



VIỆT NAM

NATIONAL DISASTER PREPAREDNESS BASELINE ASSESSMENT



**A DATA-DRIVEN
TOOL FOR ASSESSING RISK
AND BUILDING
LASTING RESILIENCE**





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- Water Resources University
- World Vision

LIST OF ABBREVIATIONS

ARC = American Red Cross

ADRA = Adventist
Development and Relief
Agency

CBDRM = Community-based
Disaster Risk Management

CC = Coping Capacity

CCNDPC = Central
Committee for Natural
Disaster Prevention and
Control

CPR = Cardio-Pulmonary
Resuscitation

DM = Disaster Management

DMA = Disaster Management
Analysis

DRM = Disaster Risk
Management

DRR = Disaster Risk
Reduction

DWF = Development
Workshop France

EOC = Emergency Operations
Center

EU = European Union

FBF = Forecast Based Finance

FIMO = Center of
Multidisciplinary Integrated
Technologies for Field
Monitoring

GDP = Gross Domestic
Product

GFDRR = Global Facility
for Disaster Reduction and
Recovery

HFA = Hyogo Framework for
Action

IDB = Inter-American
Development Bank

IFRC = International

Federation of the Red Cross
and Red Crescent

IMHEN = Institute of
Meteorology, Hydrology, and
Climate Change

INGO = International Non-
Governmental Organization

ISA = Insurance Supervisory
Authority

JICA = Japan International
Cooperation Agency

MARD = Ministry of Agriculture
and Rural Development

MHE = Multi-Hazard Exposure

MHR = Multi-Hazard Risk

MoF = Ministry of Finance

MOU = Memorandum of
Understanding

NDMO = National Disaster

Management Organization

NDPBA = National Disaster Preparedness Baseline Assessment

NGO = Non-Governmental Organization

NIO = Nicaraguan Córdoba

NWS = National Weather Service

OCHA = Office for the Coordination of Humanitarian Assistance

ODA = Official Development Assistance

PAHO = Pan-American Health Organization

PDC = Pacific Disaster Center

PDNA = Preliminary Damage and Needs Assessment

RVA = Risk and Vulnerability Assessment

SAR = Search and Rescue

SOP = Standard Operating Procedure

UN = United Nations

UNDP = United Nations Development Programme

UNICEF = United Nations Children's Fund

UNISDR = United Nations International Strategy for Disaster Reduction

USD = United States Dollars

USGS = United States Geological Survey

V = Vulnerability

VNDMA = Viet Nam National

Disaster Management Authority

VNRC = Viet Nam National Red Cross

VNRC = Viet Nam National Space Center

VNU = Viet Nam National University

WB = World Bank

WFP = World Food Programme

WHO = World Health Organization

WRU = Water Resources University

WV = World Vision

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AN --- **INTRODUCTION** ---

TO PDC'S NATIONAL DISASTER PREPAREDNESS BASELINE ASSESSMENT (NDPBA)

PDC's NDPBA provides a sustainable system for accessing, understanding, updating, and applying critical risk information in decision making. The NDPBA provides the necessary tools, scientific data, and evidence-based practices to effectively reduce disaster risk—informed decisions at the national, subnational, and local level.

Using a collaborative, stakeholder-driven approach, PDC integrates national priorities and stakeholder feedback throughout every step of the process. Our process includes a Risk and Vulnerability Assessment (RVA) which examines several components of risk including exposure to hazards, vulnerability, coping capacity, and existing disaster management capabilities. These findings are further reviewed through the lens of PDC's unique Disaster Management Analysis (DMA). The DMA contextualizes the RVA and guides recommendations designed to increase resilience and reduce disaster risk. Findings of this analysis are compiled into a Disaster Risk Reduction (DRR) Plan offering practical actions to be taken over a five-year period.



VIỆT NAM NDPBA

APPLYING ASSESSMENT RESULTS

As part of PDC's NDPBA Program an assessment was conducted in Việt Nam at the national and provincial level. The result of the NDPBA provides a repeatable and reliable data-driven method for assessing, prioritizing, and reducing disaster risk.



STRENGTHEN PARTNERSHIPS

- + Use the NDPBA as a decision-support tool to create a transparent and efficient process for disaster risk reduction efforts within the context of Việt Nam.
- + Provides necessary tools and data for disaster monitoring to promote risk-informed decision making and sustainable development.
- + Allows team members to conceptualize risk as a function of data, measuring the social, cultural, and economic drivers of risk.



SUPPORT SENDAI COMMITMENTS

By participating in the NDPBA process, Việt Nam significantly enhances its capacity to meet Sendai Framework commitments under each of these Priority Areas:

- + **Priority 1** - Understanding Disaster Risk
- + **Priority 2** - Strengthening Disaster Risk Governance to Manage Disaster Risk
- + **Priority 3** - Investing in Disaster Risk Reduction for Resilience
- + **Priority 4** - Enhancing Disaster Preparedness for Effective Response and to “Build Back Better” in Recovery, Rehabilitation and Reconstruction



INCREASE RESILIENCE

- + Align in areas where partner capacity development efforts overlap.
- + Improve resilience at the subnational level and reduce potential impacts to the population.
- + Rely on trusted and proven data-driven tools.



NDPBA

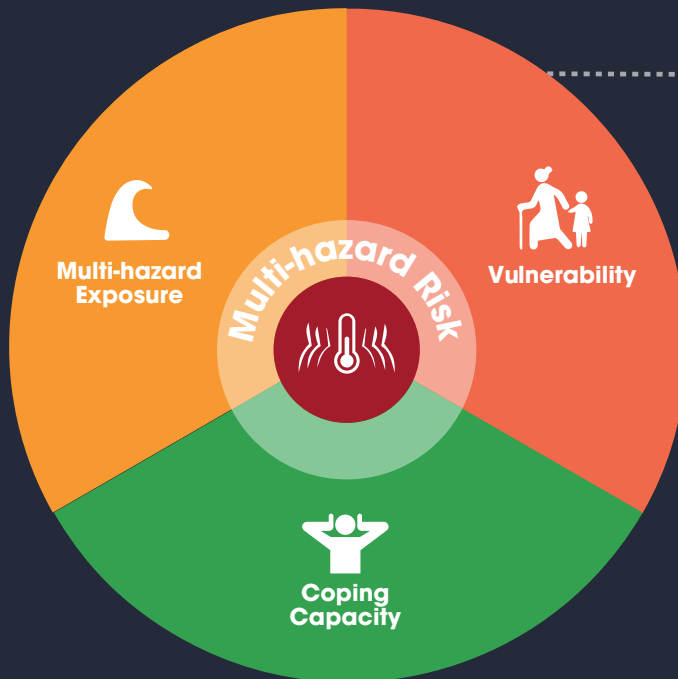
METHODOLOGY AND OBJECTIVES

OVERVIEW








RVA METHODOLOGY

MEASURING RISK

COMPONENTS OF RISK



Subcomponents

-  Population Pressures
-  Gender Inequality
-  Economic Constraints
-  Information Access
-  Clean Water Access
-  Health Status
-  Environmental Stress

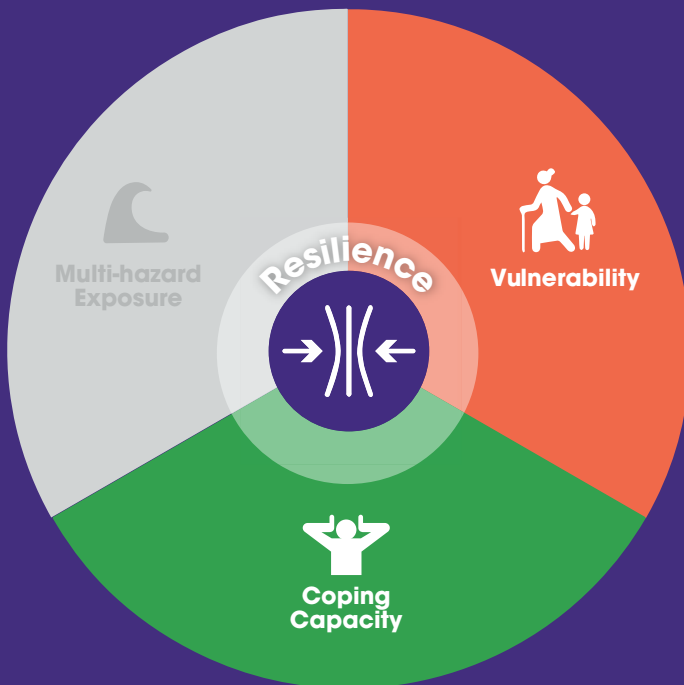
OBJECTIVE

Form a foundation for long-term data sharing and monitoring to support disaster risk reduction. Enhance decision making through improved access to temporal and spatial data.

The NDPBA methodology is based on a composite index approach and investigates the underlying conditions that lead to increased risk. The assessment combines several components of risk which include multi-hazard exposure, coping capacity, and vulnerability. Individual components are comprised of subcomponents used to assess the status of thematic areas either as a sum or individually. Additional information on the assessment methodology can be found at: <https://bit.ly/2LqVoUO>.

RVA METHODOLOGY MEASURING RESILIENCE

RESILIENCE



Hazard Independent



Components of resilience are independent of natural hazard exposure. This type of measure helps rank countries based on their likelihood of experiencing a disruption outside of a naturally occurring event. The measure of resilience includes vulnerability and coping capacity components, including their subcomponents.

OBJECTIVES

Use vulnerability and coping capacity indicators to determine initiatives and engagements that will decrease vulnerability and reduce disaster risk by increasing a the resiliency of the population.

RVA METHODOLOGY

KEY CONCEPTS

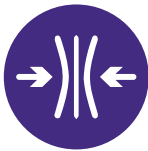
EXAMPLES AND DEFINITIONS



VULNERABILITY: Provides visibility into the underlying socioeconomic and societal factors that predispose areas to disasters. A vulnerability analysis measures the physical, environmental, social, and economic conditions and processes that increase susceptibility of communities and systems to the damaging effects of hazards. Multiple factors influencing disaster outcomes, including those linked to poverty and development, are considered in the analysis.



COPING CAPACITY: Provides visibility into the status of governance and capacity within each province. A coping capacity analysis measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. It considers a range of factors that contribute to the ability of an impacted population to limit the likelihood or severity of the damaging effects of hazards and to manage disruptions that do arise.

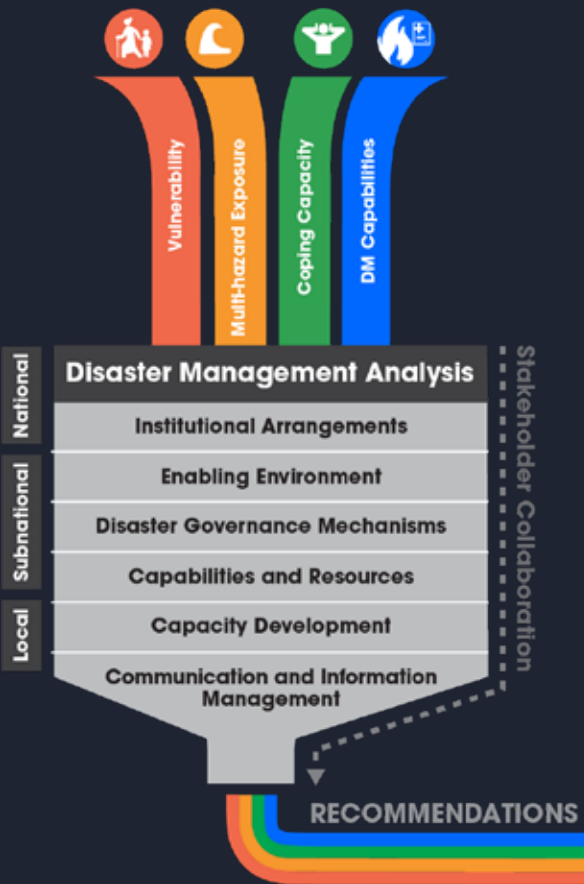


RESILIENCE: Provides an overall measure of the ability of a province to withstand shocks and disruptions to normal function. For instance, provinces with lower resilience may also exhibit a decrease in the ability of a population to mitigate the negative impacts of a disaster and return to normal function. This measure is the combination of the vulnerability and coping capacity components.

DMA METHODOLOGY

DISASTER MANAGEMENT ANALYSIS

RISK AND VULNERABILITY RESULTS



ANALYSIS OBJECTIVE

Increase resilience and reduce disaster risk through disaster management capacity development initiatives.

The Disaster Management Analysis (DMA) identifies, codifies, and characterizes capacity implementation needs given risks identified in the RVA and a country's risk reduction goals. The analysis looks at the capabilities, resources, and systems that have been developed or implemented to reduce disaster

risk, to address unmet needs that arise from a subsequent disaster event, and to facilitate long-term recovery of people, economies, and societies.

DISASTER MANAGEMENT THEMES

The DMA aims not only to limit hazard risk as assessed, but also address the anticipated response and recovery needs of hazard-exposed populations, economies, and societies. The manner in which unmet capacity is identified, qualified, and quantified supports a sharper focus on cost-effective investment planning. It also helps support long-term development in a manner that directly reflects the Sendai Framework and Sustainable Development Goals. The analysis considers needs in relation to multi-hazard risk, and is based on sector-defined capacity standards. Associated themes are listed below with examples of the data and information that help to inform the analysis.



