largest city is located in Palu which, in 2018 was rocked by a 7.4-magnitude earthquake and subsequent tsunami that killed at least 1,234 people and displaced more than 60,000 people in Central Sulawesi. With its low levels of resilience and heightened levels of vulnerability, health and economic improvements, increased information access, and transportation infrastructure enhancements will assist the province in combating COVID 19 and the challenges posed by future hazards.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - High

Score: 0.532 • Rank: 8/34



### RESILIENCE (R) - Very Low

Score: 0.448 • Rank: 33/34



### MULTI-HAZARD EXPOSURE (MHE) - Moderate

Score: 0.474 • Rank: 16/34



### VULNERABILITY (V) - Very High

Score: 0.508 • Rank: 5/34



### COPING CAPACITY (CC) - Very Low

Score: 0.389 • Rank: 30/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Low

Score: 0.465 • Rank: 27/34



Population (2020 Projected)

**3,097,000**



Population in Poverty

**13.2%**



Adult Literacy Rate

**98.2%**



Access to improved water

**83.4%**



Average life expectancy

**68.2 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 16 / 34 PROVINCES  
SCORE: 0.474



MHE  
0.474

Raw MHE  
0.327

Relative MHE  
0.621

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**84%**

2,357,462  
\$23.8 Billion



Tsunami

**5%**

138,847  
\$1.4 Billion



Flood

**32%**

901,632  
\$9.14 Billion



Flash Flood

**6%**

163,760  
\$1.5 Billion



Landslide

**13%**

365,075  
\$3 Billion



Volcano

**<1%**

1,572  
\$12.5 Million



Drought

**30%**

853,966  
\$8.1 Billion



Wildfire

**18%**

499,402  
\$4.1 Billion



Extreme Weather

**88%**

2,488,649  
\$25 Billion



## VULNERABILITY (V)

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.508**

Vulnerability in Sulawesi Tengah is primarily driven by Vulnerable Health Status and Information Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.353 RANK: 21/34 PROVINCES ASSESSED**

<b>4.4%</b>	<b>18.88</b>	<b>11522.7</b>
Land susceptible to severe erosion	Livestock Density (per sq km)	Net Deforestation (hectares per year)



### Vulnerable Health Status

**SCORE: 0.675 RANK: 2/34 PROVINCES ASSESSED**

<b>68.23</b>	<b>58</b>	<b>332.14</b>	<b>12.9%</b>	<b>11.4%</b>	<b>8.6%</b>	<b>13.4%</b>
Life expectancy (years)	Infant mortality rate (per 1,000 live births)	Maternal mortality ratio	Children (under 5) Wasting	Disability	Unmet health care needs	Households with limited access to health facility
<b>1.2%</b>	<b>35.44</b>	<b>0</b>	<b>0.03</b>	<b>237</b>	<b>25.35</b>	<b>0.97</b>
Households with catastrophic health expenditure	Dengue incidence per 100,000 population	Measles incidence per 100,000 population	Malaria incidence per 100,000 population	TB case notification per 100,000 population	HIV & AIDS incidence per 100,000 population	Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.564 RANK: 11/34 PROVINCES ASSESSED**

<b>83.4%</b>	<b>72.0%</b>
Households with improved water	Households with improved sanitation



### Information Access Vulnerability

**SCORE: 0.620 RANK: 7/34 PROVINCES ASSESSED**

<b>98.2%</b>	<b>93.2%</b>	<b>8.75</b>	<b>61.7%</b>
Adult literacy rate	Net primary school enrollment rate	Average years of schooling	Households using internet



### Economic Constraints

**SCORE: 0.351 RANK: 25/34 PROVINCES ASSESSED**

<b>3.2%</b>	<b>49.7</b>	<b>13.2%</b>	<b>0.327</b>
Unemployment rate	Age dependency ratio	Poverty rate	GINI ratio



### Gender Inequality

**SCORE: 0.470 RANK: 21/34 PROVINCES ASSESSED**

<b>0.99</b>	<b>0.57</b>	<b>1.12</b>	<b>24.4%</b>
Female to male literacy rate	Female to male labor ratio	Female to male secondary school enrollment ratio	Percent female seats in government



### Population Pressures

**SCORE: 0.525 RANK: 9/34 PROVINCES ASSESSED**

<b>1.7%</b>	<b>4.7%</b>	<b>8.9%</b>
Average annual total population change	Average annual urban population change	Recent Net migration



## COPING CAPACITY (CC)

**RANK: 30 / 34 PROVINCES ASSESSED**  
**SCORE: 0.389**

Sulawesi Tengah exhibits weaker Coping Capacity in the areas of Economic Capacity and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.302 RANK: 24/34 PROVINCES ASSESSED**

<b>67.6%</b> Labor force participation	<b>2,456,459</b> Average monthly income (IDR)	<b>31.8</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.424 RANK: 27/34 PROVINCES ASSESSED**

<b>316</b> Crime rate per 100,000 population	<b>56.4%</b> Crime clearance rate	<b>84.0%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.441 RANK: 12/34 PROVINCES ASSESSED**

**10.9%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.424 RANK: 26/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.441 RANK: 20/34 PROVINCES ASSESSED

<b>13.7</b> Hospital beds per 10,000 people	<b>2.23</b> Physicians per 10,000 people	<b>23.57</b> Nurses and midwives per 10,000 people	<b>34.3%</b> Time to public hospital (over 1 hour)	<b>45.9%</b> Immunization rate (children under 5)	<b>70.7%</b> Health care accreditation rate	<b>62.5%</b> Population covered by health insurance
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### Transportation Capacity SCORE: 0.312 RANK: 23/34 PROVINCES ASSESSED

<b>0.09</b> Road and rail density	<b>36.16</b> Average distance to port or airport
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### Communications Capacity SCORE: 0.497 RANK: 25/34 PROVINCES ASSESSED

<b>57.7%</b> Mobile phone ownership	<b>0.6%</b> Households with Fixed Phones
--	---



### Energy Capacity SCORE: 0.445 RANK: 24/34 PROVINCES ASSESSED

<b>90.7%</b> Households served by state electricity	<b>0.6%</b> Percentage of total national electricity generated in province	<b>52.5</b> Electricity generation GWh per 100,000 Population	<b>49.6%</b> Households with gas for cooking
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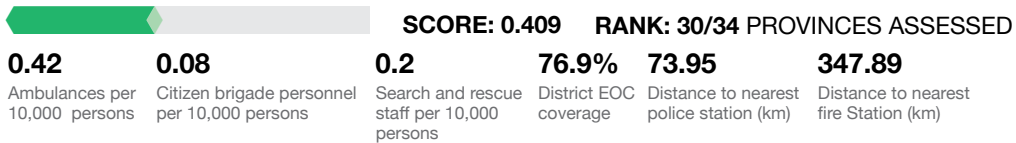
## DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 27 / 34** PROVINCES ASSESSED  
**SCORE: 0.465**

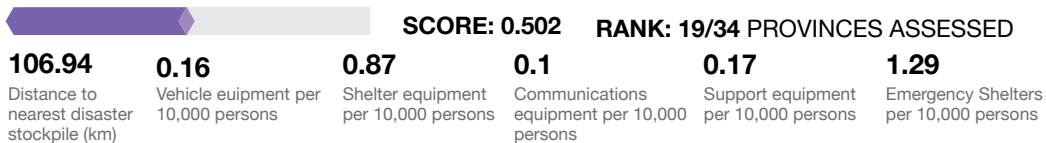
Sulawesi Tengah exhibits weaker Disaster Management Capabilities in the areas of Emergency Services and Early Warning and Monitoring. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



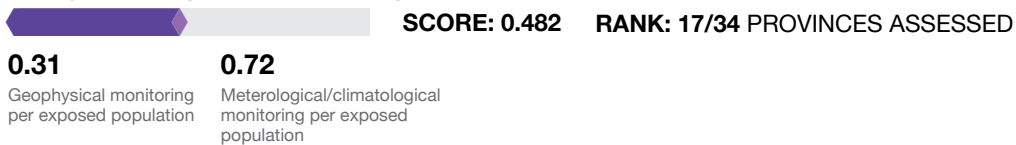
### Emergency Services



### Mass Care Support



### Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 33 / 34 PROVINCES ASSESSED**  
**SCORE: 0.448**

Sulawesi Tengah's Very Low Resilience score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity, and Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Vulnerable Health Status**



**Information Access Vulnerability**



**Economic Capacity**



**Transportation Capacity**



**Emergency Services**



**Early Warning and Monitoring**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.340**



**Tsunami**

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.319**



**Flood**

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.220**



**Flash Flood**

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.276**



**Landslide**

**RANK: 4 / 34 PROVINCES ASSESSED**  
**SCORE: 0.333**



**Volcano**

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.246**



**Drought**

**RANK: 20 / 34 PROVINCES ASSESSED**  
**SCORE: 0.207**



**Wildfire**

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.271**



**Extreme Weather**

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.263**





## MULTI-HAZARD RISK (MHR)

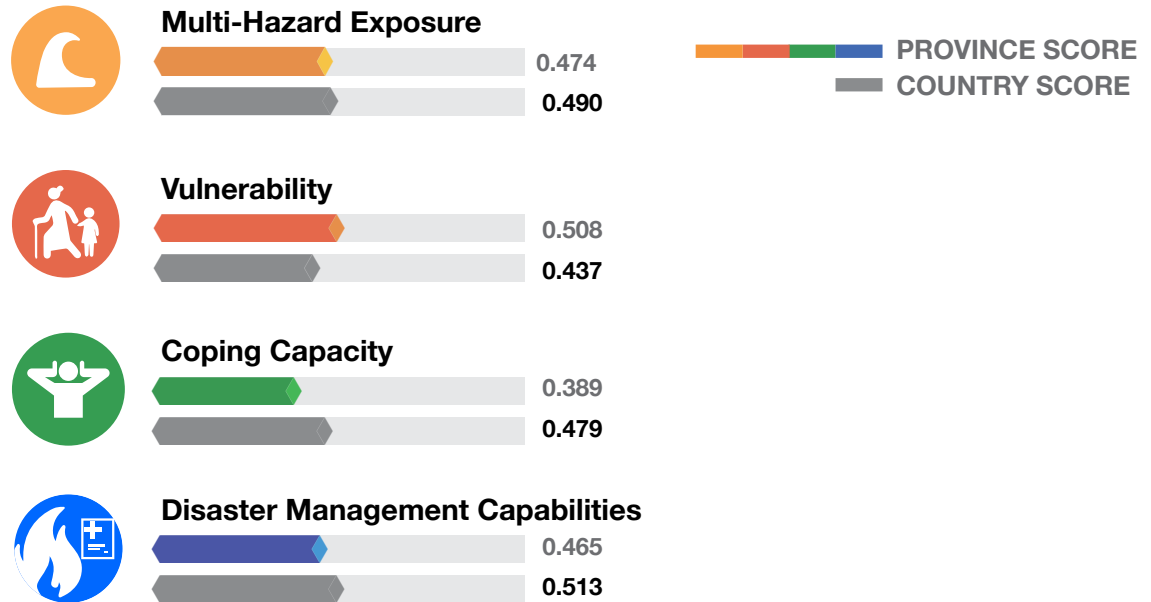
**8 / 34**

RANK WITHIN PROVINCES  
Score: 0.532



Sulawesi Tengah's High Multi-hazard Risk score and ranking are due to Moderate Multi-hazard exposure combined with Very High Vulnerability, Very Low Coping Capacity, and Low Disaster Management Capabilities scores.

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



# SULAWESI TENGAH RECOMMENDATIONS

## 1

### Vulnerable Health Status

Sulawesi Tengah ranks 2nd for overall Vulnerable Health Status, driven by the highest percentage of Unmet Health Care Needs (8.57%), 3rd highest Disability Rate (11.44%), 4th highest Maternal Mortality Rate (332.14 per 100,000 live births). The Infant Mortality Rate (58 per 1,000 live births), and Percentage of Children under 5 years of Age considered to be Wasting (12.9%) are among the highest in the country. Those suffering from poor health are more susceptible to the negative consequences resulting from a disaster.

Continue efforts to improve maternal, infant, and child health, reduce transmission of infectious diseases, and improve access and affordability to healthcare.

Strengthen programs focused on disease prevention and health promotion to counter preventable diseases through vaccination and the growing number of non-communicable diseases in the country (e.g. diabetes and heart disease).

## 2

### Information Access Vulnerability

Sulawesi Tengah ranks 7th for overall Information Access Vulnerability, driven by the 3rd lowest Net Primary School Enrollment Rate (93.17%), and limited Internet Access (<62% of households have access). Education levels and access to information have bearing on actions that people take or don't take to prepare for and respond to hazards.

Increase access to, and understanding of, hazard alerts and warning information especially in rural areas, to promote the protection of life and property.

