



**INDONESIA**

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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
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### 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> Household 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
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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



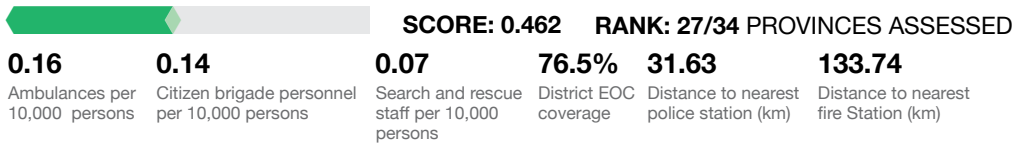
# DISASTER MANAGEMENT CAPABILITIES (DMC)

**RANK: 30 / 34** PROVINCES ASSESSED  
**SCORE: 0.434**

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.



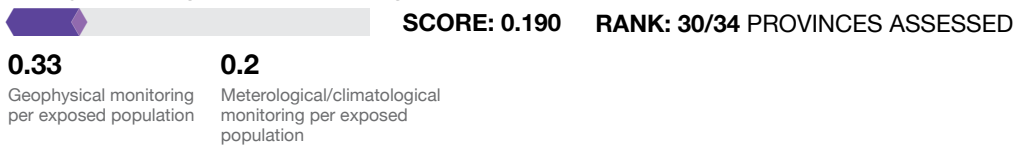
## Emergency Services



## 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)

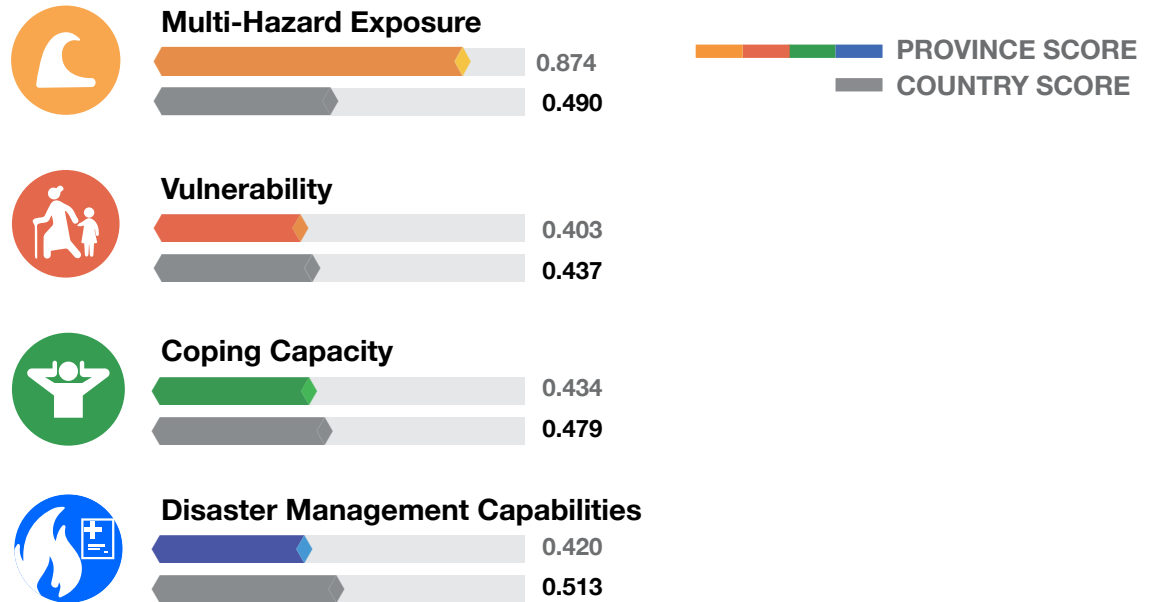
**1 / 34**

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

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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

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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.

**Better solutions.  
Fewer disasters.**

# Safer world.

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