Institutional Arrangements



Enabling Environment



Disaster Governance Mechanisms



Capabilities and Resources



Capacity Development



Communication and Information Management



NDPBA

VIET NAM COUNTRY

BACKGROUND AND OVERVIEW

VIET NAM

COUNTRY BACKGROUND AND OVERVIEW

The Socialist Republic of Viet Nam is the easternmost country on the Indochina Peninsular in Southeast Asia. Covering an area of 127,880 square miles (331,210 square kilometers), the country shares 2,868 miles (4,616 kilometers) of land borders with Cambodia to the southwest, China to the north, and Laos to northwest. Its 2,140 miles (3,444 kilometers) of coastline borders the Gulf of Thailand to the southwest, the East Sea (also known as the South China Sea) to the east, and the Gulf of Tonkin to the north (Central Intellegency Agency, 2017).

With a population of 91.7 million, Viet Nam is the ninth most populous country in Asia and has the third highest population density of any Southeast Asian nation (Index Mundi, 2014) with 628 people per square mile (Nations Encyclopedia , n.d.). The country's two main cities - the political and administrative capital, Hanoi, and the economic capital, Ho Chi Minh City- are its most populous (Knoema, 2016). Ethnic minorities constitute 14 percent of the Viet Nam's population (approximately 13 million people), represented in all but one of 54 recognized ethnic groups (IWGIA, 2017)

Viet Nam's population is divided across 63 provinces, encompassing substantially varying topography. The country is roughly divided into five regions: the highlands and the Red River Delta to the north and the Central mountains (Đãy Tr○○ng Sơn), coastal lowlands, and the Mekong Delta to the south (World Atlas, 2016). With marked difference in altitude throughout the country – ranging from Fan Si Pan mountain rising to 10,312 feet in Lào Cai Province to the East Sea at 0 feet along the east coast – the country's climate varies dramatically between regions. The term “dry season”, which generally occurs between November and April, may, at first, seem confusingly named as the level of rainfall during this period is only comparably dry in relation to the summer or “rainy” season, rather than representing a period of no rain. During the “wet season” – which typically runs from May to October – heavy downpours cause seasonal flooding, particularly in the central provinces (Weather Online, n.d.). Average temperatures in the southern plains around Ho Chi Minh and the Mekong Delta do not vary significantly throughout the year. However, in the mountainous and plateau areas, temperatures can fluctuate from a low of just 41 degrees Fahrenheit in December and January, and peak at nearly 100 degrees Fahrenheit during the hottest months of July

and August (Weather Online, n.d.).

Following reunification between the north and south in 1976, economic and political reforms, known as Doi Moi, began in 1986, with the aim of creating a “socialist-oriented market economy” (World Bank, 2016). Generally, these reforms proved successful and have led to strong economic growth and development in Viet Nam; transforming the country from one of the world’s poorest, to a lower middle-income country (World Bank, 2013). Since 1990, Viet Nam’s GDP per capita growth has been amongst the fastest in the world, averaging 6.4 percent a year since 2000 (World Bank, 2016). This increase in GDP has been reflected at a household level, with per capital income rising from around \$100 in the 1980s to about \$2,100 in 2015 and extreme poverty rates dropping from 50 percent in the early 1990s to just 3 percent in 2012 (World Bank, 2016). However, economic growth has begun to slow recently, with GDP growth decreasing to 6.2 percent in 2016, largely as a result of severe droughts and slowing industrial growth (Reuters, 2016).

For many years, agriculture was the principle source of income (Economy Watch, 2010). While rice, coffee, rubber, tea, pepper, soybeans, cashew nuts, cane sugar, poultry and seafood production remains extremely valuable for the country’s economy.

Viet Nam’s economic profile has rapidly evolved as agriculture share of economic output has decreased and now accounts for just 17 percent, compared to 25 percent in 2000 (Central Intellegency Agency, 2017). During this same period, industrial growth has strengthened, and now accounts for 39 percent of the country’s total economic output, predominantly in the areas of food processing, garment production, and machine building. Despite the shifts in the country’s economic profile, Viet Nam has managed to maintain a low unemployment rate of just 3.7 percent, ranking it as 30th in the world (Central Intellegency Agency, 2017). Viet Nam ranks as the 24th largest global export economy, exporting US\$185 billion-worth of good in 2015 alone, with the USA the leading importer of Vietnamese goods, and China, Japan, South Korea, and Germany accounting for nearly a third of all other exports (MIT, 2016).

In line with economic growth, Viet Nam has made significant gains in social development over the last two decades. This is reflected in the country reaching several of its Millennium Development Goals (MDGs) ahead of time (Government of Vietnam/UNDP, 2015). When compared to other countries with a similar per capita income, the Vietnamese population is better educated and has a higher life expectancy than most (World Bank, 2016). Significant gains have also been made in relation to health outcomes with under-five mortality rate reduced by more than 50 percent since 1990 (WHO, 2014) and the country's maternal mortality ratio now outperforming the upper-middle-income country average (WHO, 2015). Significant advances have also been made in relation to basic infrastructure, with electricity now available to almost all households - up from less than half in 1993 - and more than 75 percent of households now able to access clean water and sanitation (World Bank, 2016). While the country has experience substantial economic growth and social development, a significant disparity remains between urban and rural communities. While the north - south divide before unification has been largely resolved, new divides are growing as the country develops unequally (Bland, 2011). Nearly two thirds of all Viet Nam residents live outside urban centers, (Central Intellegency Agency, 2017) where small-scale agriculture remains the principal source of livelihoods. This is reflected in the unequal levels of human development: the lives of those living in Viet Nam's major cities are comparable with China, while rural provinces such as Ha Giang continue to show development on par with Papua New Guinea (UNDP, 2011).

Further economic and social disparities exist within Viet Nam's ethnic groups. While representing just 14 percent of Viet Nam's total population, ethnic minorities account for more than two fifths of the country's poor and are heavily concentrated in rural mountainous regions (The Economist , 2015). These minority groups are extremely vulnerable, partly as a result of the levels of poverty, but also as a result of conflict over land rights and difficulty in accessing social services (IWGIA, 2017). This lack of access to basic services translates to significant differences in educational attainment levels: minority children primary completion rate is just 61 percent compared to the majority Minh ethnicity's 86 percent (UNICEF, n.d.). However, work is underway to address these inequalities, with draft civil-rights laws that are expected to improve the lot of minority groups making their way through the legislative process, and special funding being allocated for development of minority group areas (World Bank, 2010).

Climate change is a significant challenge to the country's economic growth and development, with poor, rural, and minority groups most vulnerable (CARE, 2013). Viet Nam is experiencing rising temperature and sea levels, stronger storms, floods, and droughts (Schmidt-Thomé, Nguyen, Pham, Jarva, & Nuottimäki, 2015). Calculations suggest that over the period 2007-2050, climate change is predicted to cause annual GDP growth rate to fall by up to 0.1 percent, equal to about 15 billion US dollars (ReCom, 2014). In 2007, at the 13th Conference of Parties to the UNFCCC in Bali, Viet Nam was recognized as one of the five countries likely to be most affected by the impacts of climate change (UNFCCC, 2007).

Viet Nam's 1946 Constitution states that men and women are equal, and this position is reaffirmed in all subsequent constitutions and constitutional amendments (ICRW, 2015). The 2006 law on Gender Equality also highlights the rights of women in the country (Socialist Republic of Viet Nam, 2006). However, during a 2015 review of Viet Nam's implementation of the UN Convention on the Elimination of Discrimination against Women (CEDAW), the committee expressed their concern over the persistence of patriarchal attitudes and gender stereotypes regarding the roles and responsibilities of women in the family and in society. They also noted continuing gender-discrimination relating to access to healthcare, education, and the enjoyment of land rights (fidh, 2015). In practice, this translates to lower literacy and lower school enrollment rates, particularly in secondary education for females compared to males (General Statistics Office, 2009), in turn, translating to females forming the majority of the working poor, principally employed in lower-paid, unstable and informal roles (ILO, n.d.). Additionally, gender gaps appear to be more prominent among the poor and ethnic minorities minorities and in rural areas (National Committee for the Advancement of women in Vietnam & General Statistics Office, 2004).



THE RVA

RISK AND VULNERABILITY

ASSESSMENT RESULTS

THE RVA RISK AND VULNERABILITY ASSESSMENT RESULTS

VIỆT NAM BACKGROUND

Viet Nam is situated between China to the north, and Laos and Cambodia to the west. There are eight different climate regions including the Northeast, Red River Delta, Northwest, North Central Coast, South Central Coast, Central Highlands, Southeast, and the Mekong River Delta. Viet Nam is further subdivided into 63 administrative provinces. The RVA compares data at the provincial level.

VIỆT NAM PROVINCES



COMPONENTS OF RISK



Multi-hazard Exposure



Vulnerability



Coping Capacity

THE RVA

MULTI-HAZARD EXPOSURE

RESULTS BREAKDOWN

THE RVA

MULTI-HAZARD EXPOSURE

Viet Nam lies in a tropical cyclone belt, making it extremely vulnerable to natural hazards including typhoons, floods, droughts, saltwater intrusion and landslides (London School of Economics, 2016). Viet Nam's General Statistics Office recorded a total of 1,141 deaths from natural disasters between 2011 and 2016, with hazard events causing more than 4.4 billion dollars-worth of damage over the same period (General Statistics Office of Viet Nam, 2017). Hazard risk in Viet Nam is rising, with infrastructure and citizens increasingly concentrated in vulnerable areas such as floodplains and coastal areas, with an estimated 70 percent of the population now exposed to the risks of natural hazards (World Bank, 2013).

6 Global Multi-hazard Exposure Rank (of 164 Countries)

3 ASEAN Multi-hazard Exposure Rank (of 10 Countries)

VIET NAM HAZARD ZONES

Multi-hazard exposure at the provincial level in Viet Nam was assessed by combining components of typhoon wind, extreme heat, flood, wildfire, earthquake, landslide, and storm surge.