Build community resilience to natural hazards through education and outreach programs that enhance hazard awareness and preparedness.

## SULAWESI TENGAH RECOMMENDATIONS

---

### 3

#### Economic Capacity

Sulawesi Tengah has the 11th lowest overall Economic Capacity in Indonesia, influenced by relatively low Average Monthly Income (2.4 million IDR), and GDP per Capita (31.8 million IDR).

Institute vocational and technical programs that bridge the gap between labor market needs and the lower levels of education typical in the province to increase household incomes.

### 4

#### Transportation Capacity

Findings show that Sulawesi Tengah has the 12th lowest Transportation Capacity in the country. Road and Railway Density is 0.09 km per square km. Focus efforts to expand and modernize airport and seaport facilities and improve connectivity between seaports and land-based infrastructure to expedite the transport of relief supplies during and after a disaster and support the province's growing economy.

Prioritize infrastructure development in remote areas to improve access to services and facilitate response operations during a disaster.

Adopt a multi-stakeholder approach to infrastructure improvements to enhance other services that improve the health, education and economic well-being of the population.

## SULAWESI TENGAH RECOMMENDATIONS

### 5

#### Emergency Services

Findings show that Sulawesi Tengah has the 5th lowest ranking for overall Emergency Services capabilities. Drivers include Average Distances to a Fire Station (348 km) and Police Station (74 km).

Improvements to transportation capacity will increase access to existing emergency services and provide opportunities for enhancements.

### 6

#### Early Warning and Monitoring

Sulawesi Tengah ranks 17th for overall Early Warning and Monitoring capabilities. The province is exposed to multiple hazards, including flood, earthquake, landslide, volcanic eruption, drought, wildfire, tsunami, flash flooding and extreme weather (tornado). The greatest single hazard exposures are to extreme weather and earthquakes. Over 88% of the population and 90% of economic assets in the province are exposed to extreme weather events. Nearly 84% of the population and 86% of economic assets are exposed to earthquakes.

Strengthen engagement with detection and monitoring institutions to enhance notification and dissemination of warning messages for both geophysical and meteorological/ climate-based hazards.

**Better solutions.  
Fewer disasters.**

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**INDONESIA**

# **SULAWESI TENGGARA**

**NDPBA PROVINCE PROFILE**

# SULAWESI TENGGARA

## CAPITAL: KENDARI

Area: 38,068 km<sup>2</sup>



The province of Sulawesi Tenggara (Southeast Sulawesi) is located on the southeastern portion of the island of Sulawesi and includes numerous smaller offshore islands. The primary

mode of transportation among the smaller islands is by ferry. Prominent hazards include drought, extreme weather, flooding and earthquakes, the impacts of which are exacerbated by deforestation to make way for plantations and other agricultural activities. Mining practices have also contributed to land degradation and environmental challenges. The province's growing population will require economic and health care capacity improvements to improve resilience and help attain SDG and DRR goals.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Low

Score: 0.475 • Rank: 22/34



### RESILIENCE (R) - Low

Score: 0.502 • Rank: 20/34



### MULTI-HAZARD EXPOSURE (MHE) - Low

Score: 0.406 • Rank: 25/34



### VULNERABILITY (V) - Very High

Score: 0.486 • Rank: 6/34



### COPING CAPACITY (CC) - Moderate

Score: 0.484 • Rank: 16/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Moderate

Score: 0.509 • Rank: 18/34



Population (2020 Projected)

**2,755,600**



Population in Poverty

**11.0%**



Adult Literacy Rate

**94.9%**



Access to improved water

**89.7%**



Average life expectancy

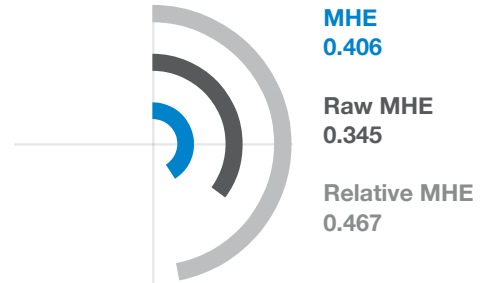
**71.0 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 25 / 34 PROVINCES  
SCORE: 0.406



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**31%**

775,466  
\$16.7 Billion



Tsunami

**3%**

78,787  
\$1.9 Billion



Flood

**31%**

772,498  
\$15.32 Billion



Flash Flood

**2%**

51,901  
\$1.1 Billion



Landslide

**1%**

29,036  
\$444.2 Million



Volcano

**0%**

-  
-



Drought

**63%**

1,579,177  
\$32.1 Billion



Wildfire

**10%**

247,424  
\$3.8 Billion



Extreme Weather

**94%**

2,357,579  
\$46.7 Billion





## VULNERABILITY (V)

**RANK: 6 / 34 PROVINCES ASSESSED**  
**SCORE: 0.486**

Vulnerability in Sulawesi Tenggara is primarily driven by Population Pressures and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



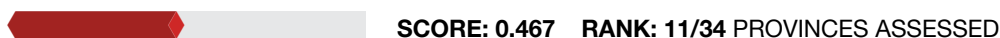
### Environmental Stress



<b>4.0%</b> Land susceptible to severe erosion	<b>18.63</b> Livestock Density (per sq km)	<b>20382.1</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status



<b>70.97</b> Life expectancy (years)	<b>45</b> Infant mortality rate (per 1,000 live births)	<b>206.25</b> Maternal mortality ratio	<b>11.9%</b> Children (under 5) Wasting	<b>8.7%</b> Disability	<b>7.6%</b> Unmet health care needs	<b>13.6%</b> Households with limited access to health facility
<b>0.5%</b> Households with catastrophic health expenditure	<b>23.51</b> Dengue incidence per 100,000 population	<b>1.43</b> Measles incidence per 100,000 population	<b>0.2</b> Malaria incidence per 100,000 population	<b>176</b> TB case notification per 100,000 population	<b>21.14</b> HIV & AIDS incidence per 100,000 population	<b>1.35</b> Prevalence of Leprosy per 10,000 population



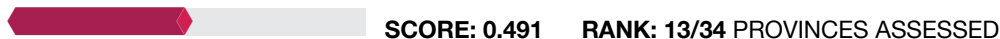
### Clean Water Vulnerability



<b>89.7%</b> Households with improved water	<b>79.8%</b> Households with improved sanitation
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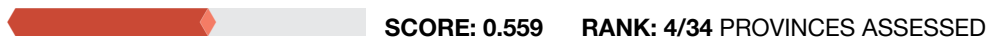
### Information Access Vulnerability



<b>94.9%</b> Adult literacy rate	<b>97.5%</b> Net primary school enrollment rate	<b>8.91</b> Average years of schooling	<b>71.2%</b> Households using internet
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### Economic Constraints



<b>3.6%</b> Unemployment rate	<b>58</b> Age dependency ratio	<b>11.0%</b> Poverty rate	<b>0.399</b> GINI ratio
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### Gender Inequality



<b>0.96</b> Female to male literacy rate	<b>0.66</b> Female to male labor ratio	<b>1.07</b> Female to male secondary school enrollment ratio	<b>18.2%</b> Percent female seats in government
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### Population Pressures



<b>2.3%</b> Average annual total population change	<b>5.7%</b> Average annual urban population change	<b>4.5%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.484**

Sulawesi Tenggara exhibits weaker Coping Capacity in the areas of Health Care Capacity and Economic Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.372 RANK: 16/34 PROVINCES ASSESSED**

<b>69.1%</b> Labor force participation	<b>2,624,771</b> Average monthly income (IDR)	<b>32.1</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.684 RANK: 6/34 PROVINCES ASSESSED**

<b>49</b> Crime rate per 100,000 population	<b>69.6%</b> Crime clearance rate	<b>82.7%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.315 RANK: 19/34 PROVINCES ASSESSED**

**7.9%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.453 RANK: 23/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.363 RANK: 27/34 PROVINCES ASSESSED

<b>10.8</b> Hospital beds per 10,000 people	<b>1.8</b> Physicians per 10,000 people	<b>18.2</b> Nurses and midwives per 10,000 people	<b>29.6%</b> Time to public hospital (over 1 hour)	<b>50.6%</b> Immunization rate (children under 5)	<b>55.0%</b> Health care accreditation rate	<b>68.4%</b> Population covered by health insurance
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### Transportation Capacity SCORE: 0.427 RANK: 16/34 PROVINCES ASSESSED

<b>0.20</b> Road and rail density	<b>30.73</b> Average distance to port or airport
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### Communications Capacity SCORE: 0.562 RANK: 23/34 PROVINCES ASSESSED

<b>62.7%</b> Mobile phone ownership	<b>0.7%</b> Households with Fixed Phones
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### Energy Capacity SCORE: 0.459 RANK: 22/34 PROVINCES ASSESSED

<b>94.0%</b> Households served by state electricity	<b>0.3%</b> Percentage of total national electricity generated in province	<b>32.92</b> Electricity generation GWh per 100,000 Population	<b>59.0%</b> Households with gas for cooking
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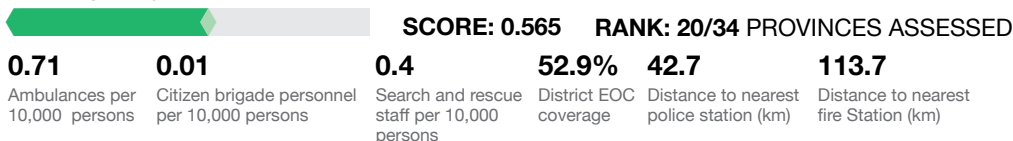
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.509**

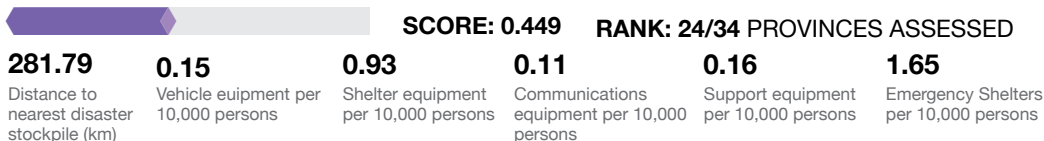
Sulawesi Tenggara exhibits weaker Disaster Management Capabilities in the areas of Mass Care Support and Early Warning and Monitoring. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



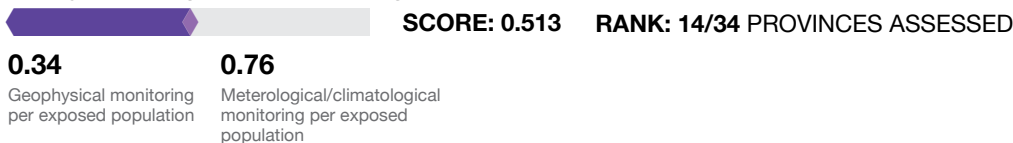
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 20 / 34 PROVINCES ASSESSED**  
**SCORE: 0.502**

Sulawesi Tenggara's Low Resilience score and ranking are due to Very High Vulnerability combined with Moderate Coping Capacity, and Moderate Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Population Pressures**



**Economic Constraints**



**Health Care Capacity**



**Economic Capacity**



**Mass Care Support**



**Early Warning and Monitoring**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 20 / 34 PROVINCES ASSESSED**  
**SCORE: 0.215**



**Tsunami**

**RANK: 11 / 34 PROVINCES ASSESSED**  
**SCORE: 0.26**



**Flood**

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.184**



**Flash Flood**

**RANK: 22 / 34 PROVINCES ASSESSED**  
**SCORE: 0.174**



**Landslide**

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.179**



**Volcano**

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.142**



**Drought**

**RANK: 14 / 34 PROVINCES ASSESSED**  
**SCORE: 0.237**



**Wildfire**

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.203**



**Extreme Weather**

**RANK: 19 / 34 PROVINCES ASSESSED**  
**SCORE: 0.248**



## MULTI-HAZARD RISK (MHR)

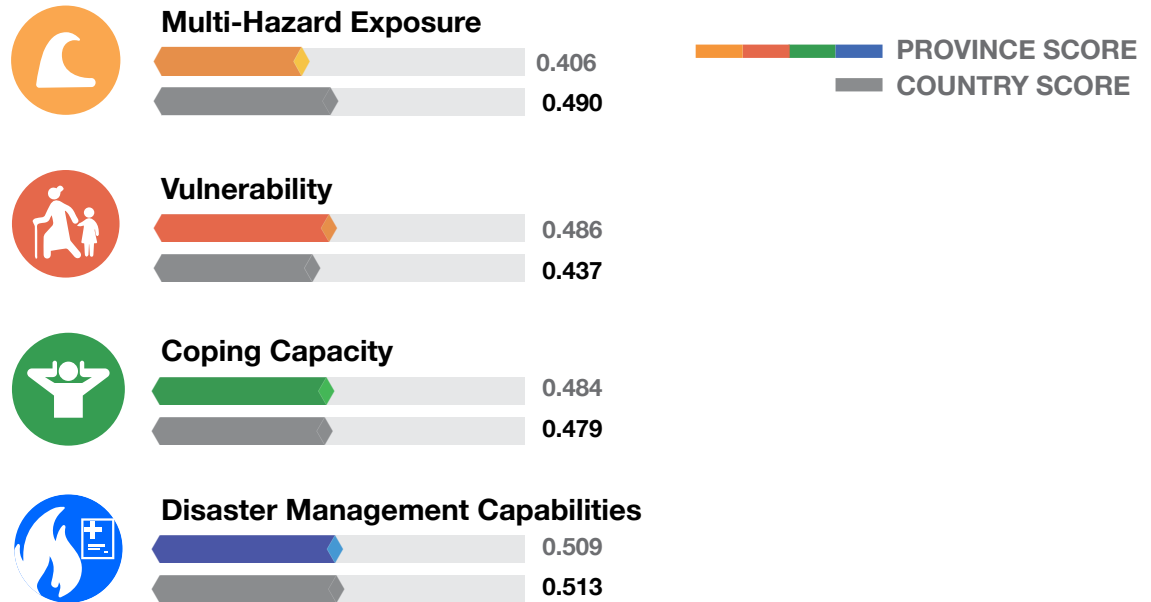
**22 / 34**

RANK WITHIN PROVINCES  
Score: 0.475



Sulawesi Tenggara’s Low Multi-hazard Risk score and ranking are due to Low Multi-hazard exposure combined with Very High Vulnerability, Moderate Coping Capacity, and Moderate Disaster Management Capabilities scores.