Typhoon Wind
77.6%
□ 73.6 Million



Extreme Heat
58.5%
□ 55.4 Million



Flood
30.7%
□ 29.1 Million



Wildfire
10.9%
□ 10.3 Million



Earthquake
4.4%
□ 4.2 Million



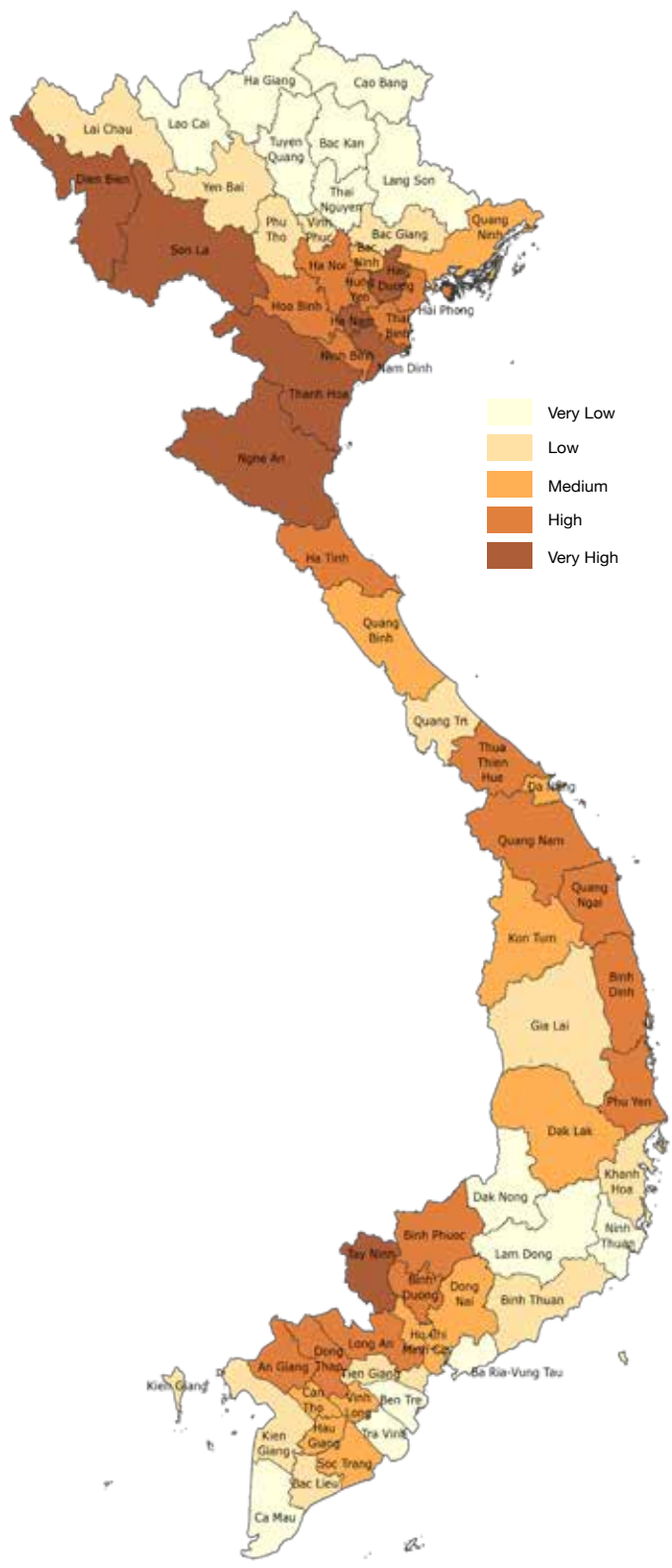
Landslide
1.5%
□ 1.4 Million



Storm Surge
< 1%
□ 150,000

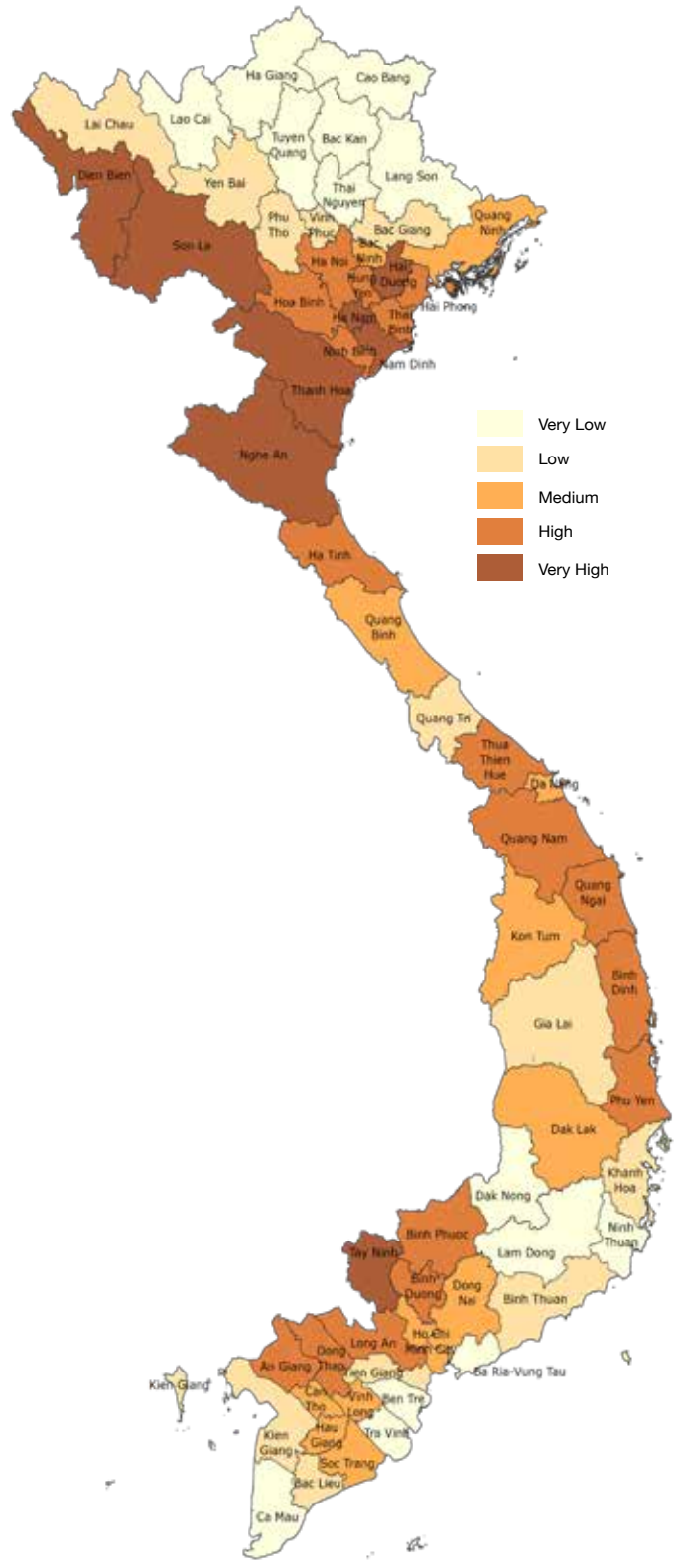
MULTI-HAZARD EXPOSURE BY PROVINCE

	RANK	PROVINCE	INDEX SCORE
VERY HIGH	1	Thanh Hoa	0.849
	2	Nam Dinh	0.789
	3	Nghe An	0.781
	4	Dien Bien	0.711
	5	Ha Nam	0.706
	6	Tay Ninh	0.7
	7	Son La	0.694
	8	Hai Duong	0.687
	9	Thai Binh	0.66
	10	Long An	0.658
HIGH	11	Thua Thien Hue	0.643
	12	Ha Noi	0.639
	13	Phu Yen	0.638
	14	Binh Duong	0.636
	15	Quang Nam	0.636
	16	Ninh Binh	0.636
	17	Quang Ngai	0.628
	18	Hai Phong	0.628
	19	Binh Dinh	0.624
	20	Binh Phuoc	0.616
MEDIUM	21	Ha Tinh	0.613
	22	Hung Yen	0.595
	23	Hoa Binh	0.592
	24	Dong Thap	0.59
	25	An Giang	0.587
	26	Quang Binh	0.565
	27	Ho Chi Minh City	0.561
	28	Kon Tum	0.559
	29	Can Tho	0.517
	30	Vinh Long	0.503
	31	Dak Lak	0.499
	32	Da Nang	0.496



MULTI-HAZARD EXPOSURE BY PROVINCE

	RANK	PROVINCE	INDEX SCORE
MEDIUM	33	Dong Nai	0.49
	34	Hau Giang	0.49
	35	Quang Ninh	0.482
	36	Soc Trang	0.477
	37	Bac Ninh	0.476
LOW	38	Binh Thuan	0.466
	39	Quang Tri	0.46
	40	Tien Giang	0.453
	41	Gia Lai	0.446
	42	Kien Giang	0.435
	43	Phu Tho	0.428
	44	Khanh Hoa	0.424
	45	Bac Giang	0.424
	46	Lai Chau	0.396
	47	Vinh Phuc	0.349
VERY LOW	48	Bac Lieu	0.349
	49	Yen Bai	0.338
	50	Lam Dong	0.328
	51	Tra Vinh	0.31
	52	Dak Nong	0.309
	53	Ha Giang	0.298
	54	Ca Mau	0.29
	55	Thai Nguyen	0.275
	56	Ben Tre	0.265
	57	Tuyen Quang	0.252
	58	Ninh Thuan	0.249
	59	Lang Son	0.235
	60	Ba Ria-Vung Tau	0.229
	61	Cao Bang	0.168
	62	Bac Kan	0.149
	63	Lao Cai	0.028





THE RVA

VULNERABILITY

RESULTS BREAKDOWN






THE RVA

VULNERABILITY

Vulnerability measures the physical, environmental, social, and economic conditions and processes that increase susceptibility of communities and systems to the damaging effects of hazards. Vulnerability data is designed to capture the multi-dimensional nature to poverty, the inequality in access to resources due to gender, and the ability of a given area to adequately support the population.

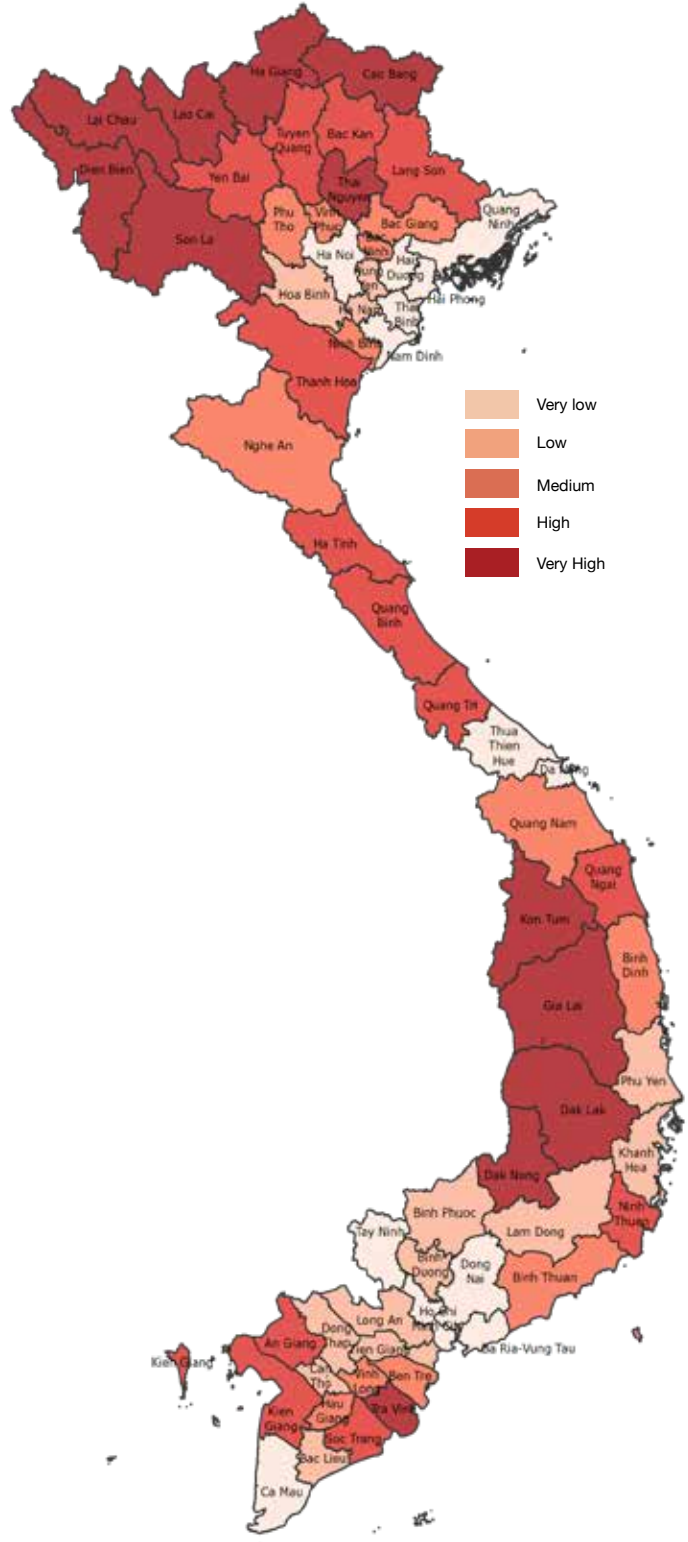
In coordination with stakeholders the following indicators were selected to measure vulnerability subcomponents in Viet Nam. Breaking down each vulnerability subcomponent to the indicator level allows users to identify the key drivers of vulnerability to support risk reduction efforts and policy decisions.

VULNERABILITY SUBCOMPONENTS AND INDICATORS

	Population Pressures	>	Average Annual Population Change	Average Annual Urban Population Change	Net Migration Rate
	Gender Inequality	>	Income Inequality	Female to male School Enrollment Rate	
	Information Access Vulnerability	>	Literacy Rate (15+)	School Attendance Rate	Householdes without Internet or Television
	Vulnerable Health Status	>	Life Expectancy	Infant Mortality Rate	Acute Malnutrition Infectious Disease (TB, HIV, Malaria)
	Economic Constraints	>	Economic Dependency Ratio	Poverty	
	Clean Water Access Vulnerability	>	Households without Access to Safe Water	Households without Access to Hygenic Toilet Facilities	
	Environmental Stress	>	Forest Area Change	Livestock Density	

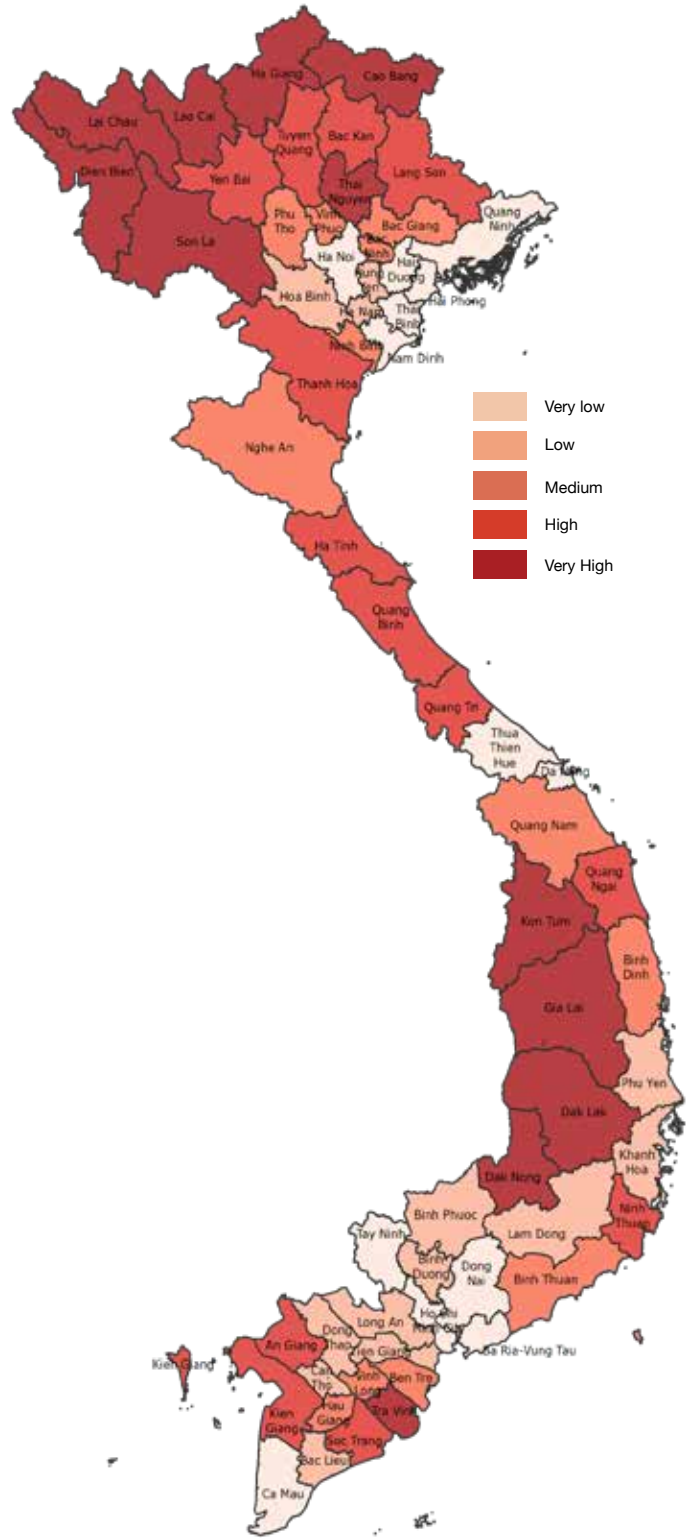
VULNERABILITY BY PROVINCE

RANK	PROVINCE	INDEX SCORE
1	Lai Chau	0.667
2	Dien Bien	0.647
3	Ha Giang	0.641
4	Kon Tum	0.633
5	Cao Bang	0.579
6	Gia Lai	0.565
7	Tra Vinh	0.561
8	Son La	0.561
9	Dak Nong	0.513
10	Thai Nguyen	0.509
11	Lao Cai	0.507
12	Dak Lak	0.501
13	Lang Son	0.486
14	Yen Bai	0.474
15	Soc Trang	0.473
16	Bac Kan	0.468
17	Kien Giang	0.466
18	Tuyen Quang	0.457
19	Quang Tri	0.457
20	An Giang	0.457
21	Ninh Thuan	0.454
22	Quang Binh	0.453
23	Ha Tinh	0.452
24	Quang Ngai	0.451
25	Thanh Hoa	0.439
26	Ninh Binh	0.438
27	Ben Tre	0.437
28	Phu Tho	0.436
29	Nghe An	0.432
30	Vinh Long	0.43
31	Quang Nam	0.428
32	Bac Ninh	0.428



VULNERABILITY BY PROVINCE

	RANK	PROVINCE	INDEX SCORE
MEDIUM	33	Hau Giang	0.428
	34	Vinh Phuc	0.421
	35	Binh Dinh	0.415
	36	Bac Giang	0.409
	37	Binh Thuan	0.409
LOW	38	Phu Yen	0.408
	39	Ha Nam	0.407
	40	Hung Yen	0.405
	41	Dong Thap	0.404
	42	Tien Giang	0.402
	43	Binh Phuoc	0.401
	44	Bac Lieu	0.4
	45	Hoa Binh	0.397
	46	Khanh Hoa	0.395
	47	Long An	0.389
	48	Binh Duong	0.387
	49	Lam Dong	0.379
	50	Can Tho	0.375
	51	Quang Ninh	0.367
	52	Thua Thien Hue	0.363
VERY LOW	53	Dong Nai	0.357
	54	Ca Mau	0.354
	55	Nam Dinh	0.349
	56	Tay Ninh	0.347
	57	Ba Ria-Vung Tau	0.346
	58	Hai Duong	0.331
	59	Thai Binh	0.326
	60	Ha Noi	0.32
	61	Hai Phong	0.3
	62	Ho Chi Minh City	0.292
	63	Da Nang	0.288





THE RVA

COPING CAPACITY

RESULTS BREAKDOWN








THE RVA

COPING CAPACITY

Coping Capacity describes the ability of people, organizations, and systems, using available skills and resources, to face and manage adverse conditions, emergencies, or disasters.

In coordination with stakeholders the following indicators were selected to measure coping capacity subcomponents in Viet Nam. Breaking down each coping capacity subcomponent to the indicator level allows users to identify the key drivers of coping capacity to support risk reduction efforts and policy decisions.

COPING CAPACITY SUBCOMPONENTS AND INDICATORS

	Economic Capacity	➤	Income per Capita	Purchasing Power	Business Support Services	Entry Costs	
	Governance	➤	Law and Order	Informal Charges	Transparency	Time Costs	
	Environmental Capacity	➤	Protected Areas				
	Infrastructure Capacity						
	Healthcare Capacity	➤	Immunization Coverage	Hostpital Beds per 10,000 Persons	Physicians per 10,000 Persons	Nurses per 10,000 Persons	Distance to Hospital
	Transportation Capacity	➤	Distance to Port	Rail / Road Density			
	Communications Capacity	➤	Households with Telephone Access				

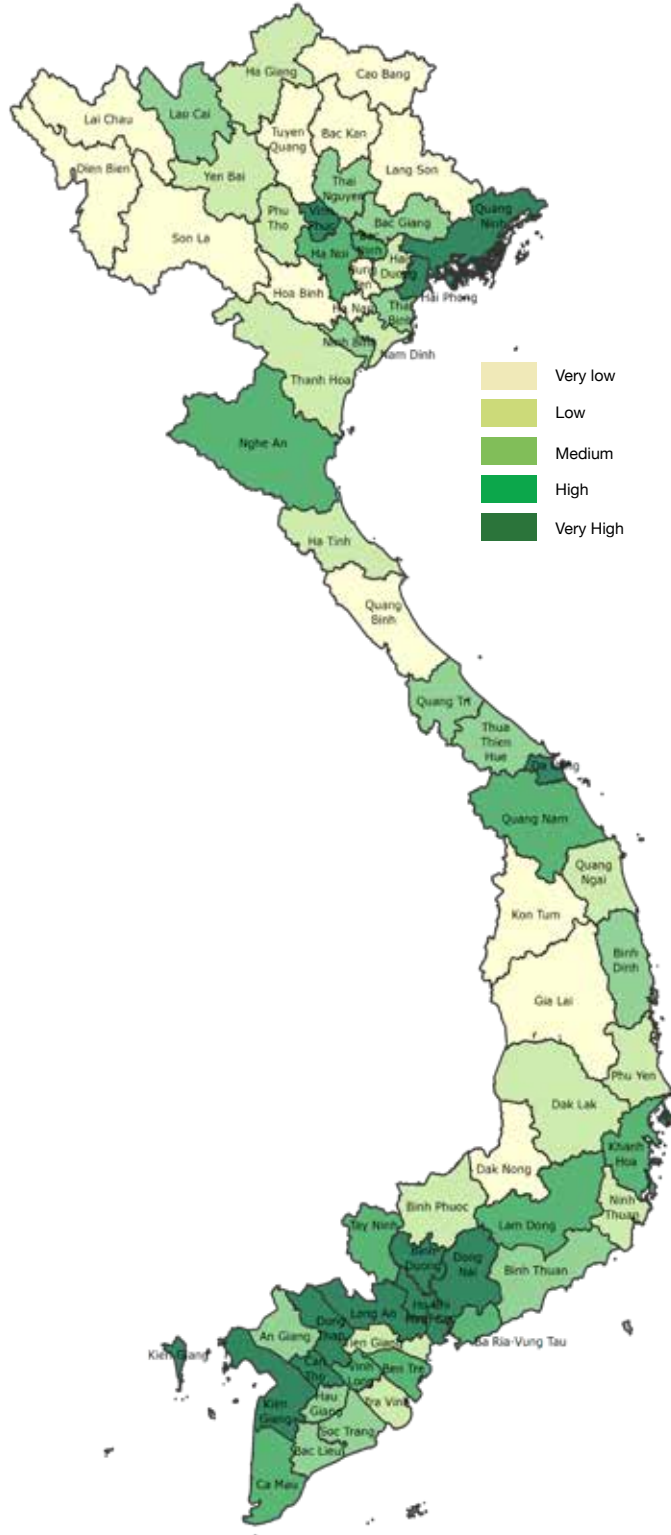
COPING CAPACITY BY PROVINCE

	RANK	PROVINCE	INDEX SCORE
VERY HIGH	1	Da Nang	0.786
	2	Ho Chi Minh City	0.684
	3	Quang Ninh	0.66
	4	Dong Thap	0.645
	5	Kien Giang	0.641
	6	Dong Nai	0.618
	7	Long An	0.604
	8	Binh Duong	0.587
	9	Can Tho	0.58
	10	Vinh Phuc	0.576
	11	Hai Phong	0.558
	12	Lam Dong	0.555
	13	Ca Mau	0.555
HIGH	14	Ba Ria-Vung Tau	0.55
	15	Khanh Hoa	0.546
	16	Ha Noi	0.542
	17	Vinh Long	0.541
	18	Quang Nam	0.53
	19	Ben Tre	0.53
	20	Tay Ninh	0.514
	21	Nghe An	0.51
	22	Bac Ninh	0.498
	23	Lao Cai	0.497
24	Thua Thien Hue	0.497	
MEDIUM	25	An Giang	0.491
	26	Binh Dinh	0.487
	27	Binh Thuan	0.487
	28	Hau Giang	0.485
	29	Ninh Binh	0.484
	30	Soc Trang	0.484
	31	Thai Nguyen	0.483
	32	Quang Tri	0.482



COPING CAPACITY BY PROVINCE

	RANK	PROVINCE	INDEX SCORE
MEDIUM	33	Thai Binh	0.478
	34	Bac Giang	0.478
	35	Bac Lieu	0.476
	36	Tra Vinh	0.474
	37	Ninh Thuan	0.474
LOW	38	Phu Tho	0.474
	39	Thanh Hoa	0.469
	40	Dak Lak	0.46
	41	Nam Dinh	0.454
	42	Ha Giang	0.454
	43	Yen Bai	0.449
	44	Ha Tinh	0.448
	45	Quang Ngai	0.446
	46	Binh Phuoc	0.437
	47	Hai Duong	0.435
VERY LOW	48	Phu Yen	0.434
	49	Tien Giang	0.434
	50	Tuyen Quang	0.433
	51	Ha Nam	0.433
	52	Bac Kan	0.429
	53	Son La	0.428
	54	Hoa Binh	0.427
	55	Gia Lai	0.418
	56	Kon Tum	0.414
	57	Quang Binh	0.414
	58	Dien Bien	0.411
	59	Lang Son	0.403
	60	Cao Bang	0.391
	61	Lai Chau	0.362
	62	Dak Nong	0.359
	63	Hung Yen	0.344





THE RVA

RESILIENCE

RESULTS BREAKDOWN

THE RVA

RESILIENCE

Resilience represents the combination of susceptibility to impact and the relative ability to absorb, response to, and recover from negative impacts that occur over the short term. Resilience provides an indication of current socio-economic conditions on the ground independent of hazard exposure.

APPLYING RESILIENCE DATA

Resilience data can be used to:

- + Prioritize response and recovery efforts during hazard events.
- + Identify the social, cultural, and economic factors that influence disaster risk and vulnerability.
- + Provide the necessary justification to support policy decisions that will protect lives and reduce losses resulting from disasters.
- + Establish a provincial-level foundation for monitoring risk and vulnerability over time.
- + Enhance decision making for disaster risk reduction initiatives.

RESILIENCE COMPONENTS

Resilience in Viet Nam was calculated by averaging Vulnerability and Coping Capacity. Results are displayed across each province below, while the four main drivers of resilience with detailed recommendations are provided in the individual province profiles.