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



# SULAWESI TENGGARA RECOMMENDATIONS

## 1

### Population Pressures

Sulawesi Tenggara ranks 5th for overall Population Pressures, with Urban Population Change (5.69%) and Average Population Change (2.28%) being the most influential drivers. Drought, extreme weather, flooding and earthquakes are prominent hazards in the province. As the population grows and urban expansion ensues, more people and economic assets will be exposed to these hazards.

Implement strategic and long-term development planning that accounts for potential hazard impacts by implementing risk reduction initiatives to protect human lives and reduce damages and losses.

As investments in urban infrastructure increase, consider options for mass transit/public transport systems to augment transportation needs, reduce congestion and reduce environment impacts (e.g., air pollution).

## 2

### Economic Constraints

Sulawesi Tenggara ranks 4th for overall Economic Constraints in the country, driven by the 3rd highest Age Dependency Ratio (ratio of non-working age population to working age population), and the 4th highest GINI ratio.

Increase opportunities to expand participation of women in education and economic activities through the enactment of policies that provide quality, affordable childcare and health care services.

# SULAWESI TENGGARA RECOMMENDATIONS

## 3

### Health Care Capacity

Sulawesi Tenggara has the 8th lowest ranking for overall Health Care Capacity. Drivers include the low number of Physicians (1.8 per 10,000 persons) and Accreditation of Health Care Facilities (55%).

Increase access to and quality of health care through infrastructure improvements and expanded health care services in rural areas. Address disparities in budget, personnel, medical equipment and supplies to boost accreditation of health care facilities. Increase the number of medical professionals working in rural areas by offering financial and infrastructure support incentives (e.g., housing).

## 4

### Economic Capacity

Sulawesi Tenggara ranks 16th for overall Economic Capacity. Average Monthly Income (2.6 million IDR). GDP per Capita (32.1 million IDR).

Promote job creation and employment opportunities in urban areas to boost economic productivity among the rising urban population. Include programs that target women, youth, and populations transitioning from informal to formal sectors.

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# SULAWESI TENGGARA RECOMMENDATIONS

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## 5

### Mass Care Support

Sulawesi Tenggara has the 11th lowest ranking for Mass Care Support. Capabilities could be enhanced through increasing disaster equipment supplies, increasing sheltering capabilities through the identification of additional emergency shelters, and strategic placement of disaster stockpiles to improve access during a disaster.

## 6

### Early Warning and Monitoring

Sulawesi Tenggara ranks 14th for Early Warning and Monitoring capabilities. As the population of the province grows, anticipate the need for expanded warning dissemination capabilities and community participation in preparedness and response activities to improve overall resilience.



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**INDONESIA**

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# **SULAWESI UTARA**

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**NDPBA PROVINCE PROFILE**

# SULAWESI UTARA

## CAPITAL: MANADO

Area: 13,892 km<sup>2</sup>



Sulawesi Utara (North Sulawesi) is auspiciously located on Sulawesi Island, south of the Philippines and southeast Malaysia, with various colonial influences via the

Dutch, British and others. Tourism, mining and agricultural pursuits have dominated the economy and both volcanic and seismic hazards have occurred in recent years. The World Bank, BMKG, and BNPB have all put forth DRR innovations for the region and improvements in environmental and health capacities are advised in the coming years to bolster DRR and CCA efforts.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - High

Score: 0.512 • Rank: 11/34



### RESILIENCE (R) - Moderate

Score: 0.532 • Rank: 13/34



### MULTI-HAZARD EXPOSURE (MHE) - Very High

Score: 0.646 • Rank: 6/34



### VULNERABILITY (V) - Very Low

Score: 0.367 • Rank: 31/34



### COPING CAPACITY (CC) - Low

Score: 0.431 • Rank: 26/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Moderate

Score: 0.533 • Rank: 13/34



Population (2020 Projected)

**2,528,800**



Population in Poverty

**7.5%**



Adult Literacy Rate

**99.8%**



Access to improved water

**90.8%**



Average life expectancy

**71.6 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 6 / 34 PROVINCES  
SCORE: 0.646



MHE  
0.646

Raw MHE  
0.393

Relative MHE  
0.899

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**93%**

2,200,620  
\$35.6 Billion



Tsunami

**7%**

171,779  
\$2.2 Billion



Flood

**17%**

409,646  
\$6.8 Billion



Flash Flood

**6%**

139,803  
\$2.6 Billion



Landslide

**5%**

112,727  
\$1.4 Billion



Volcano

**17%**

407,220  
\$7.2 Billion



Drought

**100%**

2,349,224  
\$37.6 Billion



Wildfire

**2%**

57,254  
\$669.6 Million



Extreme Weather

**94%**

2,219,843  
\$35.5 Billion



## VULNERABILITY (V)

**RANK: 31 / 34 PROVINCES ASSESSED**  
**SCORE: 0.367**

Vulnerability in Sulawesi Utara is primarily driven by Vulnerable Health Status and Environmental Stress. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.439 RANK: 9/34 PROVINCES ASSESSED**

<b>18.0%</b> Land susceptible to severe erosion	<b>45.14</b> Livestock Density (per sq km)	<b>3135</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.498 RANK: 9/34 PROVINCES ASSESSED**

<b>71.58</b> Life expectancy (years)	<b>33</b> Infant mortality rate (per 1,000 live births)	<b>235.71</b> Maternal mortality ratio	<b>9.6%</b> Children (under 5) Wasting	<b>11.9%</b> Disability	<b>5.5%</b> Unmet health care needs	<b>8.3%</b> Households with limited access to health facility
<b>2.0%</b> Households with catastrophic health expenditure	<b>64.72</b> Dengue incidence per 100,000 population	<b>0.89</b> Measles incidence per 100,000 population	<b>0.15</b> Malaria incidence per 100,000 population	<b>273</b> TB case notification per 100,000 population	<b>72.41</b> HIV & AIDS incidence per 100,000 population	<b>2.13</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.307 RANK: 27/34 PROVINCES ASSESSED**

<b>90.8%</b> Households with improved water	<b>82.4%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.401 RANK: 20/34 PROVINCES ASSESSED**

<b>99.8%</b> Adult literacy rate	<b>95.0%</b> Net primary school enrollment rate	<b>9.43</b> Average years of schooling	<b>74.1%</b> Households using internet
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### Economic Constraints

**SCORE: 0.434 RANK: 15/34 PROVINCES ASSESSED**

<b>6.3%</b> Unemployment rate	<b>46.4</b> Age dependency ratio	<b>7.5%</b> Poverty rate	<b>0.367</b> GINI ratio
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### Gender Inequality

**SCORE: 0.219 RANK: 34/34 PROVINCES ASSESSED**

<b>1</b> Female to male literacy rate	<b>0.52</b> Female to male labor ratio	<b>1</b> Female to male secondary school enrollment ratio	<b>33.3%</b> Percent female seats in government
--	---	--	--



### Population Pressures

**SCORE: 0.273 RANK: 30/34 PROVINCES ASSESSED**

<b>1.1%</b> Average annual total population change	<b>3.4%</b> Average annual urban population change	<b>-1.0%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 26 / 34 PROVINCES ASSESSED**  
**SCORE: 0.431**

Sulawesi Utara exhibits weaker Coping Capacity in the areas of Governance and Economic Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.318 RANK: 20/34 PROVINCES ASSESSED**

<b>63.9%</b> Labor force participation	<b>3,315,107</b> Average monthly income (IDR)	<b>33.7</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.312 RANK: 32/34 PROVINCES ASSESSED**

<b>416</b> Crime rate per 100,000 population	<b>53.7%</b> Crime clearance rate	<b>83.6%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.731 RANK: 5/34 PROVINCES ASSESSED**

**17.7%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.563 RANK: 14/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.622 RANK: 6/34 PROVINCES ASSESSED

<b>21</b> Hospital beds per 10,000 people	<b>8.17</b> Physicians per 10,000 people	<b>16.22</b> Nurses and midwives per 10,000 people	<b>18.3%</b> Time to public hospital (over 1 hour)	<b>52.8%</b> Immunization rate (children under 5)	<b>59.4%</b> Health care accreditation rate	<b>76.1%</b> Population covered by health insurance
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### Transportation Capacity SCORE: 0.433 RANK: 14/34 PROVINCES ASSESSED

<b>0.32</b> Road and rail density	<b>34.73</b> Average distance to port or airport
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### Communications Capacity SCORE: 0.630 RANK: 16/34 PROVINCES ASSESSED

<b>67.9%</b> Mobile phone ownership	<b>0.7%</b> Households with Fixed Phones
--	---



### Energy Capacity SCORE: 0.567 RANK: 14/34 PROVINCES ASSESSED

<b>99.2%</b> Households served by state electricity	<b>0.4%</b> Percentage of total national electricity generated in province	<b>45.7</b> Electricity generation GWh per 100,000 Population	<b>75.3%</b> Households with gas for cooking
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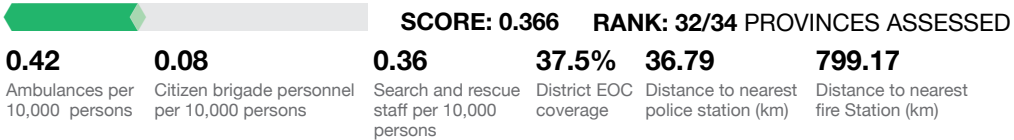
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 13 / 34 PROVINCES ASSESSED**  
**SCORE: 0.533**

Sulawesi Utara exhibits weaker Disaster Management Capabilities in the areas of Emergency Services and Mass Care Support. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



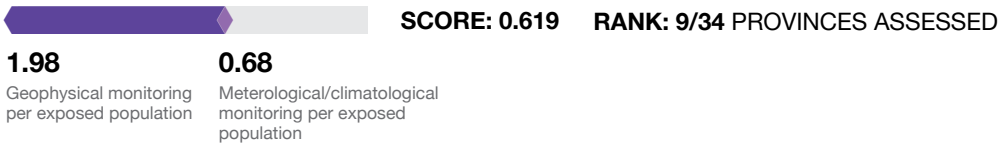
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

RANK: 13 / 34 PROVINCES ASSESSED

SCORE: 0.532

Sulawesi Utara's Moderate Resilience score and ranking are due to Very Low Vulnerability combined with Low Coping Capacity, and Moderate Disaster Management Capabilities scores.