Vulnerability



Coping Capacity

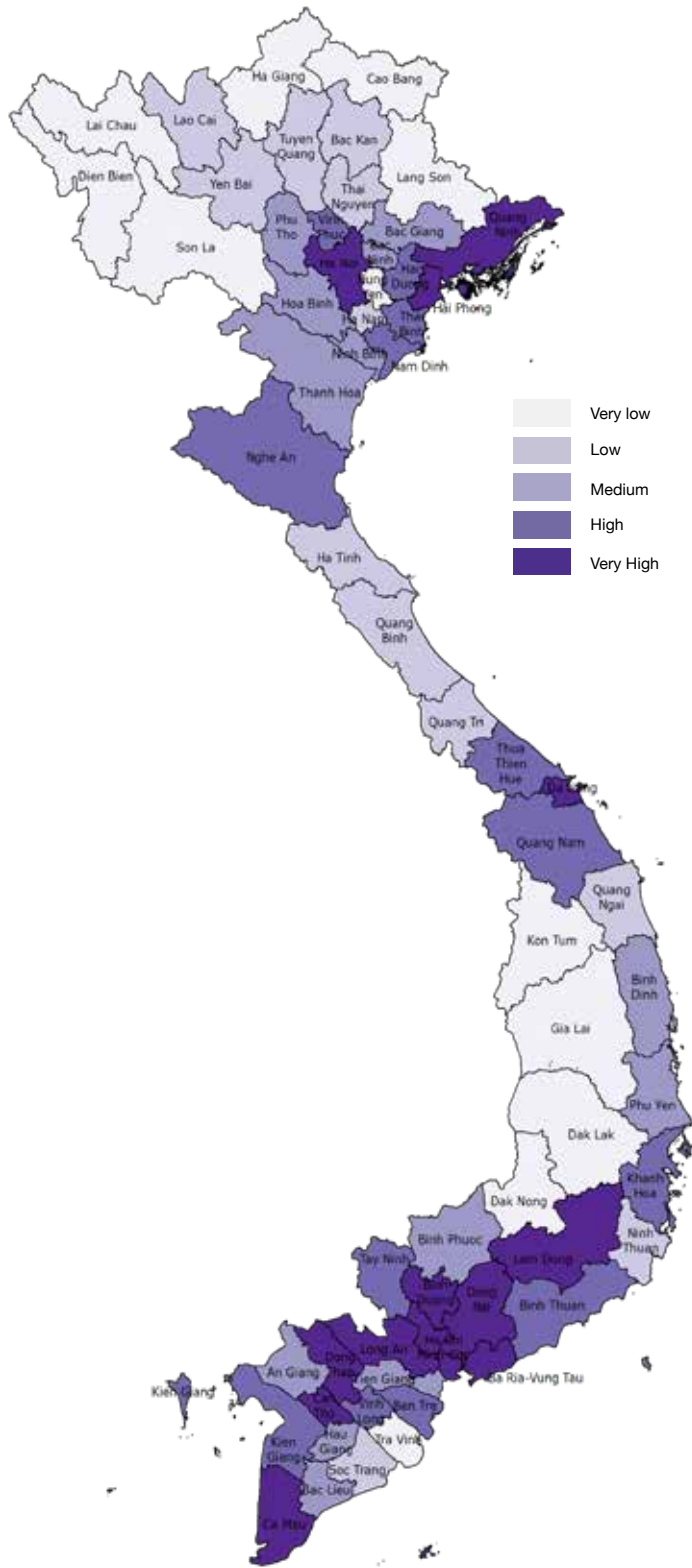
RESILIENCE BY PROVINCE

VERY HIGH

HIGH

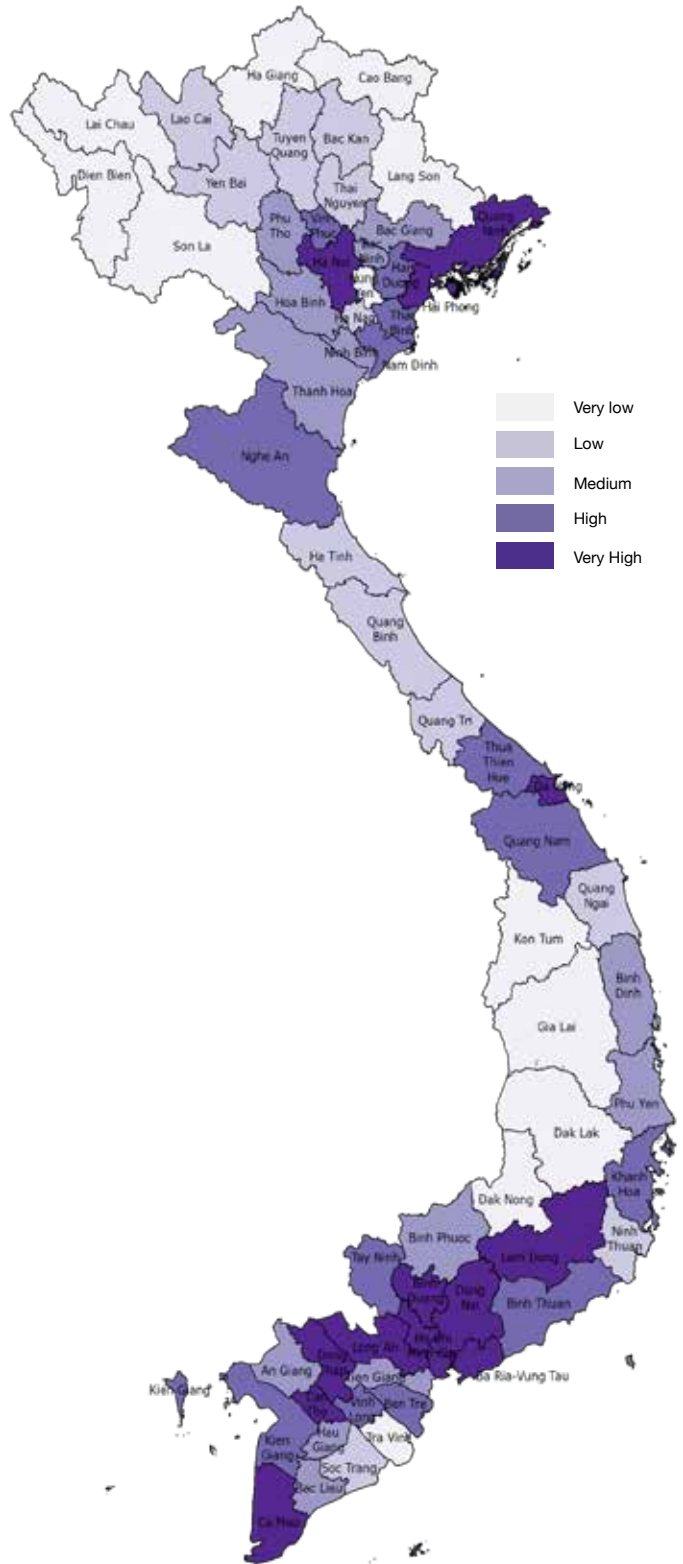
MEDIUM

RANK	PROVINCE	INDEX SCORE
1	Da Nang	0.749
2	Ho Chi Minh City	0.696
3	Quang Ninh	0.647
4	Dong Nai	0.631
5	Hai Phong	0.629
6	Dong Thap	0.62
7	Ha Noi	0.611
8	Long An	0.608
9	Can Tho	0.602
10	Ba Ria-Vung Tau	0.602
11	Ca Mau	0.601
12	Binh Duong	0.6
13	Lam Dong	0.588
14	Kien Giang	0.588
15	Tay Ninh	0.583
16	Vinh Phuc	0.577
17	Thai Binh	0.576
18	Khanh Hoa	0.575
19	Thua Thien Hue	0.567
20	Vinh Long	0.556
21	Nam Dinh	0.553
22	Hai Duong	0.552
23	Quang Nam	0.551
24	Ben Tre	0.547
25	Nghe An	0.539
26	Binh Thuan	0.539
27	Bac Lieu	0.538
28	Binh Dinh	0.536
29	Bac Ninh	0.535
30	Bac Giang	0.534
31	Hau Giang	0.528
32	Ninh Binh	0.523



RESILIENCE BY PROVINCE

	RANK	PROVINCE	INDEX SCORE
MEDIUM	33	Phu Tho	0.519
	34	Binh Phuoc	0.518
	35	An Giang	0.517
	36	Tien Giang	0.516
	37	Hoa Binh	0.515
LOW	38	Thanh Hoa	0.515
	39	Phu Yen	0.513
	40	Ha Nam	0.513
	41	Quang Tri	0.513
	42	Ninh Thuan	0.51
	43	Soc Trang	0.506
	44	Ha Tinh	0.498
	45	Quang Ngai	0.498
	46	Lao Cai	0.495
	47	Tuyen Quang	0.488
VERY LOW	48	Thai Nguyen	0.487
	49	Yen Bai	0.487
	50	Quang Binh	0.481
	51	Bac Kan	0.48
	52	Dak Lak	0.479
	53	Hung Yen	0.47
	54	Lang Son	0.458
	55	Tra Vinh	0.457
	56	Son La	0.433
	57	Gia Lai	0.426
	58	Dak Nong	0.423
	59	Ha Giang	0.407
	60	Cao Bang	0.406
	61	Kon Tum	0.391
	62	Dien Bien	0.382
	63	Lai Chau	0.348





THE RVA

MULTI-HAZARD RISK

RESULTS BREAKDOWN

THE RVA

MULTI-HAZARD RISK

Multi-hazard Risk combines hazard exposure, susceptibility to impact, the relative inability to absorb negative impacts to provide a collective measure of what is likely to impact each province as a whole over time. Analyzing risk information throughout all phases of disaster management - mitigation, preparedness, response, recovery - improves operations and promotes efficient resource allocation.

Applying a repeatable methodology and identifying provincial risk provides a baseline for conducting temporal analysis and a better understanding of the potential impact of climate change. Analyzing trends in risk allows decision-makers to determine effective disaster risk reduction initiatives and implement evidence-based policy.

MULTI-HAZARD RISK COMPONENTS

Multi-hazard Risk in Viet Nam was calculated by averaging Multi-hazard Exposure, Vulnerability and Coping Capacity. Results are displayed across each province below, while additional detail on provincial risk is provided in the individual province profiles.