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



Vulnerable Health Status



Environmental Stress



Governance



Economic Capacity



Emergency Services



Mass Care Support



## HAZARD-SPECIFIC RISK (HSR)



Earthquake

RANK: 14 / 34 PROVINCES ASSESSED

SCORE: 0.269



Tsunami

RANK: 13 / 34 PROVINCES ASSESSED

SCORE: 0.254



Flood

RANK: 29 / 34 PROVINCES ASSESSED

SCORE: 0.142



Flash Flood

RANK: 11 / 34 PROVINCES ASSESSED

SCORE: 0.244



Landslide

RANK: 17 / 34 PROVINCES ASSESSED

SCORE: 0.207



Volcano

RANK: 2 / 34 PROVINCES ASSESSED

SCORE: 0.340



Drought

RANK: 7 / 34 PROVINCES ASSESSED

SCORE: 0.281



Wildfire

RANK: 30 / 34 PROVINCES ASSESSED

SCORE: 0.154



Extreme Weather

RANK: 20 / 34 PROVINCES ASSESSED

SCORE: 0.238





## MULTI-HAZARD RISK (MHR)

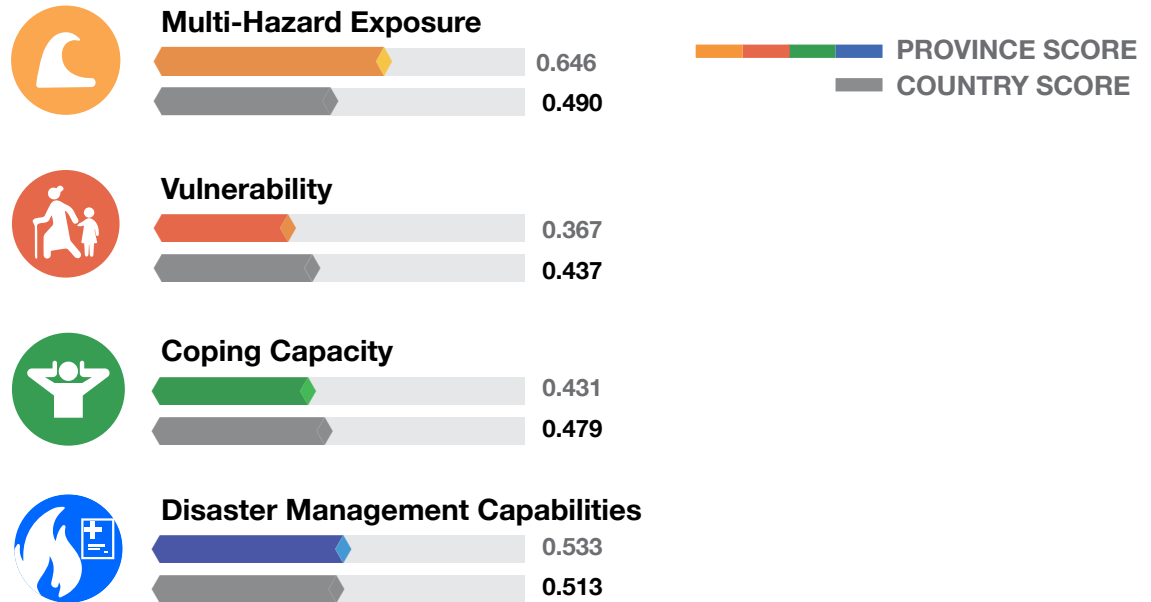
**11 / 34**

RANK WITHIN PROVINCES  
Score: 0.512



Sulawesi Utara's High Multi-hazard Risk score and ranking are due to Very High Multi-hazard exposure combined with Very Low Vulnerability, Low Coping Capacity, and Moderate Disaster Management Capabilities scores.

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



# SULAWESI UTARA RECOMMENDATIONS

# 1

## Vulnerable Health Status

Sulawesi Utara has the 9th highest ranking for Vulnerable Health Status and the 4th highest Infectious Disease ranking with some of the higher disease rates for tuberculosis, dengue, leprosy, HIV AIDS and malaria. The province also has high rates of hazard exposure to earthquakes, drought, extreme weather and flooding, all of which can exacerbate health risks.

Strengthen programs focused on disease prevention and health promotion to counter preventable diseases through protective measures (e.g., vaccination and mosquito nets) and good hygiene practices.

Enhance water management practices to protect water supplies (watershed and catchment areas), reduce waste, and reduce or eliminate mosquito-borne disease vectors.

# 2

## Environmental Stress

Sulawesi Utara has the 9th highest ranking for Environmental Stress, with 18% of the land area prone to severe erosion rates.

Strengthen environmental policies and regulations related to industrial pollution and agricultural land use to implement protective measures against land degradation due to poor management practices (e.g., disposal of industrial waste, agricultural runoff and overgrazing of livestock). Strong environmental policies will support economic growth and protect the growing tourism industry, centered around the province's scenic and natural beauty.

## SULAWESI UTARA RECOMMENDATIONS

### 3

#### Governance

Sulawesi Utara has the 3rd lowest Governance ranking with the highest Crime Rate per 100,000 (416 persons) in the country. Findings show that responsiveness of police personnel is hampered by distance. The average Distance to a police station in the province is 37 km.

Strengthen government institutions to improve systems focused on the promotion of accountability and rule of law.

Garner support for public security through increased law enforcement and surveillance, youth education and personal safety programs.

### 4

#### Economic Capacity

Sulawesi Utara ranks 20th for overall Economic Capacity. While Average Monthly Income (3.3 million IDR) is the 9th highest in Indonesia, the province has the 4th lowest Labor Force Participation rate (63.8%).

Promote initiatives that create jobs, diversify the economy, generate public revenue, and build the entrepreneurial and technical skills of small business owners and household enterprises.

# SULAWESI UTARA RECOMMENDATIONS

## 5

### Emergency Services

Findings show that Sulawesi Utara has the 3rd lowest ranking for overall Emergency Services capabilities. The Average Distance to a Fire Station is nearly 800 km away.

Build institutional and operational capacities at district levels through investments in emergency management and emergency services, including establishment of emergency operations centers, police and fire stations, and ambulance service.

## 6

### Mass Care Support

Sulawesi Utara ranks 9th for overall Mass Care Support. Greater numbers of Emergency Shelters and Disaster Equipment to support mass care would boost capabilities to serve the population in the aftermath of a disaster. Given the general poor health status and prevalence of disease in the provincial population, logistical planning should anticipate the increased need for medical supplies and care equipment for populations with poor health.

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# **SUMATERA BARAT**

**NDPBA PROVINCE PROFILE**

# SUMATERA BARAT

## CAPITAL: PADANG

Area: 42,013 km<sup>2</sup>



Sumatera Barat (West Sumatra) is located on the west coast of the island of Sumatra with the Mentawai islands offshore having both a unique indigenous population and thriving tourism industry. The region was heavily impacted by the 2004 Indian Ocean earthquake and tsunami event and both BNPB and external actors such as DFID and USAID have worked to incorporate indigenous knowledge into DRR efforts. Multi-hazard risk and exposure are very high for Sumatera Barat and disaster management capabilities and coping capacity will need to be improved. Specific focus on strengthening transportation, governance, access to clean water and sanitation, and gender equity will help further CCA efforts to achieve SDGs.

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) - Very High

Score: 0.553 • Rank: 6/34



### RESILIENCE (R) - Low

Score: 0.484 • Rank: 24/34



### MULTI-HAZARD EXPOSURE (MHE) - Very High

Score: 0.664 • Rank: 5/34



### VULNERABILITY (V) - High

Score: 0.453 • Rank: 12/34



### COPING CAPACITY (CC) - Low

Score: 0.404 • Rank: 27/34



### DISASTER MANAGEMENT CAPABILITIES (DMC) - Low

Score: 0.500 • Rank: 21/34



Population (2020 Projected)

**5,498,800**



Population in Poverty

**6.3%**



Adult Literacy Rate

**99.2%**



Access to improved water

**81.4%**



Average life expectancy

**69.3 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 5 / 34 PROVINCES  
SCORE: 0.664



MHE  
0.664

Raw MHE  
0.658

Relative MHE  
0.669

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**97%**

5,108,222  
\$149.6 Billion



Tsunami

**10%**

524,956  
\$35.5 Billion



Flood

**35%**

1,837,539  
\$83.88 Billion



Flash Flood

**10%**

552,053  
\$31.3 Billion



Landslide

**6%**

308,187  
\$5.4 Billion



Volcano

**3%**

133,001  
\$1.6 Billion



Drought

**3%**

171,353  
\$1.5 Billion



Wildfire

**8%**

440,411  
\$5.1 Billion



Extreme Weather

**97%**

5,128,845  
\$149.8 Billion





## VULNERABILITY (V)

**RANK: 12 / 34 PROVINCES ASSESSED**  
**SCORE: 0.453**

Vulnerability in Sumatera Barat is primarily driven by Clean Water Access Vulnerability and Gender Inequality. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.437 RANK: 10/34 PROVINCES ASSESSED**

<b>22.1%</b> Land susceptible to severe erosion	<b>18.67</b> Livestock Density (per sq km)	<b>3824.1</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.376 RANK: 20/34 PROVINCES ASSESSED**

<b>69.31</b> Life expectancy (years)	<b>27</b> Infant mortality rate (per 1,000 live births)	<b>181.7</b> Maternal mortality ratio	<b>11.3%</b> Children (under 5) Wasting	<b>9.4%</b> Disability	<b>3.3%</b> Unmet health care needs	<b>3.8%</b> Households with limited access to health facility
<b>1.8%</b> Households with catastrophic health expenditure	<b>40.93</b> Dengue incidence per 100,000 population	<b>3.81</b> Measles incidence per 100,000 population	<b>0.06</b> Malaria incidence per 100,000 population	<b>201</b> TB case notification per 100,000 population	<b>36.38</b> HIV & AIDS incidence per 100,000 population	<b>0.12</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.718 RANK: 4/34 PROVINCES ASSESSED**

<b>81.4%</b> Households with improved water	<b>64.0%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.337 RANK: 29/34 PROVINCES ASSESSED**

<b>99.2%</b> Adult literacy rate	<b>98.7%</b> Net primary school enrollment rate	<b>8.92</b> Average years of schooling	<b>69.7%</b> Households using internet
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### Economic Constraints

**SCORE: 0.385 RANK: 21/34 PROVINCES ASSESSED**

<b>5.3%</b> Unemployment rate	<b>54.8</b> Age dependency ratio	<b>6.3%</b> Poverty rate	<b>0.306</b> GINI ratio
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### Gender Inequality

**SCORE: 0.572 RANK: 8/34 PROVINCES ASSESSED**

<b>0.99</b> Female to male literacy rate	<b>0.67</b> Female to male labor ratio	<b>1.21</b> Female to male secondary school enrollment ratio	<b>10.8%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.348 RANK: 25/34 PROVINCES ASSESSED**

<b>1.3%</b> Average annual total population change	<b>4.5%</b> Average annual urban population change	<b>-0.1%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.404**

Sumatera Barat exhibits weaker Coping Capacity in the areas of Transportation Capacity and Governance. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.334 RANK: 19/34 PROVINCES ASSESSED**

<b>67.5%</b> Labor force participation	<b>2,681,766</b> Average monthly income (IDR)	<b>32.5</b> GDP per capita (Million IDR)
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### Governance

**SCORE: 0.285 RANK: 33/34 PROVINCES ASSESSED**

<b>243</b> Crime rate per 100,000 population	<b>45.3%</b> Crime clearance rate	<b>79.0%</b> Voter participation
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### Environmental Capacity

**SCORE: 0.794 RANK: 3/34 PROVINCES ASSESSED**

**19.2%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.464 RANK: 21/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.517 RANK: 13/34 PROVINCES ASSESSED

<b>13.1</b> Hospital beds per 10,000 people	<b>3.92</b> Physicians per 10,000 people	<b>16.55</b> Nurses and midwives per 10,000 people	<b>17.4%</b> Time to public hospital (over 1 hour)	<b>39.5%</b> Immunization rate (children under 5)	<b>85.5%</b> Health care accreditation rate	<b>76.3%</b> Population covered by health insurance
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### Transportation Capacity SCORE: 0.273 RANK: 26/34 PROVINCES ASSESSED

<b>0.22</b> Road and rail density	<b>46.87</b> Average distance to port or airport
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### Communications Capacity SCORE: 0.622 RANK: 17/34 PROVINCES ASSESSED

<b>62.6%</b> Mobile phone ownership	<b>1.2%</b> Households with Fixed Phones
--	---



### Energy Capacity SCORE: 0.444 RANK: 25/34 PROVINCES ASSESSED

<b>97.2%</b> Households served by state electricity	<b>0.0%</b> Percentage of total national electricity generated in province	<b>1.26</b> Electricity generation GWh per 100,000 Population	<b>72.5%</b> Households with gas for cooking
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# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 21 / 34 PROVINCES ASSESSED**  
**SCORE: 0.500**

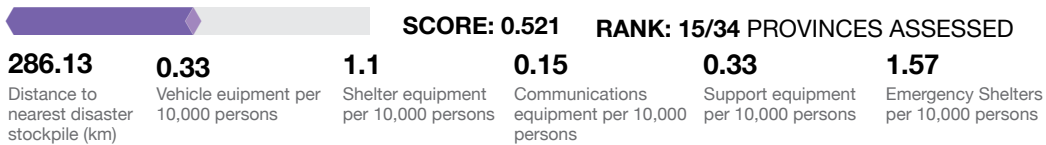
Sumatera Barat exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Mass Care Support. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



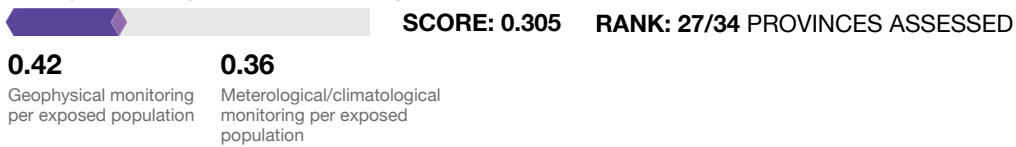
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.484**

Sumatera Barat's Low Resilience score and ranking are due to High Vulnerability combined with Low Coping Capacity, and Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Clean Water  
Access  
Vulnerability**



**Gender  
Inequality**



**Transportation  
Capacity**



**Governance**



**Early Warning  
and Monitoring**



**Mass Care  
Support**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.352**



**Tsunami**

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.375**



**Flood**

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.289**



**Flash Flood**

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.371**



**Landslide**

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.276**



**Volcano**

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.298**



**Drought**

**RANK: 28 / 34 PROVINCES ASSESSED**  
**SCORE: 0.147**



**Wildfire**

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.234**



**Extreme Weather**

**RANK: 3 / 34 PROVINCES ASSESSED**  
**SCORE: 0.327**



## MULTI-HAZARD RISK (MHR)

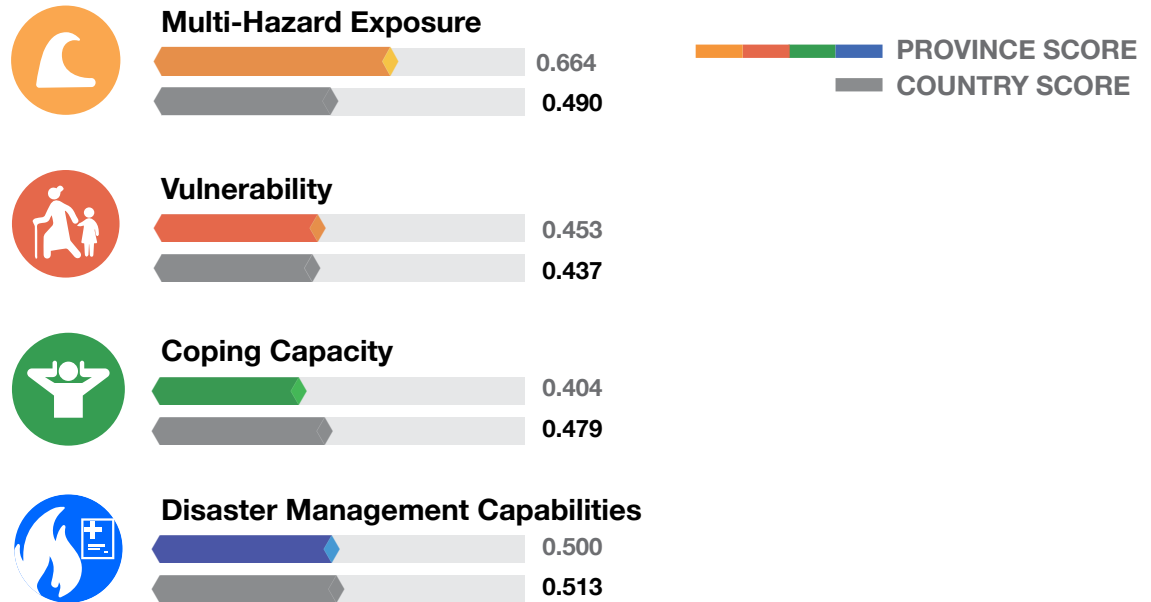
**6 / 34**

RANK WITHIN PROVINCES  
Score: 0.553



Sumatera Barat's Very High Multi-hazard Risk score and ranking are due to Very High Multi-hazard exposure combined with High Vulnerability, Low Coping Capacity, and Low Disaster Management Capabilities scores.

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



# SUMATERA BARAT RECOMMENDATIONS

1

## Clean Water Access Vulnerability

Sumatera Barat ranks 4th for Clean Water Access Vulnerability driven by the 2nd lowest score for Improved Sanitation (63.98% households). Investments are needed to improve water and sanitation infrastructure to increase access to clean water and sanitation services and reduce health risks.

Findings show that approximately 50% of Sumatera Barat's population and economic assets are exposed to flooding. Educate exposed communities on potential impacts of flooding on fresh water and sanitation systems.

Sumatera Barat has a high rate of exposure to earthquakes. Implement mitigation strategies to protect clean water and sanitation infrastructure investments to reduce potential hazard impacts and increase resilience.

2

## Gender Inequality

Sumatera Barat has the 8th highest ranking for overall Gender Inequality. Most significant findings show inequities related to female to male Secondary Enrollment and female representation in government below 12%, considerably lower than the country's target for female representation in government of 30%.

Promote gender equality through the enactment and implementation of laws that establish rights, responsibilities and opportunities for women, men, girls and boys related to education, leadership, employment.

Promote higher education opportunities for women to provide greater economic opportunities and enhanced quality of life.

# SUMATERA BARAT RECOMMENDATIONS

## 3

### Transportation Capacity

---

Sumatera Barat has the 9th lowest ranking for Transportation Capacity in the country driven by the 3rd highest Average Distance to a Port or Airport (46.87 km). Improvements to transportation networks will facilitate disaster response and relief efforts.

Increase connectivity between port facilities (i.e., airports and seaports) and land-based infrastructure (i.e., roads and railways).

Consider public-private and multi-agency engagement to strengthen planning and implementation of new transportation infrastructure to increase overall infrastructure capacity improvements (e.g., water, electricity, telecommunications).

## 4

### Governance

---

Sumatera Barat has the 2nd lowest ranking for Governance, influenced by the 2nd lowest Voter Participation Rate (78.98%), the 5th lowest Crime Clearance Rate (45.27%) and the 6th highest Crime Rate per 100,000 persons (243 persons).

Strengthen institutions to ensure continuity of government and rule of law to reduce the potential for civil unrest due to a disaster.

Cultivate public support for increased surveillance monitoring and promote public safety campaigns.

---

# SUMATERA BARAT RECOMMENDATIONS

## 5

### Early Warning and Monitoring

---

Sumatera Barat has the 7th lowest ranking for Early Warning and Monitoring capabilities.

Implement preparedness campaigns that educate communities about their exposure to potential hazards, and socialize alert and warning procedures and protective actions they can take to safeguard lives and property.

## 6

### Mass Care Support

---

Sumatera Barat ranks 15th for Mass Care Support and 8th for Disaster Equipment capabilities. Logistical enhancements could be made with regards to sheltering and greater accessibility to Disaster Stockpiles. On average Disaster Stockpiles are 286 km away from populated areas. Sumatera Barat has 1.57 Emergency Shelters per 10,000 persons. Ensure that gender considerations are included in sheltering plans.



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**INDONESIA**

# **SUMATERA SELATAN**

**NDPBA PROVINCE PROFILE**

# SUMATERA SELATAN

**CAPITAL: PALEMBANG**

Area: 91,592 km<sup>2</sup>



Sumatera Selatan (South Sumatra) is a multi-ethnic and diverse region on Sumatra with an abundance of extractive and energy industries. Mountains and rivers characterize

the landscape and Palembang and environs have traditionally encountered fires and flooding, with excellent school-level DRR and localization efforts employed to raise awareness and further DRR. Although coping capacity and resilience levels are moderate across Sumatera Selatan, disaster management capabilities will need to be improved, along with clean water and sanitation services, information access, transportation infrastructure and economic capacities to further mitigate risk.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Low**

Score: 0.483 • Rank: 20/34



**RESILIENCE (R) - Moderate**

Score: 0.511 • Rank: 18/34



**MULTI-HAZARD EXPOSURE (MHE) - Moderate**

Score: 0.466 • Rank: 17/34



**VULNERABILITY (V) - Very Low**

Score: 0.384 • Rank: 30/34



**COPING CAPACITY (CC) - Moderate**

Score: 0.483 • Rank: 17/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Very Low**

Score: 0.436 • Rank: 29/34



Population (2020 Projected)

**8,567,900**



Population in Poverty

**12.6%**



Adult Literacy Rate

**98.8%**



Access to improved water

**80.4%**



Average life expectancy

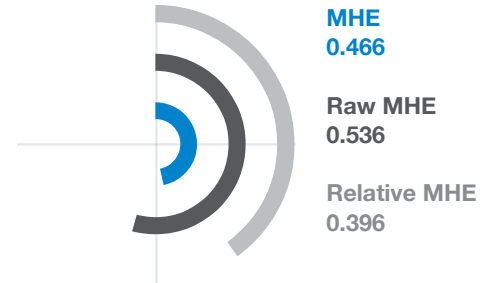
**69.7 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 17 / 34 PROVINCES  
SCORE: 0.466



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**13%**

1,080,042  
\$10.9 Billion



Tsunami

**0%**

-  
-



Flood

**51%**

4,173,694  
\$44.6 Billion



Flash Flood

**3%**

227,656  
\$2.3 Billion



Landslide

**1%**

53,131  
\$524.9 Million



Volcano

**<1%**

6,708  
\$65.1 Billion



Drought

**40%**

3,284,848  
\$33.1 Billion



Wildfire

**16%**

1,309,848  
\$12.8 Billion



Extreme Weather

**98%**

8,056,287  
\$84.7 Billion



## VULNERABILITY (V)

**RANK: 30 / 34 PROVINCES ASSESSED**  
**SCORE: 0.384**

Vulnerability in Sumatera Selatan is primarily driven by Clean Water Access Vulnerability and Information Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.26 RANK: 30/34 PROVINCES ASSESSED**

<b>2.6%</b> Land susceptible to severe erosion	<b>8.73</b> Livestock Density (per sq km)	<b>3619.4</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.391 RANK: 18/34 PROVINCES ASSESSED**

<b>69.65</b> Life expectancy (years)	<b>29</b> Infant mortality rate (per 1,000 live births)	<b>93.75</b> Maternal mortality ratio	<b>11.4%</b> Children (under 5) Wasting	<b>9.0%</b> Disability	<b>4.1%</b> Unmet health care needs	<b>18.8%</b> Households with limited access to health facility
<b>1.4%</b> Households with catastrophic health expenditure	<b>28.72</b> Dengue incidence per 100,000 population	<b>6.03</b> Measles incidence per 100,000 population	<b>0.07</b> Malaria incidence per 100,000 population	<b>234</b> TB case notification per 100,000 population	<b>13.32</b> HIV & AIDS incidence per 100,000 population	<b>0.35</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.556 RANK: 12/34 PROVINCES ASSESSED**

<b>80.4%</b> Households with improved water	<b>74.7%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.449 RANK: 15/34 PROVINCES ASSESSED**

<b>98.8%</b> Adult literacy rate	<b>97.9%</b> Net primary school enrollment rate	<b>8.18</b> Average years of schooling	<b>66.4%</b> Households using internet
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### Economic Constraints

**SCORE: 0.386 RANK: 20/34 PROVINCES ASSESSED**

<b>4.5%</b> Unemployment rate	<b>48.4</b> Age dependency ratio	<b>12.6%</b> Poverty rate	<b>0.331</b> GINI ratio
----------------------------------	-------------------------------------	------------------------------	----------------------------



### Gender Inequality

**SCORE: 0.392 RANK: 30/34 PROVINCES ASSESSED**

<b>0.99</b> Female to male literacy rate	<b>0.61</b> Female to male labor ratio	<b>1.04</b> Female to male secondary school enrollment ratio	<b>21.3%</b> Percent female seats in government
---	---	---	--



### Population Pressures

**SCORE: 0.256 RANK: 31/34 PROVINCES ASSESSED**

<b>1.5%</b> Average annual total population change	<b>1.9%</b> Average annual urban population change	<b>-4.3%</b> Recent Net migration
---	---	--------------------------------------



## COPING CAPACITY (CC)

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.483**

Sumatera Selatan exhibits weaker Coping Capacity in the areas of Transportation Capacity and Economic Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.315** **RANK: 22/34 PROVINCES ASSESSED**

**67.9%** **2,309,090** **38.8**  
Labor force participation Average monthly income (IDR) GDP per capita (Million IDR)



### Governance

**SCORE: 0.651** **RANK: 11/34 PROVINCES ASSESSED**

**164** **74.8%** **84.0%**  
Crime rate per 100,000 population Crime clearance rate Voter participation



### Environmental Capacity

**SCORE: 0.332** **RANK: 18/34 PROVINCES ASSESSED**

**8.3%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.533** **RANK: 15/34 PROVINCES ASSESSED**



### Health Care Capacity

**SCORE: 0.393** **RANK: 21/34 PROVINCES ASSESSED**

**10.8** **2.84** **20.51** **32.2%** **37.3%** **74.9%** **63.2%**  
Hospital beds per 10,000 people Physicians per 10,000 people Nurses and midwives per 10,000 people Time to public hospital (over 1 hour) Immunization rate (children under 5) Health care accreditation rate Population covered by health insurance