Multi-hazard Exposure



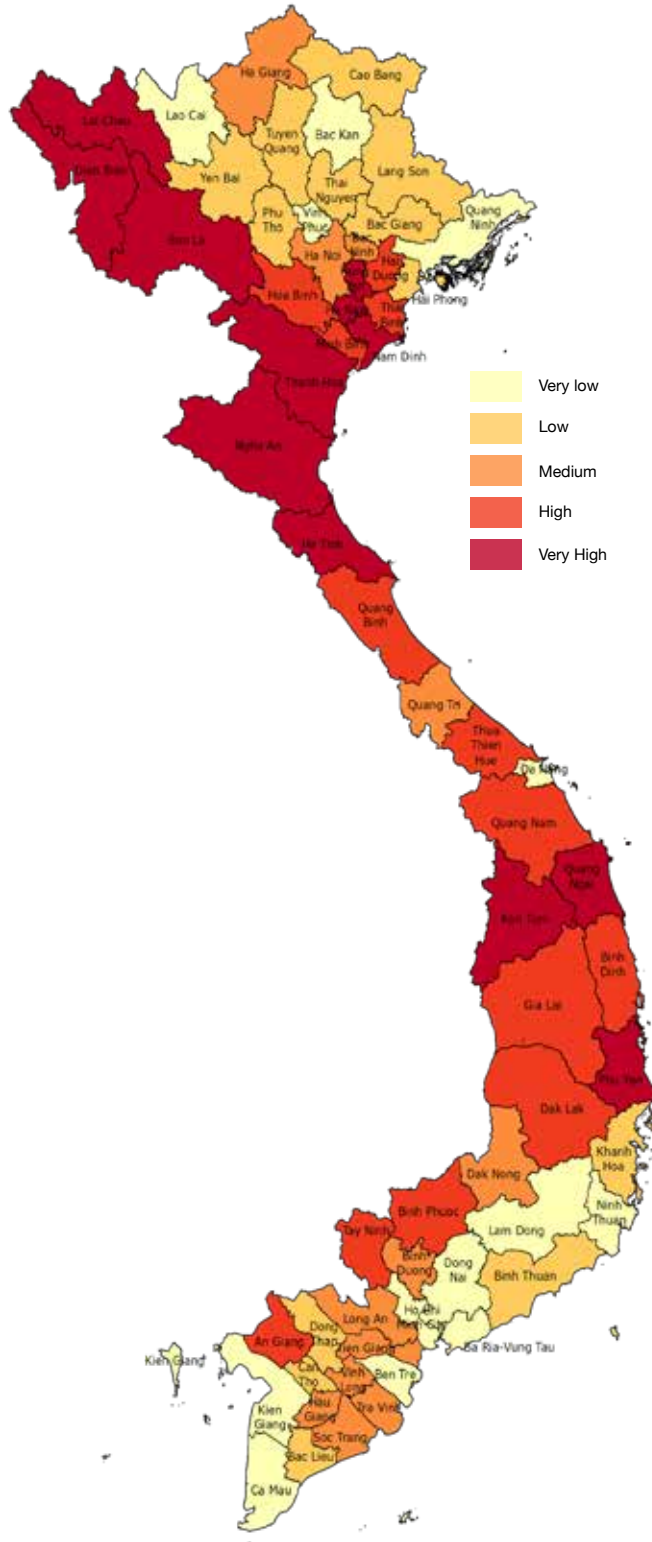
Vulnerability



Coping Capacity

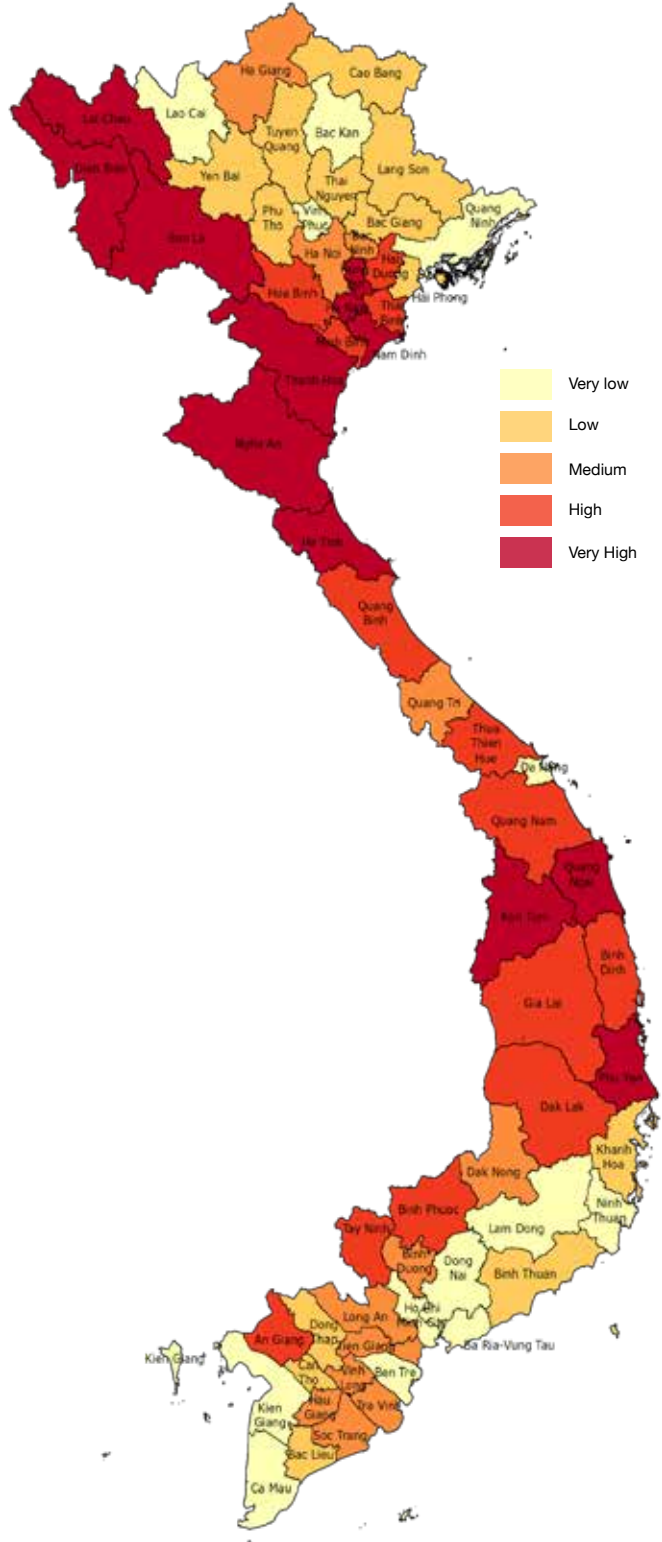
MULTI-HAZARD RISK BY PROVINCE

	RANK	PROVINCE	INDEX SCORE
VERY HIGH	1	Dien Bien	0.649
	2	Son La	0.609
	3	Thanh Hoa	0.606
	4	Kon Tum	0.592
	5	Nghe An	0.568
	6	Lai Chau	0.567
	7	Nam Dinh	0.561
	8	Ha Nam	0.56
	9	Hung Yen	0.552
	10	Quang Ngai	0.544
	11	Ha Tinh	0.539
	12	Phu Yen	0.537
	13	Quang Binh	0.534
HIGH	14	Gia Lai	0.531
	15	Ninh Binh	0.53
	16	Hai Duong	0.528
	17	Binh Phuoc	0.527
	18	Hoa Binh	0.521
	19	An Giang	0.518
	20	Binh Dinh	0.517
	21	Dak Lak	0.513
	22	Quang Nam	0.511
	23	Tay Ninh	0.511
	24	Thua Thien Hue	0.503
25	Thai Binh	0.503	
MEDIUM	26	Ha Giang	0.495
	27	Soc Trang	0.489
	28	Dak Nong	0.488
	29	Long An	0.481
	30	Binh Duong	0.479
	31	Quang Tri	0.478
	32	Hau Giang	0.478



RESILIENCE BY PROVINCE

	RANK	PROVINCE	INDEX SCORE
MEDIUM	33	Tien Giang	0.473
	34	Ha Noi	0.472
	35	Bac Ninh	0.469
	36	Tra Vinh	0.466
	37	Vinh Long	0.464
LOW	38	Phu Tho	0.463
	39	Binh Thuan	0.463
	40	Hai Phong	0.457
	41	Yen Bai	0.455
	42	Cao Bang	0.452
	43	Bac Giang	0.452
	44	Dong Thap	0.45
	45	Lang Son	0.44
	46	Can Tho	0.438
	47	Thai Nguyen	0.433
VERY LOW	48	Tuyen Quang	0.425
	49	Khanh Hoa	0.425
	50	Bac Lieu	0.424
	51	Kien Giang	0.42
	52	Ninh Thuan	0.41
	53	Dong Nai	0.41
	54	Vinh Phuc	0.398
	55	Bac Kan	0.396
	56	Quang Ninh	0.396
	57	Ben Tre	0.39
	58	Ho Chi Minh City	0.39
	59	Lam Dong	0.384
	60	Ca Mau	0.363
	61	Lao Cai	0.346
	62	Ba Ria-Vung Tau	0.342
	63	Da Nang	0.333





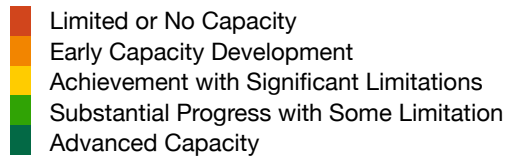
THE DMA

DISASTER MANAGEMENT ANALYSIS

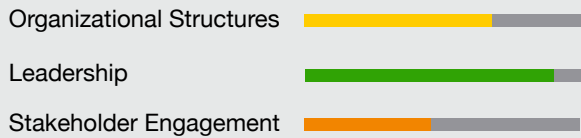
RESULTS BREAKDOWN

THE DMA DISASTER MANAGEMENT ANALYSIS RESULTS

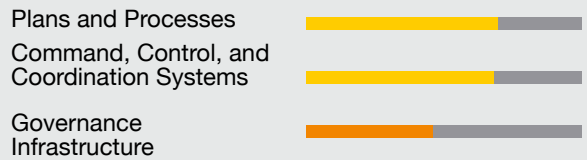
Each theme in the Disaster Management Analysis (DMA) is evaluated at the capacity level followed by an overview of each individual indicator result and assessment. Detailed results are provided in Appendix A.



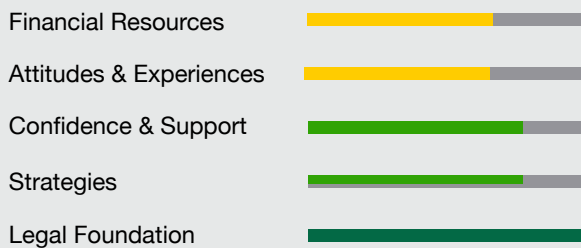
Institutional Arrangements



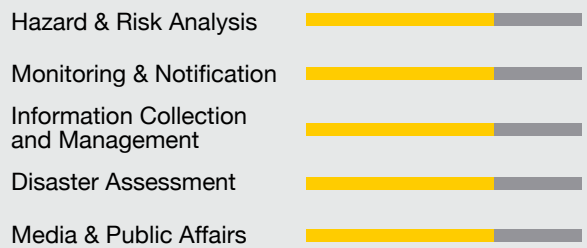
Disaster Governance Mechanisms



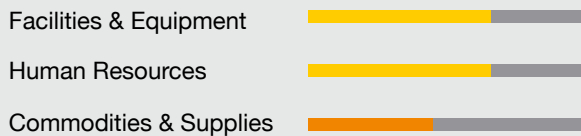
Enabling Environment



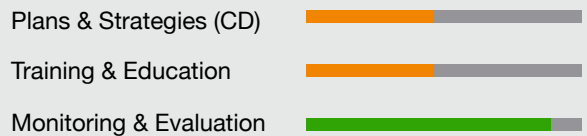
Communication and Information Management



Capabilities & Resources



Capacity Development





INSTITUTIONAL ARRANGEMENTS

- Limited or No Capacity
- Early Capacity Development
- Achievement with Significant Limitations
- Substantial Progress with Some Limitation
- Advanced Capacity

ORGANIZATIONAL STRUCTURES



Organization of Government DM Functions: Several offices or agencies with DM functions exist within different government agencies.

Development of DM Organizational Structure: Siloed organizational structure exists.

Bi/Multilateral Engagement: Jurisdiction maintains an office or entity dedicated to engagement with bilateral, international, and other humanitarian actors.

Regionalized Capacity: DM activities, including those for response, are conducted out of regional DM offices.

Disaster Risk Reduction (DRR) Platform: Plans exist to establish a DRR platform, but implementation is not complete, or platform is not functioning at ideal capacity.

Climate Change Adaptation (CCA) Platform: CCA platform exists at an advanced level of implementation.

Sustainable Development (SD) Platform: Plans exist to establish a sustainable development platform, but implementation is not complete, or platform is not functioning at ideal capacity.

Integration of DRR, CCA, and SD: No integration.

Military Engagement: Formalized integration efforts underway.

LEADERSHIP



Emergency Management Leadership Arrangement: Functional leadership positions exist but are not well coordinated, or leadership by intergovernmental committee with remaining implementation challenges.

Leadership Positions Filled: All leadership positions are filled.

Job-specific Competencies of Leadership Positions: Competencies and experience are not required, but are generally expected.

Political Access of DM Leadership: DM leadership enjoys an institutionalized, direct line of report and responsibility to the highest level of government.

Proxy Leadership Arrangements: Appointment of proxy leaders is possible, but procedures and policies are not explicitly defined, or leadership authority is not fully transferred.

Special Decision-Making and Policy-Making Committees for Response and Recovery: Committees and/or structures are in place.

Multi-Stakeholder Participation in Decision-Making Committees: Stakeholders are included, but have limited operational or decision-making responsibilities.

STAKEHOLDER ENGAGEMENT

Stakeholder Representation in Government DM Structures: Nongovernmental stakeholders regularly support governmental efforts, but no recognition of such roles exists in organizational arrangements/charts.

Public Private Partnerships (PPPs): No support policies/strategies exist, or they are limited in number/scope.

NGO and Private Sector Inventory: No inventory is maintained or there is no DM stakeholder community.

Nature of Multi-Stakeholder Engagement: Plans and/or strategies call for direct engagement with nongovernmental stakeholders, but implementation challenges remain.

Private Sector Engagement: Private sector entities have little or no DM function to support the jurisdiction beyond meeting their own needs.

NGO Organizational Arrangements: NGOs with DM program areas or missions coordinate through informal networks on both pre- and post-disaster issues.

Academia Involvement in Government DM: Academia supports DM efforts but has no official association with government structures.

National Government Engagement in Regional and Global Efforts: Strong and effective relationships exist with global and regional organizations, including formalized support frameworks and/or ratified agreements.



ENABLING ENVIRONMENT

- Limited or No Capacity
- Early Capacity Development
- Achievement with Significant Limitations
- Substantial Progress with Some Limitation
- Advanced Capacity

LEGAL FOUNDATION

Legal Arrangements Address DM Requirements: DM legislation is comprehensive and driven primarily by a single current disaster law.

Scope of Legislation: Legislation addresses all DM phases.

Basis of the Legislative Process: DM legislation is established based on a broad strategic vision.

Implementation Schedules in Legislation: Legislation details implementation schedules and is partially implemented or is on schedule to be.

Legislation and Institutions: Legislation provides detailed guidance for the establishment of DM institutions.

Legislation and Budgets: Legislation provides basic provisions for the establishment of DM budgets.

Legislation is Socialized: Legislation is actively socialized by the government.

Declarations Process, Vertical Cooperation, and Resource Requisition: All are addressed, but are not explicitly described in the language of the law.

Emergency Powers: Some provisions exist.

DM Structures and Arrangements of Sub-jurisdictions: Provisions are extensive.

Guidance for DRR Activities and Requirements: Provisions are Comprehensive.

Facilitation of Military Support: Provisions comprehensive, or full integrated due to government structure.

Facilitation of International & Cross-Border Activities (Facilitation and Provision): Some provisions exist, or provisions are not fully effective.

FINANCIAL RESOURCES

DM Budget Arrangement: DM Budget exists as a sub-component of an agency-level budget, and not as a general budget line item.

DM Budget Funded at Targeted Levels: No, or no levels detailed.

Scope of DM Budget: Addresses programmatic, administration, and operations; funding or programmatic challenges exist.

DRM Grant Programs: Grants are institutionalized and recurring.

Budget Supports Training, Education, and Research & Development: Yes, but implementation obstacles exist.

National Budget Supports Sub-Jurisdictions: Yes, but implementation obstacles exist.

Dedicated Emergency or Contingency Fund Exists: Legal provisions exist to establish and/or maintain a contingency fund, but implementation challenges exist.

Contingency Fund Levels: Disaster reserve/contingency funds exist but are less than 2% of national annual GDP and/or has fallen short of needs in the past even when emergency appropriations have been passed.

Contingency Fund Limits: Guidelines exist for access; funds not protected from non-emergency withdrawals.

Existence of and Public Support for Catastrophe Risk Transfer: Catastrophic insurance market does not exist.

Insurance Industry Oversight: Government regulates insurance markets to ensure solvency.

Availability of Low-interest Loans to Support Recovery: Loan programs offered on an ad-hoc basis; only provided to a limited audience; or not well-established.

Availability of Microfinance Credit Schemes and/or Expedited Remittances: Available through informal systems and structures.

Guidelines for Disaster Relief Disbursement: Mechanisms exist for funds distribution to sub-jurisdictions, but guidelines are informal or untested.

STRATEGIES

Strategic Plans and Policies: Standalone or distinct and strategic plans and policies exist, but not for all DM phases and/or the policy document(s) is (are) more than 10 years old.

Stakeholder Engagement: Strategic plans address some or all relevant stakeholders; stakeholders not engaged in the process.