### Transportation Capacity

**SCORE: 0.266** **RANK: 27/34 PROVINCES ASSESSED**

**0.13** **43.03**  
Road and rail density Average distance to port or airport



### Communications Capacity

**SCORE: 0.607** **RANK: 19/34 PROVINCES ASSESSED**

**60.7%** **1.3%**  
Mobile phone ownership Households with Fixed Phones



### Energy Capacity

**SCORE: 0.867** **RANK: 4/34 PROVINCES ASSESSED**

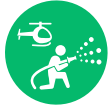
**95.2%** **5.9%** **195.57** **91.8%**  
Households served by state electricity Percentage of total national electricity generated in province Electricity generation GWh per 100,000 Population Households with gas for cooking



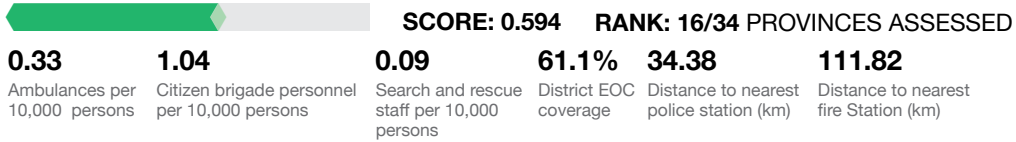
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 29 / 34** PROVINCES ASSESSED  
**SCORE: 0.436**

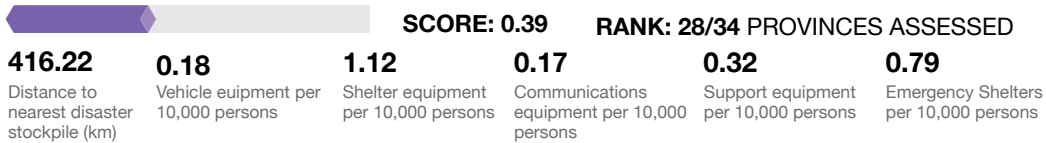
Sumatera Selatan exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Mass Care Support. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



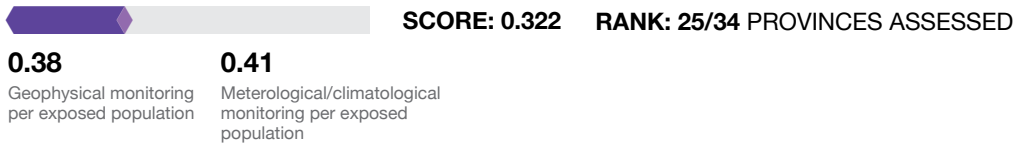
## Emergency Services



## Mass Care Support



## Early Warning and Monitoring







## RESILIENCE (R)

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.511**

Sumatera Selatan's Moderate Resilience score and ranking are due to Very Low Vulnerability combined with Moderate Coping Capacity, and Very Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Clean Water  
Access  
Vulnerability**



**Information  
Access  
Vulnerability**



**Transportation  
Capacity**



**Economic  
Capacity**



**Early Warning  
and Monitoring**



**Mass Care  
Support**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.171**



**Tsunami**

**RANK: 27 / 34 PROVINCES ASSESSED**  
**SCORE: 0.129**



**Flood**

**RANK: 9 / 34 PROVINCES ASSESSED**  
**SCORE: 0.269**



**Flash Flood**

**RANK: 15 / 34 PROVINCES ASSESSED**  
**SCORE: 0.211**



**Landslide**

**RANK: 23 / 34 PROVINCES ASSESSED**  
**SCORE: 0.176**



**Volcano**

**RANK: 18 / 34 PROVINCES ASSESSED**  
**SCORE: 0.209**



**Drought**

**RANK: 17 / 34 PROVINCES ASSESSED**  
**SCORE: 0.226**



**Wildfire**

**RANK: 7 / 34 PROVINCES ASSESSED**  
**SCORE: 0.264**



**Extreme Weather**

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.289**





## MULTI-HAZARD RISK (MHR)

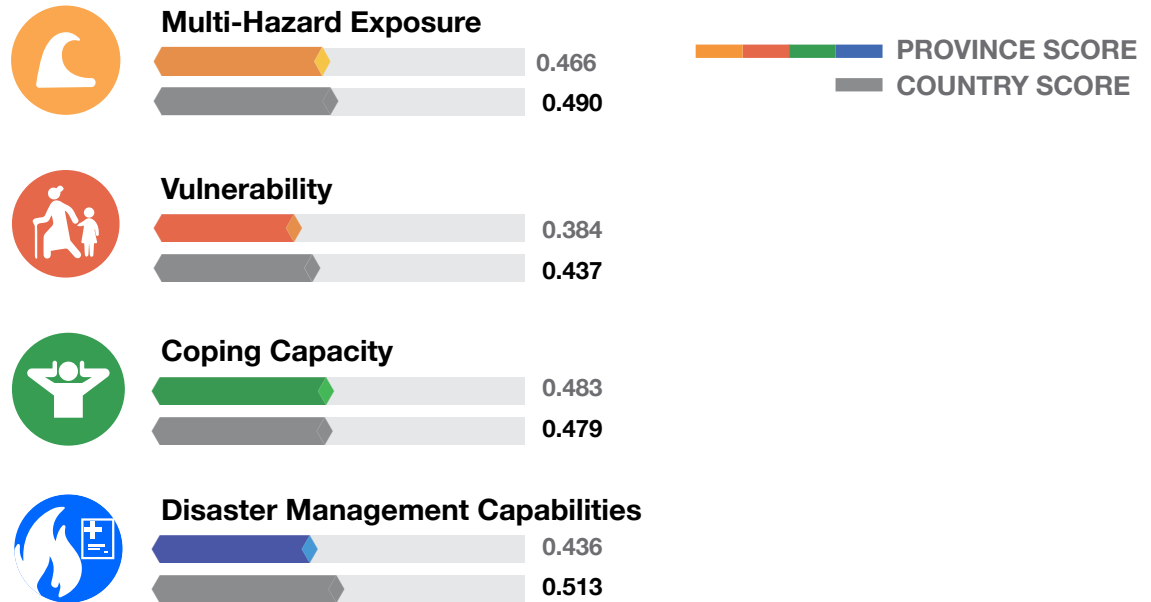
**20 / 34**

RANK WITHIN PROVINCES  
Score: 0.483



Sumatera Selatan's Low Multi-hazard Risk score and ranking are due to Moderate Multi-hazard exposure combined with Very Low Vulnerability, Moderate Coping Capacity, and Very Low Disaster Management Capabilities scores.

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



# SUMATERA SELATAN RECOMMENDATIONS

# 1

## Clean Water Access Vulnerability

Findings show that Sumatera Selatan has the 12th lowest ranking for overall Clean Water Access Vulnerability, 10th lowest ranking for Access to Clean Water (80.37% of households have access) and the 13th lowest ranking for Access to Sanitation (74.67% of households have access).

Prioritize investments to expand and improve clean water and sanitation infrastructure and service delivery in urban and rural areas. Given that flood exposure is significant in Sumatera Selatan (50.56% of the population and 51.45% of economic assets are susceptible to flood impacts), institute measures to protect water supplies and reduce the risk to public health from untreated sewage.

# 2

## Information Access Vulnerability

Sumatera Selatan ranks 15th for overall Information Access Vulnerability, driven by Average Years of Schooling (8.18 years) and limited Internet Access (only 66.42 % of households reported using the Internet).

Improve physical access to education, especially in rural areas through infrastructure improvements (e.g., roads, electricity and telecommunication services).

Foster engagement among parents, teachers and school administrators through participation in school committees to raise awareness of parental roles in supporting student learning, reduce absenteeism, and reinforce the value and importance of education.

# SUMATERA SELATAN RECOMMENDATIONS

## 3

### Transportation Capacity

Sumatera Selatan has the 13th lowest Transportation Capacity in the country, despite having one of the few railways in the country. Rail and Road Density is limited, with only 0.13 km per square kilometer, and the Average Distance to a Port or Airport from populated areas is over 43 km.

Increase investment in transportation infrastructure improvements through public-private partnerships. Expanded transportation networks will facilitate disaster response and recovery operations, improve access to education and health care, assist in the delivery of other services such as clean water and electricity, and increase economic opportunities for the province.

## 4

### Economic Capacity

Findings show that Sumatera Selatan has the 13th lowest Economic Capacity, driven by the 5th lowest Average Monthly Income (2.3 million IDR). Lower incomes may be explained by the province's primarily agricultural economy.

Increase access to financing and support structures (e.g. microfinance services and loans) for farmers, small business owners and household enterprises to expand production and marketability of goods and produce.

Diversify the local economy by promoting educational school-to-work programs.

## SUMATERA SELATAN RECOMMENDATIONS

### 5

#### Early Warning and Monitoring

Sumatera Selatan has the 10th lowest ranking for overall Early Warning and Monitoring capabilities. Increase the number of monitoring stations for meteorological and climate-related hazards to boost effectiveness of hazard alerting for flooding, drought, wildfires and extreme weather in the province.

### 6

#### Mass Care Support

Sumatera Selatan has the 7th lowest ranking for overall Mass Care Support, driven by the number of Shelters per 10,000 persons (0.79) and the average Distance to Disaster Stockpiles (over 416 km away).

Identify additional structures that can serve as emergency shelters and develop memorandums of agreement with stakeholders to formalize their use during and after a disaster.

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# **SUMATERA UTARA**

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**NDPBA PROVINCE PROFILE**

# SUMATERA UTARA

**CAPITAL: MEDAN**

Area: 72,981 km<sup>2</sup>



Sumatra Utara (North Sumatra) covers a large swath of Sumatra and is the fourth most populous province in Indonesia. It is rich in agricultural and extractive potential with very

high levels of both multi-hazard risk and exposure. Resilience and coping capacity levels are low and the region has historically been affected by numerous hazards, including earthquakes and tsunamis, with the 2004 Indian Ocean earthquake and tsunami being a striking example of the widespread damage of such sudden onset hazards. Economic and environmental constraints have hampered recovery efforts in Sumatra Utara and both BNPB and multilateral UN and NGO partners have focused DRR efforts on the region.

## RISK AND VULNERABILITY COMPONENT SCORE



**MULTI-HAZARD RISK (MHR) - Very High**

Score: 0.606 • Rank: 1/34



**RESILIENCE (R) - Low**

Score: 0.483 • Rank: 25/34



**MULTI-HAZARD EXPOSURE (MHE) - Very High**

Score: 0.874 • Rank: 1/34



**VULNERABILITY (V) - Low**

Score: 0.403 • Rank: 24/34



**COPING CAPACITY (CC) - Low**

Score: 0.434 • Rank: 25/34



**DISASTER MANAGEMENT CAPABILITIES (DMC) - Very Low**

Score: 0.420 • Rank: 30/34



Population (2020 Projected)

**14,703,500**



Population in Poverty

**8.6%**



Adult Literacy Rate

**99.2%**



Access to improved water

**90.2%**



Average life expectancy

**69.0 years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: 1 / 34 PROVINCES  
SCORE: 0.874



MHE  
0.874

Raw MHE  
0.901

Relative MHE  
0.847

### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake

**85%**

12,046,828  
\$199.8 Billion



Tsunami

**1%**

134,368  
\$1.7 Billion



Flood

**61%**

8,681,976  
\$154.37 Billion



Flash Flood

**6%**

904,622  
\$16.5 Billion



Landslide

**3%**

414,555  
\$5.2 Billion



Volcano

**<1%**

10,359  
\$121 Billion



Drought

**61%**

8,656,501  
\$153.7 Billion



Wildfire

**9%**

1,247,947  
\$16.2 Billion



Extreme Weather

**99%**

14,017,962  
\$228.6 Billion





## VULNERABILITY (V)

**RANK: 24 / 34 PROVINCES ASSESSED**  
**SCORE: 0.403**

Vulnerability in Sumatera Utara is primarily driven by Environmental Stress and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the province's overall Vulnerability score.