Stakeholder Guidance: Guidance provided solely via self-directed means; guidance is provided to a limited range of stakeholders; and/or implementation or facilitation challenges exist.

Policy Support of DRR Integration: Detailed policies ensure adequate integration of national DRR goals in development, planning, recovery, and reconstruction and ensure integration and coordination with CCA and SD policies and goals.

DRR and DM Policy Integration Progress: Policy goals are integrated across all of government and are widely socialized.

Mitigation Mandates in DRR Policies: Provisions exist but requirements are vague or unspecific and/or enforcement mechanisms do not exist.

Consideration of Gender and Vulnerable Groups in Strategies and Policies: Groups' needs are considered, but implementation challenges remain.

PUBLIC CONFIDENCE & POLITICAL SUPPORT

Support from Top Government Officials: The office of the head of state champions DM and DRM activities, including preparedness and mitigation.

Support of the Legislature: There exist standing legislative or other advisory committees with a central focus on DM and/or DRR.

Interagency and Multi-stakeholder Input in the Legislative Process: Input exists, but to a limited degree for some stakeholder groups.

Public Support for DRR: The public supports DRR provisions that do not result in increased taxes, costs, or other benefit losses.

Public Confidence in Governmental DM: Public confident in governmental DM capabilities and capacity.

Political Approval Ratings: Approval ratings are not collected and/or public support for political figures is not measured.

ATTITUDES, ENGAGEMENT, AND EXPERIENCE



Practical Experience of the Jurisdiction: Jurisdiction responds to more than 1 major disaster that requires extra-jurisdictional and/or interagency coordination each year.

Practical Experience of the Lead DM Official: Lead DM official has coordinated a major disaster requiring or in provision of extra-jurisdictional assistance within the previous year but has held their position for less than 3 years.

Public Engagement in DM: Public is actively organized and engaged in DM efforts.

Private Sector Engagement in DM: Little to no DM reported by business community, and little to no business community participation in community emergency management efforts.

Household Preparedness: No assessments or surveys of household or individual disaster preparedness conducted, or if they are, less than 25% of households report adequate preparedness.



DISASTER GOVERNANCE MECHANISMS

- Limited or No Capacity
- Early Capacity Development
- Achievement with Significant Limitations
- Substantial Progress with Some Limitation
- Advanced Capacity

PLANS & PROCESSES

DM Phases Addressed in Plans: Response; DRR.

Coordination of Government Disaster Plans: DM agencies have unique plans that are not coordinated in structure and/or function.

Continuity of Operations (COOP) and Continuity of Government (COG): No guidance or structure is provided for government COOP or COG.

Roles and Responsibilities Defined by Plans: Plans and SOPs do not identify roles and responsibilities of lower levels of government.

Definition of the Declarations Process: An informal declarations process exists that does not standardize triggers and/or assistance mechanisms.

Accessibility of Plans and Processes: Some but not all plans and processes are publicly accessible.

Coordination of Government and Stakeholder Plans: Plans are not coordinated.

Mutual Aid Agreements: Mutual aid agreements exist, but are informal, unwritten, or unsigned.

International Mutual Aid Agreements: Formal mutual aid agreements have been established at the bilateral/global regional level.

Protocols for the Use of External Disaster Assistance: External resource processing is facilitated but is not streamlined during disasters, or implementation challenges prevent efficient use of external assistance despite protocols and procedures in place.

Volunteer and Donations Management Capacity: Systems in place to accept, process, and utilize donated goods and volunteers.

COMMAND, CONTROL, AND COORDINATION SYSTEMS

Incident Command Systems: Many or all jurisdictions utilize an incident command system, but no single standard incident command system has been implemented.

Incident Coordination Systems: Incident management procedures or protocols are often used to coordinate vertical and horizontal interagency and stakeholder engagement, but there is no standard system within the assessment area.

Legal Basis of Command and Coordination Structures: Incident command and management systems and structures, including decision-making authority and reporting hierarchies, are defined in legal and planning instruments.

Command and Coordination by Function: Plans and procedures are not functional in their structure.

Facilitation of Interagency Coordination: Standard procedures exist for interagency coordination, including interagency agreements, requests for assistance, mission assignments, reporting requirements, and reimbursement.

GOVERNANCE INFRASTRUCTURE

Emergency Operations Center: Plans exist for a purpose-built EOC, but it has not been completed.

Dedicated EOC Facility: The EOC is not in a dedicated facility.

EOC Resources: Equipped for minor incidents but may need additional equipment/resources for large events.

EOC Activation Readiness: More than 6 hours following incident onset needed to establish an EOC capability.

EOC Activation Duration: Insufficient staff or resources to maintain one week of continuous EOC operations

EOC Resilience: EOC is vulnerable to known hazards, or no EOC exists.

EOC Accessibility: EOC is not easily accessible for key government officials.

Backup EOC: No capacity exists to stand up a backup EOC facility.

Field-Level Coordination Centers: Jurisdiction has the plans, procedures, and resources to establish one field-level coordination center.

Long-Term Community Recovery Facilitation Capacity: Jurisdiction does not have the plans, procedures, or resources to support long-term recovery.

Communications Interoperability: Communications interoperability is not possible.

Responder Credentialing: Credentialing processes/systems exist and have been tested in past disaster events.



CAPABILITIES AND RESOURCES

- Limited or No Capacity
- Early Capacity Development
- Achievement with Significant Limitations
- Substantial Progress with Some Limitation
- Advanced Capacity

FACILITIES & EQUIPMENT



Emergency Services Facilities Capacity: Fewer than 1 fire station per 100,000 people; fewer than 1 fire station per 50 square miles.

Material Resources Available for DM: Material resources designated for DM maintained at inconsistent levels (less than 50%) across the jurisdiction.

Supplemental DM Resources: Supplemental resources secured through a comprehensive blend of formalized private-sector partnerships, relationships with the NGO sector, and other means.

DM Equipment Inventories: Accurate and up-to-date Inventories of disaster-relevant equipment are maintained.

Shelter Capacity: Emergency shelters with the capacity to serve at least 50% of anticipated needs have been identified, but alternate sheltering capabilities would likely have to be identified to address all requirements.

Shelter Suitability Assessments: Some but not all shelters have been assessed for suitability.

Shelter Equipment: Less than half of all shelters are specially equipped for disaster use.

Warehousing Capacity: Purpose-built warehouse and staging facilities exist to meet logistics operations requirements in a major disaster event.

HUMAN RESOURCES



Emergency Services Staff: Between 1 and 2 firefighters per 1000 people.

Planning Staff: Key staff have dedicated job functions, but most programmatic staff have job functions that support other activities OR a cadre of trained staff with job functions dedicated to pre- and post-disaster emergency management activities and programs exists, but challenges exist in meeting programmatic needs.

Surge Staff Documentation and Procedures: Surge staffing needs formally addressed in the jurisdiction's disaster plans and procedures, but the adequacy of staffing resources has not been verified or is not at desired levels.

Surge Staff Source: Surge staff drawn from throughout the DM stakeholder community, but most surge staff utilized only in major events.

Rosters of Trained Professionals: Rosters of trained professionals able to support critical post-disaster needs are not maintained.

City Pairing or Similar Technical Staffing Partnerships: Programs exist to a limited extent.

COMMODITY & SUPPLY INVENTORY

Generating Estimates of Post-Disaster Commodity Needs: Estimates are not maintained.

Commodity Stockpile Quantities: Commodity stockpiles maintained at levels insufficient levels, or needs estimates are not available.

Location of Commodity Stockpiles: Commodity stockpiles are kept in locations that require repositioning in rapid-onset events.


Basis of Commodity Stockpile Distribution: Commodity stockpile locations based primarily on the location of warehousing facilities.

Commodity Contracts: Contracts with commodity providers do not exist

DM Resource and Supply Inventories: DM resource and supply inventories exist but are incomplete.

Frequency of Resource and Supply Inventory Updates: No requirement to update inventories on a regular schedule.

Hosting of Resource and Supply Inventories: DM resource inventories managed through multiple (individual) information systems, and/or a centralized system is planned or under development but is not yet operational.



CAPACITY DEVELOPMENT

- Limited or No Capacity
- Early Capacity Development
- Achievement with Significant Limitations
- Substantial Progress with Some Limitation
- Advanced Capacity

FORMALIZED CD PLANS & STRATEGIES



Training and Exercise Requirements and/or Recommendations: Training and exercise requirements and/or recommendations do not exist.

Position-Specific Competency Requirements: Position-specific competency has not been addressed.

Coordination of CD Efforts: A government agency or office tasked with CD coordination and support.

Strategy Driven Efforts: CD plans and/or strategies are not used to drive CD efforts.

DM and DRR Capacity and Resource Needs Assessments: DM and DRR capacity and resource needs assessments conducted, but not according to a defined schedule and/or devoid of any deliberative planning process.

Coordination with Regional/Global CD Efforts: CD efforts coordinated with Regional/global efforts.

National Science and Technology (S&T) Agenda: National S&T agenda addresses DM and DRR needs.

CAPACITY DEVELOPMENT MONITORING & EVALUATION



Standard Evaluation Procedures: The evaluation and revision of plans, strategies, and SOPs occurs, but procedures and practices are not standardized.

Review of Plans, Strategies, and SOPs: Plans, strategies, and SOPs reviewed/revised as needed annually.

Review of DM Legislation: DM-relevant legislation reviewed and updated on a regular basis and following major disasters, and/or a comprehensive DM law has been passed in the last 5 years.

Requirements for Post-Disaster Reviews: Post-disaster review and evaluation of disaster response efforts occurs for some larger-scale incidents and/or they are not required.

Evaluations Incorporated into Plans, Policies, and/or SOPs: Evaluations of adverse events, drills, and/or exercises occur but there is no evidence that outcomes influence or are otherwise linked to plans, policies, and/or SOPs.

TRAINING & EDUCATION

Conduct of DM and DRR Training: NDMO supports training, but no designated training facility or budget exists.

Scope of Training and Education Curriculum: A training curriculum exists, but it does not address all DM phases nor all operational and functional needs, and/or implementation challenges exist.

Training Methods: Centralized in-person training facility and/or mobile staff that provide distributed training; Online.

Training Catalog and Schedule: No training catalog or schedule exists.

Training Records: Training records are not maintained.

Program to Support Exercises: Exercise efforts managed by staff with other regular day-to-day job functions.

Exercise Evaluation Standards: Exercise evaluation standards do not exist.

Structured Annual Exercise Schedule: General recommendations for exercise schedules are provided, but no structured annual exercise schedule exists

National-Level Exercise: No national-level exercise is conducted.

Support for Sub-Jurisdictional Exercises: No support provided for sub-jurisdictional exercises.

Exercise Participation Requirements: Government agencies with DM functions not required to participate.

Stakeholder Involvement in Training and Exercises: Exercises may include interagency partners, but do not typically include non-governmental DM stakeholders.

DM Programs in the Higher-Ed Community: Higher-Ed support very limited in program number and scope.

National DM Curriculum: DM and DRR curriculum for K-12 is under development.

Public Education Methods: DM public education provided on official websites, through media and other campaigns (generalized audience); through multi-modal methods (to targeted groups).

Community Centers and Public Awareness/Education: Centers involved, but not uniformly throughout the country.

Disaster Preparedness Information for the Private Sector: Private sector preparedness is not supported.

Higher-Ed Program and Degree Offerings: Bachelor's and Master's degree programs are offered.



COMMUNICATION AND INFORMATION MANAGEMENT

- Limited or No Capacity
- Early Capacity Development
- Achievement with Significant Limitations
- Substantial Progress with Some Limitation
- Advanced Capacity

HAZARD & RISK ANALYSIS

Risk Assessment Processes and Standards: The jurisdiction has instituted a standard risk assessment process at the jurisdiction and sub-jurisdiction levels, but implementation challenges remain.

Risk Assessment Requirements for Planning: Requirements exist, but there are no enforcement mechanisms.

Risk Assessment Staffing Capacity: The jurisdiction requires outside assistance to perform risk assessments.

Vulnerability Measured in Risk Assessments: Vulnerability assessment criteria limited to demographic data and/or housing type, or inclusion of complex vulnerability measures is hindered by implementation challenges.

Climate Change Included in Risk Assessments: Climate change criteria limited in scope, or inclusion of climate change measures is hindered by implementation challenges.

Local and Indigenous Knowledge in Risk Assessments: Knowledge included, but implementation challenges remain.

Hosting of Risk Assessment Information: Risk assessments utilize GIS technology, but no centralized system exists to support risk assessment reporting; or a centralized GIS system exists to support risk assessment reporting, but risk assessments do not adequately utilize GIS technology.

Risk Mapping Requirements: Risk mapping required at all levels but support and/or capacity is insufficient.

Risk Mapping Capacity: Outside support required to conduct risk mapping.

Risk Assessment Link to Development Processes: Risk Assessment Efforts Inform the Development Process.

MONITORING & NOTIFICATION

Existence of Hazard Monitoring: Monitoring of all major hazards is occurring.

Coordination of Hazard Monitoring: Single office tasked with oversight and/or management of monitoring for all major hazards.

Population in Areas Served by Monitoring Efforts: Monitoring of hazards benefits more than 75% of the jurisdiction's population.

Doppler Radar Coverage: Between 75 and 100 percent of land area.