### Environmental Stress

**SCORE: 0.465 RANK: 7/34 PROVINCES ASSESSED**

<b>18.2%</b> Land susceptible to severe erosion	<b>54.55</b> Livestock Density (per sq km)	<b>4255.7</b> Net Deforestation (hectares per year)
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### Vulnerable Health Status

**SCORE: 0.421 RANK: 16/34 PROVINCES ASSESSED**

<b>68.95</b> Life expectancy (years)	<b>40</b> Infant mortality rate (per 1,000 live births)	<b>144.64</b> Maternal mortality ratio	<b>12.1%</b> Children (under 5) Wasting	<b>8.0%</b> Disability	<b>3.8%</b> Unmet health care needs	<b>14.1%</b> Households with limited access to health facility
<b>1.8%</b> Households with catastrophic health expenditure	<b>39.01</b> Dengue incidence per 100,000 population	<b>1</b> Measles incidence per 100,000 population	<b>0.06</b> Malaria incidence per 100,000 population	<b>238</b> TB case notification per 100,000 population	<b>28.2</b> HIV & AIDS incidence per 100,000 population	<b>0.14</b> Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE: 0.359 RANK: 23/34 PROVINCES ASSESSED**

<b>90.2%</b> Households with improved water	<b>79.6%</b> Households with improved sanitation
--	---



### Information Access Vulnerability

**SCORE: 0.359 RANK: 25/34 PROVINCES ASSESSED**

<b>99.2%</b> Adult literacy rate	<b>97.7%</b> Net primary school enrollment rate	<b>9.45</b> Average years of schooling	<b>68.9%</b> Households using internet
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### Economic Constraints

**SCORE: 0.437 RANK: 14/34 PROVINCES ASSESSED**

<b>5.4%</b> Unemployment rate	<b>55.3</b> Age dependency ratio	<b>8.6%</b> Poverty rate	<b>0.317</b> GINI ratio
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### Gender Inequality

**SCORE: 0.433 RANK: 25/34 PROVINCES ASSESSED**

<b>0.99</b> Female to male literacy rate	<b>0.69</b> Female to male labor ratio	<b>1.09</b> Female to male secondary school enrollment ratio	<b>17.2%</b> Percent female seats in government
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### Population Pressures

**SCORE: 0.346 RANK: 26/34 PROVINCES ASSESSED**

<b>1.3%</b> Average annual total population change	<b>2.9%</b> Average annual urban population change	<b>-9.2%</b> Recent Net migration
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## COPING CAPACITY (CC)

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.434**

Sumatera Utara exhibits weaker Coping Capacity in the areas of Governance and Economic Capacity. The bar charts indicate the socioeconomic themes contributing to the province's overall Coping Capacity score.



### Economic Capacity

**SCORE: 0.407 RANK: 14/34 PROVINCES ASSESSED**

**70.2%** **2,474,775** **38**  
Labor force participation Average monthly income (IDR) GDP per capita (Million IDR)



### Governance

**SCORE: 0.387 RANK: 30/34 PROVINCES ASSESSED**

**231** **68.2%** **78.0%**  
Crime rate per 100,000 population Crime clearance rate Voter participation



### Environmental Capacity

**SCORE: 0.233 RANK: 22/34 PROVINCES ASSESSED**

**6.0%**  
Protected area



### Infrastructure Capacity

**SCORE: 0.574 RANK: 12/34 PROVINCES ASSESSED**



### Health Care Capacity SCORE: 0.477 RANK: 17/34 PROVINCES ASSESSED

**15.4** **4.87** **18.74** **16.6%** **33.4%** **68.2%** **63.0%**  
Hospital beds per 10,000 people Physicians per 10,000 people Nurses and midwives per 10,000 people Time to public hospital (over 1 hour) Immunization rate (children under 5) Health care accreditation rate Population covered by health insurance



### Transportation Capacity SCORE: 0.421 RANK: 17/34 PROVINCES ASSESSED

**0.30** **35.23**  
Road and rail density Average distance to port or airport



### Communications Capacity SCORE: 0.592 RANK: 21/34 PROVINCES ASSESSED

**60.7%** **1.2%**  
Mobile phone ownership Households with Fixed Phones



### Energy Capacity SCORE: 0.804 RANK: 7/34 PROVINCES ASSESSED

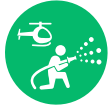
**97.3%** **7.3%** **140.05** **83.7%**  
Households served by state electricity Percentage of total national electricity generated in province Electricity generation GWh per 100,000 Population Households with gas for cooking



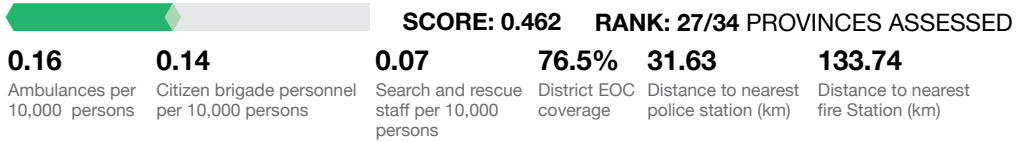
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 30 / 34** PROVINCES ASSESSED  
**SCORE: 0.420**

Sumatera Utara exhibits weaker Disaster Management Capabilities in the areas of Early Warning and Monitoring and Emergency Services. The bar charts indicate the disaster management themes contributing to the province's overall Disaster Management Capabilities score.



## Emergency Services



## Mass Care Support



## Early Warning and Monitoring





## RESILIENCE (R)

**RANK: 25 / 34 PROVINCES ASSESSED**  
**SCORE: 0.483**

Sumatera Utara's Low Resilience score and ranking are due to Low Vulnerability combined with Low Coping Capacity, and Very Low Disaster Management Capabilities scores.

**Below are the six thematic areas with the weakest relative scores:**



**Environmental Stress**



**Economic Constraints**



**Governance**



**Economic Capacity**



**Early Warning and Monitoring**



**Emergency Services**



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.352**



**Tsunami**

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.229**



**Flood**

**RANK: 1 / 34 PROVINCES ASSESSED**  
**SCORE: 0.367**



**Flash Flood**

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.337**



**Landslide**

**RANK: 10 / 34 PROVINCES ASSESSED**  
**SCORE: 0.262**



**Volcano**

**RANK: 16 / 34 PROVINCES ASSESSED**  
**SCORE: 0.224**



**Drought**

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.336**



**Wildfire**

**RANK: 5 / 34 PROVINCES ASSESSED**  
**SCORE: 0.280**



**Extreme Weather**

**RANK: 2 / 34 PROVINCES ASSESSED**  
**SCORE: 0.351**



## MULTI-HAZARD RISK (MHR)

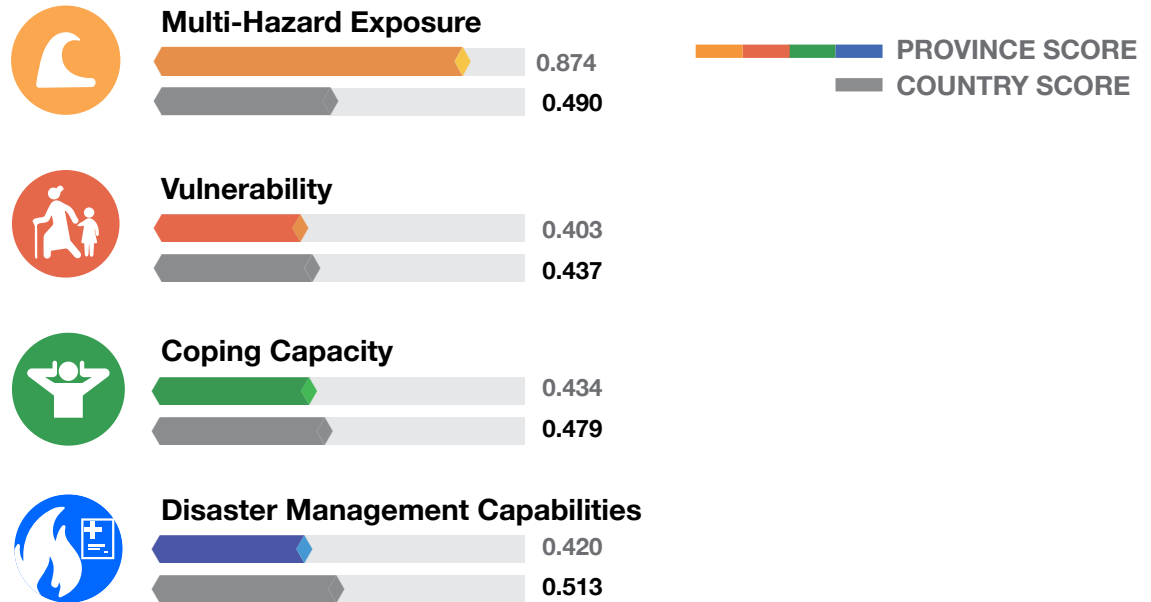
**1 / 34**

RANK WITHIN PROVINCES  
Score: 0.606



Sumatera Utara's Very High Multi-hazard Risk score and ranking are due to Very High Multi-hazard exposure combined with Low Vulnerability, Low Coping Capacity, and Very Low Disaster Management Capabilities scores.

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



# SUMATERA UTARA RECOMMENDATIONS

## 1

### Environmental Stress

Findings show that Sumatera Utara has the 7th highest overall Environmental Stress in the country. More than 18% of the province has been classified by Indonesia's Ministry of Environment and Forestry as having erosion rates of greater than 180 tons per hectare per year. Livestock Density (54.55 animals per square km) in the province may be a contributing factor.

In areas prone to erosion, prevent overgrazing of pastures to reduce environmental degradation by reducing herd size on available hectareage.

Reduce access of grazing animals to streams and rivers, where high animal traffic can destroy the integrity of riverbanks and pollute water sources.

## 2

### Economic Constraints

Sumatera Utara ranks 14th for overall Economic Constraints in the country, driven by the 5th highest Age Dependency Ratio (ratio of non-working age population to working age population), and the 11th highest Unemployment Rate. Additionally, gender inequities exist in the workforce. Sumatera Utara ranks 5th for female to male Labor Ratio.

Invest in programs that support women's sexual and reproductive rights to facilitate increased participation in, and contribution to social and economic development.

Increase opportunities to expand participation of women in education and economic activities through the enactment of policies that provide quality, affordable childcare and health care services.

# SUMATERA UTARA RECOMMENDATIONS

## 3

### Governance

---

Sumatera Utara has the 5th lowest ranking for overall Governance in the country, driven by the lowest Voter Participation (78.03%) in the country. The province also has the 7th highest Crime Rate per 100,000 persons (231 persons). Focus efforts to strengthen policies and government institutions that increase voice and accountability, reduce corruption and strengthen rule of law.

## 4

### Economic Capacity

---

Overall Economic Capacity in Sumatera Utara could be strengthened by bolstering income levels and employment opportunities.

Foster programs that promote gainful employment and diversify the economy to generate public revenue, increase household incomes, and support small businesses.

# SUMATERA UTARA RECOMMENDATIONS

## 5

### Early Warning and Monitoring

Sumatera Utara has the 5th lowest overall Early Warning and Monitoring capabilities in the country, driven by the 3rd lowest monitoring coverage for meteorological and climate-related hazards, and the 10th lowest coverage for geophysical hazards. Given the province's exposure to geophysical and meteorological hazards, efforts to bolster the number of monitoring stations would improve alerting capabilities and expand reach of warning messages to the population.

## 6

### Emergency Services

Findings show that Sumatera Utara has the 8th lowest ranking for overall Emergency Services capabilities, driven by limited ambulance service (0.16 Ambulances per 10,000 persons), low numbers of Search and Rescue personnel, and considerable distances to Police and Fire Stations. The average Distance to a Fire Station in Sumatera Utara is over 133 km away.

Invest in equipment, infrastructure and trained personnel to expand emergency service coverage and capabilities to better meet the needs of the population during emergencies.

Support training for Citizen Brigades to assist with community-based disaster preparedness and response activities and supplement government services during emergencies.



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## **NDPBA PROFILE**

## CAPITAL:

Area: km<sup>2</sup>

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) -

Score: • Rank: /



### RESILIENCE (R) -

Score: • Rank: /



### MULTI-HAZARD EXPOSURE (MHE) -

Score: • Rank: /



### VULNERABILITY (V) -

Score: • Rank: /



### COPING CAPACITY (CC) -

Score: • Rank: /



### DISASTER MANAGEMENT CAPABILITIES (DMC) -

Score: • Rank: /



Population (2020 Projected)



Population in Poverty



Adult Literacy Rate



Access to improved water



Average life expectancy  
**years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: / S  
SCORE:



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake



Tsunami



Flood



Flash Flood



Landslide



Volcano



Drought



Wildfire



Extreme Weather





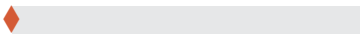
## VULNERABILITY (V)

**RANK:** / PROVINCES ASSESSED  
**SCORE:**

Vulnerability in is primarily driven by and . The bar charts indicate the socioeconomic themes contributing to the 's overall Vulnerability score.



### Environmental Stress



**SCORE:**

**RANK:** / PROVINCES ASSESSED

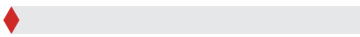
Land susceptible to severe erosion

Livestock Density (per sq km)

Net Deforestation (hectares per year)



### Vulnerable Health Status



**SCORE:**

**RANK:** / PROVINCES ASSESSED

Life expectancy (years)

Infant mortality rate (per 1,000 live births)

Maternal mortality ratio

Children (under 5) Wasting

Disability

Unmet health care needs

Households with limited access to health facility

Households with catastrophic health expenditure

Dengue incidence per 100,000 population

Measles incidence per 100,000 population

Malaria incidence per 100,000 population

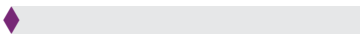
TB case notification per 100,000 population

HIV & AIDS incidence per 100,000 population

Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability



**SCORE:**

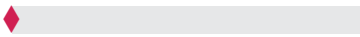
**RANK:** / PROVINCES ASSESSED

Households with improved water

Households with improved sanitation



### Information Access Vulnerability



**SCORE:**

**RANK:** / PROVINCES ASSESSED

Adult literacy rate

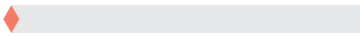
Net primary school enrollment rate

Average years of schooling

Households using internet



### Economic Constraints



**SCORE:**

**RANK:** / PROVINCES ASSESSED

Unemployment rate

Age dependency ratio

Poverty rate

GINI ratio



### Gender Inequality



**SCORE:**

**RANK:** / PROVINCES ASSESSED

Female to male literacy rate

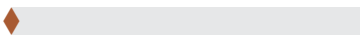
Female to male labor ratio

Female to male secondary school enrollment ratio

Percent female seats in government



### Population Pressures



**SCORE:**

**RANK:** / PROVINCES ASSESSED

Average annual total population change

Average annual urban population change

Recent Net migration



## COPING CAPACITY (CC)

**RANK: / PROVINCES ASSESSED**  
**SCORE:**

exhibits weaker Coping Capacity in the areas of and . The bar charts indicate the socioeconomic themes contributing to the 's overall Coping Capacity score.



### Economic Capacity

**SCORE:** **RANK: / PROVINCES ASSESSED**

Labor force participation      Average monthly income (IDR)      GDP per capita (Million IDR)



### Governance

**SCORE:** **RANK: / PROVINCES ASSESSED**

Crime rate per 100,000 population      Crime clearance rate      Voter participation



### Environmental Capacity

**SCORE:** **RANK: / PROVINCES ASSESSED**

Protected area



### Infrastructure Capacity

**SCORE:** **RANK: / PROVINCES ASSESSED**



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

Hospital beds per 10,000 people      Physicians per 10,000 people      Nurses and midwives per 10,000 people      Time to public hospital (over 1 hour)      Immunization rate (children under 5)      Health care accreditation rate      Population covered by health insurance



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

Road and rail density      Average distance to port or airport



**Communications Capacity** **SCORE:** **RANK: / PROVINCES ASSESSED**

Mobile phone ownership      Households with Fixed Phones



**Energy Capacity** **SCORE:** **RANK: / PROVINCES ASSESSED**

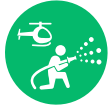
Households served by state electricity      Percentage of total national electricity generated in province      Electricity generation GWh per 100,000 Population      Households with gas for cooking



## DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK:** / PROVINCES ASSESSED  
**SCORE:**

exhibits weaker Disaster Management Capabilities in the areas of and . The bar charts indicate the disaster management themes contributing to the 's overall Disaster Management Capabilities score.



### Emergency Services



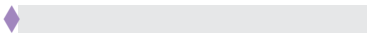
**SCORE:**

**RANK:** / PROVINCES ASSESSED

Ambulances per 10,000 persons    Citizen brigade personnel per 10,000 persons    Search and rescue staff per 10,000 persons    District EOC coverage    Distance to nearest police station (km)    Distance to nearest fire Station (km)



### Mass Care Support



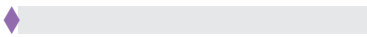
**SCORE:**

**RANK:** / PROVINCES ASSESSED

Distance to nearest disaster stockpile (km)    Vehicle equipment per 10,000 persons    Shelter equipment per 10,000 persons    Communications equipment per 10,000 persons    Support equipment per 10,000 persons    Emergency Shelters per 10,000 persons



### Early Warning and Monitoring



**SCORE:**

**RANK:** / PROVINCES ASSESSED

Geophysical monitoring per exposed population    Meterological/climatological monitoring per exposed population



## RESILIENCE (R)

RANK: / S ASSESSED  
SCORE:

's Resilience score and ranking are due to Vulnerability combined with Coping Capacity, and Disaster Management Capabilities scores.

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



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

RANK: / PROVINCES ASSESSED  
SCORE:



**Tsunami**

RANK: / PROVINCES ASSESSED  
SCORE:



**Flood**

RANK: / PROVINCES ASSESSED  
SCORE:



**Flash Flood**

RANK: / PROVINCES ASSESSED  
SCORE:



**Landslide**

RANK: / PROVINCES ASSESSED  
SCORE:



**Volcano**

RANK: / PROVINCES ASSESSED  
SCORE:



**Drought**

RANK: / PROVINCES ASSESSED  
SCORE:



**Wildfire**

RANK: / PROVINCES ASSESSED  
SCORE:



**Extreme Weather**

RANK: / PROVINCES ASSESSED  
SCORE:





## MULTI-HAZARD RISK (MHR)



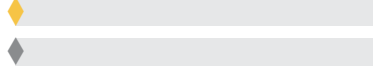
/  
RANK WITHIN S  
Score:

's Multi-hazard Risk score and ranking are due to Multi-hazard exposure combined with Vulnerability, Coping Capacity, and Disaster Management Capabilities scores.

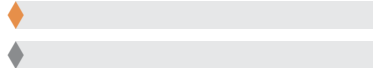
### Multi-hazard risk component scores compared to overall average country scores:



#### Multi-Hazard Exposure



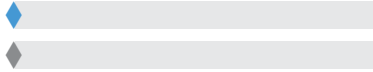
#### Vulnerability



#### Coping Capacity



#### Disaster Management Capabilities



SCORE  
COUNTRY SCORE

# RECOMMENDATIONS

1

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2

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## RECOMMENDATIONS

3

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4

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## RECOMMENDATIONS

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5

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6

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## **NDPBA PROFILE**

## CAPITAL:

Area: km<sup>2</sup>

## RISK AND VULNERABILITY COMPONENT SCORE



### MULTI-HAZARD RISK (MHR) -

Score: • Rank: /



### RESILIENCE (R) -

Score: • Rank: /



### MULTI-HAZARD EXPOSURE (MHE) -

Score: • Rank: /



### VULNERABILITY (V) -

Score: • Rank: /



### COPING CAPACITY (CC) -

Score: • Rank: /



### DISASTER MANAGEMENT CAPABILITIES (DMC) -

Score: • Rank: /



Population (2020 Projected)



Population in Poverty



Adult Literacy Rate



Access to improved water



Average life expectancy  
**years**

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



## MULTI-HAZARD EXPOSURE (MHE)

RANK: / S  
SCORE:



### ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:



Earthquake



Tsunami



Flood



Flash Flood



Landslide



Volcano



Drought



Wildfire



Extreme Weather







## VULNERABILITY (V)

**RANK:** / PROVINCES ASSESSED  
**SCORE:**

Vulnerability in is primarily driven by and . The bar charts indicate the socioeconomic themes contributing to the 's overall Vulnerability score.



### Environmental Stress

**SCORE:** **RANK:** / PROVINCES ASSESSED

Land susceptible to severe erosion      Livestock Density (per sq km)      Net Deforestation (hectares per year)



### Vulnerable Health Status

**SCORE:** **RANK:** / PROVINCES ASSESSED

Life expectancy (years)      Infant mortality rate (per 1,000 live births)      Maternal mortality ratio      Children (under 5) Wasting      Disability      Unmet health care needs      Households with limited access to health facility

Households with catastrophic health expenditure      Dengue incidence per 100,000 population      Measles incidence per 100,000 population      Malaria incidence per 100,000 population      TB case notification per 100,000 population      HIV & AIDS incidence per 100,000 population      Prevalence of Leprosy per 10,000 population



### Clean Water Vulnerability

**SCORE:** **RANK:** / PROVINCES ASSESSED

Households with improved water      Households with improved sanitation



### Information Access Vulnerability

**SCORE:** **RANK:** / PROVINCES ASSESSED

Adult literacy rate      Net primary school enrollment rate      Average years of schooling      Households using internet



### Economic Constraints

**SCORE:** **RANK:** / PROVINCES ASSESSED

Unemployment rate      Age dependency ratio      Poverty rate      GINI ratio



### Gender Inequality

**SCORE:** **RANK:** / PROVINCES ASSESSED

Female to male literacy rate      Female to male labor ratio      Female to male secondary school enrollment ratio      Percent female seats in government



### Population Pressures

**SCORE:** **RANK:** / PROVINCES ASSESSED

Average annual total population change      Average annual urban population change      Recent Net migration



## COPING CAPACITY (CC)

**RANK: / PROVINCES ASSESSED**  
**SCORE:**

exhibits weaker Coping Capacity in the areas of and . The bar charts indicate the socioeconomic themes contributing to the 's overall Coping Capacity score.



### Economic Capacity

**SCORE:** **RANK: / PROVINCES ASSESSED**

Labor force participation      Average monthly income (IDR)      GDP per capita (Million IDR)



### Governance

**SCORE:** **RANK: / PROVINCES ASSESSED**

Crime rate per 100,000 population      Crime clearance rate      Voter participation



### Environmental Capacity

**SCORE:** **RANK: / PROVINCES ASSESSED**

Protected area



### Infrastructure Capacity

**SCORE:** **RANK: / PROVINCES ASSESSED**



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

Hospital beds per 10,000 people      Physicians per 10,000 people      Nurses and midwives per 10,000 people      Time to public hospital (over 1 hour)      Immunization rate (children under 5)      Health care accreditation rate      Population covered by health insurance



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

Road and rail density      Average distance to port or airport



**Communications Capacity** **SCORE:** **RANK: / PROVINCES ASSESSED**

Mobile phone ownership      Households with Fixed Phones



**Energy Capacity** **SCORE:** **RANK: / PROVINCES ASSESSED**

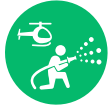
Households served by state electricity      Percentage of total national electricity generated in province      Electricity generation GWh per 100,000 Population      Households with gas for cooking



# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK:** / PROVINCES ASSESSED  
**SCORE:**

exhibits weaker Disaster Management Capabilities in the areas of and . The bar charts indicate the disaster management themes contributing to the 's overall Disaster Management Capabilities score.



## Emergency Services



**SCORE:**

**RANK:** / PROVINCES ASSESSED

Ambulances per 10,000 persons    Citizen brigade personnel per 10,000 persons    Search and rescue staff per 10,000 persons    District EOC coverage    Distance to nearest police station (km)    Distance to nearest fire Station (km)



## Mass Care Support



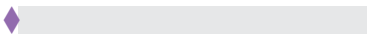
**SCORE:**

**RANK:** / PROVINCES ASSESSED

Distance to nearest disaster stockpile (km)    Vehicle equipment per 10,000 persons    Shelter equipment per 10,000 persons    Communications equipment per 10,000 persons    Support equipment per 10,000 persons    Emergency Shelters per 10,000 persons



## Early Warning and Monitoring



**SCORE:**

**RANK:** / PROVINCES ASSESSED

Geophysical monitoring per exposed population    Meterological/climatological monitoring per exposed population



## RESILIENCE (R)

RANK: / S ASSESSED  
SCORE:

's Resilience score and ranking are due to Vulnerability combined with Coping Capacity, and Disaster Management Capabilities scores.

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



## HAZARD-SPECIFIC RISK (HSR)



**Earthquake**

RANK: / PROVINCES ASSESSED  
SCORE:



**Tsunami**

RANK: / PROVINCES ASSESSED  
SCORE:



**Flood**

RANK: / PROVINCES ASSESSED  
SCORE:



**Flash Flood**

RANK: / PROVINCES ASSESSED  
SCORE:



**Landslide**

RANK: / PROVINCES ASSESSED  
SCORE:



**Volcano**

RANK: / PROVINCES ASSESSED  
SCORE:



**Drought**

RANK: / PROVINCES ASSESSED  
SCORE:



**Wildfire**

RANK: / PROVINCES ASSESSED  
SCORE:



**Extreme Weather**

RANK: / PROVINCES ASSESSED  
SCORE:



## MULTI-HAZARD RISK (MHR)



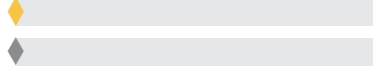
/  
RANK WITHIN S  
Score:

's Multi-hazard Risk score and ranking are due to Multi-hazard exposure combined with Vulnerability, Coping Capacity, and Disaster Management Capabilities scores.

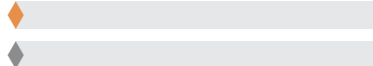
### Multi-hazard risk component scores compared to overall average country scores:



#### Multi-Hazard Exposure



#### Vulnerability



#### Coping Capacity



#### Disaster Management Capabilities



SCORE  
COUNTRY SCORE

## RECOMMENDATIONS

1

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2

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## RECOMMENDATIONS

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4

## RECOMMENDATIONS

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5

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6



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