Hazard Monitoring Responsibility: Hazard monitoring managed by agencies or offices with relevant or hazard-specific missions.

Hazard Monitoring Methods: Up-to-date methods and technologies are utilized for some hazards.

Assignment of Notification/Early Warning Responsibilities: Notification/early warning functions consolidated and assigned to the DM agency or an agency with DM communications responsibilities for some hazards.

Standard Procedures for Early Warning: Standard procedures for some hazards.

Targeted Early Warning Capabilities: Systems can target specific locations by risk for some hazards.

Early Warning Systems Coverage Area: 25 to 75 percent of the population is served by early warning systems.

Testing of Early Warning Systems: Some systems tested, or testing occurs on a non-routine basis

Training and Education for Warning Recipients: Populations served by early warning systems are provided with pre-disaster training or education about message meaning and appropriate response.

Population Targeting of Early Warning Messages: Early warning systems do not have the capacity to address the needs of specific populations.

Early Warnings Communication Channels: Warnings provided through radio, television, social media, and sirens. Warnings not provided through landline phones or mobile (cellular) phones.

DISASTER ASSESSMENT

Disaster Assessment Capabilities: Assessment systems and/or procedures exist, but capabilities remain under development and likewise insufficient for major disasters.

Disaster Assessment Requirements: Disaster assessments are required under the declarations process, but decision-making often occurs irrespective of assessment outcomes.

Nationally-Authorized Assessment Methodology: A nationally-authorized assessment methodology exists, but universal application is hindered by either a lack of implementation requirements or implementation challenges

Assessment Resource Capacity: Capacity typically requires the intervention of international organizations.

Assessments and Incident Action Planning: Assessments are conducted, but implementation challenges and other obstacles often limit their utility in the IAP process.

Stakeholder Engagement in the Assessment Process: Multi-stakeholder engagement is not required but it is common.

INFORMATION COLLECTION, MANAGEMENT, & DISTRIBUTION



Data Collection and Storage Standards: Data are collected, standardized, and stored based on individual agencies' standards and procedures.

Format of Data: It is mixed at the jurisdictional level, and/or it is not the case in most sub-jurisdictions.

Data Sharing: Data sharing informal/inconsistent and not often shared between different government levels.

GIS-Based Data Management System to Leverage a Common Operating Picture: System is in place, but use is not common beyond the jurisdictional level and/or implementation challenges remain.

Disaster Database Linked to the National Statistics Agency: Exists, but implementation challenges remain.

Facilitation of Information Sharing: An internet-based platform to share information on all DM phases exists and is available to all relevant DM stakeholders (e.g., WebEOC), but implementation challenges remain.

MEDIA & PUBLIC AFFAIRS



Public Information Officer: Each of the DM agencies maintains a PIO position or capacity as a standard of practice.

Documented Communications Strategy: Communications strategies are articulated in a more general strategic instrument

Dedicated Media Briefing Space: The jurisdiction provides a dedicated media briefing space collocated or close to the DM facility.

Media Training: Not Assessed.

Information Dissemination Formats: Processes exist to obtain and disseminate public information in multiple formats and through multiple channels.

Pre-scripted Information Bulletins: Not Assessed.

Public Information Audiences: Public information capacity includes capability to communicate with special-needs and vulnerable populations.

Tracking Publicly-Generated Information: Publicly-generated information is tracked and used, but no dedicated policies or procedures exist to do so.



THE DMA

DISASTER MANAGEMENT RECOMMENDATIONS

THE DMA NATIONAL RECOMENDATIONS

1

CONSOLIDATE NATIONAL-LEVEL MANAGEMENT AND AUTHORITY OF STRUCTURES GOVERNING ALL-HAZARDS DRM

Empower VNDMA and Coordinating Committees at all levels with the authority to manage pre- and post-disaster interagency disaster risk management efforts for all hazard types regardless of origin (natural and technological).

Institute function-based emergency and disaster planning arrangements and convene “Function Support Management Structures” (committees or working groups) that promote compartmentalized management of defined pre- and post-disaster operational and technical needs; identify and designate functional lead and support ministries/offices.

Draft a comprehensive National Coordination Framework that guides the planning, tasking, reporting, and support for major incidents and clarifies the roles of all relevant stakeholders.

2

ESTABLISH COMPETENCY-BASED REQUIREMENTS FOR DISASTER MANAGEMENT LEADERSHIP AND STAFF

Convene a training and academic stakeholder working group to identify sector-wide and position- and/or function-specific professional competencies.

Develop and distribute capacity assessment tools tied to new competency requirements.

Link competency requirements and needs to national training programs, certification programs, and higher-education curricula.

Partner with academic institutions to advance the professionalization of disaster management at all administrative levels.

Support private sector competency development efforts by developing guidance, online and in-person courses, and other tools to prevent increase retention of trained government staff.

3

EXPAND MULTI-STAKEHOLDER ENGAGEMENT IN GOVERNMENT DRM SYSTEMS AND STRUCTURES

Enhance NGO and private sector registries and inventories to better capture DRM stakeholder capacity (skills, equipment, resources, etc.), information on operational foci, and other relevant data.

Establish a VNDMA “Private-Sector Office” to promote and support the establishment of public-private-partnerships DM and DRR. Formalize NGO and private sector (including privately-owned and/or operated utilities) participation

in DRM efforts by detailing sector roles and responsibilities in functional plans and national policy doctrine.

Strengthen PACCOC coordination capabilities to ensure that multi-stakeholder support for non-disaster planning and capacity building efforts is maintained.

Standardize and support the inclusion of NGO and Private Sector stakeholders in disaster exercises and training at all

administrative levels.

Support the establishment of an independent multi-stakeholder engagement platform through which two-way information sharing and collaboration is facilitated for risk assessment, planning, response, recovery, and other tasks as required.

4

ASSESS AND ADDRESS THE NEED FOR EXPLICITLY-DEFINED EMERGENCY POWERS

Assess and analyze through deliberative planning the need for and current capacity to issue and enforce orders for evacuation, curfew, quarantine, the curtailing of predatory and opportunistic business practices (e.g., price-fixing), and other limitations on rights necessary to ensure public safety and security during disasters.

Assess the need for statutory authorities to curtail rights for the assurance of public safety and security during disasters at each administrative level.

Advance the legislative process to formalize required emergency powers as assessed.

5

RELIEVE DEPENDENCE ON CONTINGENCY FUNDS BY SUPPORTING RISK TRANSFER, AND CLARIFY PROVISIONS GOVERNING CONTINGENCY FUND USE

Through decree or other legislative action, define contingency funding eligibilities and limits to guide recovery funding actions at all administrative levels.

Promote property/casualty insurance, hazard insurance, and other risk financing options

to increase market penetration.

Establish and mandate participation in a geographically-dispersed government-backed, all-hazards, and risk-based catastrophic insurance program.

Implement mitigation planning and risk transfer requirements linked to eligibility for recovery support in high-risk communities.

6

PROMOTE AND SUPPORT PRE-DISASTER RECOVERY PLANNING AT ALL ADMINISTRATIVE LEVELS

Develop standardized national planning guidance and associated planning templates to expand the prevalence of community pre-disaster recovery planning practices.

Provide guidance on the conduct of all-stakeholder recovery decision-making processes and requirements to empower people's committees at all administrative levels to assume that role during long-term disaster recovery.

Orient national disaster assessment tools such that long-term recovery planning needs are adequately addressed through those efforts.

7

STRENGTHEN PUBLIC SECTOR RESILIENCE AND RESPONSE AND RECOVERY COORDINATION BY ESTABLISHING INTERGOVERNMENTAL AND INTERSECTORAL PLANNING STANDARDS

Convene a multi-stakeholder interagency working group to establish a national disaster planning and coordination standard.

Develop and issue national planning guidelines.

Mandate Continuity of Government (COG) / Continuity of Operations (COOP) planning among all line ministries and offices, and support efforts with the provision of standard COG/COOP planning guidelines.

Formalize the disaster declarations process by

establishing a capacity for rapid needs assessment and incorporating standard triggers for intervention based on findings.

Support or otherwise enable the online hosting of plans to increase stakeholder awareness, coordination, and participation in planning and post-disaster efforts.

8

ESTABLISH AND SOCIALIZE A NATIONAL STANDARD SYSTEM FOR INCIDENT COMMAND

Convene a national incident command working group that includes a broad representative membership from throughout the response community.

Elaborate the requirements of a standard yet flexible and scalable incident command structure that is aligned with

the “Four on the Spot” principle and is capable of supporting incidents of any magnitude.

Issue incident command system adoption requirements for all administrative levels of government, and issue corresponding planning and

training resources.

Develop online and other certification programs for major response stakeholders (e.g., utilities, NGOs, lead and support response function stakeholders) to support multi-stakeholder adoption of incident command standards.

9

STRENGTHEN INCIDENT COORDINATION SYSTEMS AND STRUCTURES

Advance the ongoing design, construction, equipping, and staffing of the VNDMA national incident coordination center.

Work with response and recovery partners to establish an incident coordination framework that defines expected roles, responsibilities, avenues for engagement, information sharing mechanisms, and other components of effective coordination.

Socialize the national incident coordination framework at all administrative levels.

Incorporate functional and/or cluster-based coordination structures to better facilitate INGO, IGO, and IFI support in major disaster events.

10

STRENGTHEN INCIDENT COMMUNICATIONS CAPACITY, CAPABILITY, AND RESILIENCE

Initiate or advance a nationwide emergency communications assessment targeting all sector stakeholders.

Determine and define interoperable communications

goals and requirements.

Develop and implement interoperable communications national strategy.

Secure or otherwise provide funding to support equipment acquisitions, technical assistance, and training.

11

STRENGTHEN EMERGENCY SHELTER CAPACITY DEVELOPMENT EFFORTS

Coordinate with VNRC, VINASARCOM and other shelter management and operations stakeholders to identify minimum and/or recommended standard functional requirements (capacity, resources, staffing, supplies, and other factors).

Develop and distribute shelter planning and assessment guidelines.

Establish funding and technical assistance programs that support commune-level shelter capacity building efforts.

Maintain and ensure all-stakeholder accessibility to a national disaster shelter inventory.

Institute commune-level requirements for designation of shelter coordinators.

12

STRENGTHEN MASS-CARE CAPABILITIES BY ESTABLISHING COMMODITY NEEDS ESTIMATES AND IDENTIFYING ADEQUATE JUST-IN-TIME OR STOCKPILE SOURCES (INCL. CONTRACTS, PPPS)

Administer nationwide or representative survey of household disaster preparedness.

Conduct deliberative (risk-based) planning to establish commodity needs estimates.

Assess suitability of nationwide commodities distribution arrangement given risk-based needs as assessed.

Establish program to develop and maintain pre-disaster contracts with commodities vendors and institute program to assess contracts reliability.

13

ESTABLISH AND ENFORCE EXERCISE STANDARDS, AND SUPPORT AN ANNUAL NATIONAL EXERCISE PROGRAM

Develop national standards for the planning for, conduct of, evaluation of, and reporting on disaster drills and exercises, inclusive of expanded sector and stakeholder participation guidance or mandates.

Establish mappable links between national exercise standards, disaster management competency requirements, and the national training program.

Incorporate exercise requirements into sector-specific accreditation and/or certification

programs (e.g., hospitals, schools, prisons, utilities)

Conduct a national-level exercise on an annual basis that enables participation by all stakeholders and at all administrative levels.

14

ADVANCE DATA AND INFORMATION SHARING CAPABILITIES, AND INCORPORATE RISK MAPPING INTO THE PLANNING AND DEVELOPMENT PROCESSES

Expand risk assessment training to include all communities.

Establish and institute national digital data standards.

Advance the data centralization and sharing efforts of the DMPTC.

Institute local-level digital hazard mapping requirements and support with necessary hardware (and other material digital mapping resources) and technical assistance.

Mandate inclusion of hazard risk information, including climate-related projections, in the planning, development, and permitting process.

Expand access to VINAWARE and ensure training access exists for all staff and relevant stakeholders.

15

MODERNIZE EARLY WARNING SYSTEMS AND ESTABLISH PUSH-BASED LOCATION-SPECIFIC WARNING CAPABILITIES

Prioritize the development of a country-wide cellular push-notification alert system.

define roles and responsibilities of all relevant stakeholders.

Incorporate cellular alerting procedures into the national training and CBDRM curricula.

Strengthen public-private partnerships with wireless providers to address and standardize alerting requirements and to better

Coordinate with cellular service providers and other communication sector stakeholders to analyze wireless alert system gaps (population and geographic area).

16

DAMAGE AND LOSS ASSESSMENT CAPABILITIES

Mandate use of the existing national standard damage and loss assessment tools and protocols as an eligibility requirement for disaster financing eligibility and

elaborate on these links in the national declarations process.

Formalize the assessment and reporting roles of nongovernmental partners.



NDPBA

PROVINCE RISK PROFILES

RESULTS

PROVINCE RISK PROFILES

The following section provides a more detailed overview of each province in Viet Nam. Included in this overview are drivers of vulnerability, coping capacity, and resilience, a comparison of each province with the overall country, and strategic, data-driven, actionable recommendations.

Each provincial recommendation looks at one of the top four drivers of resilience through the lens of the existing national disaster management structure in Viet Nam. The recommendations are designed to be concise, actionable, and supported by the data.



VIỆT NAM

AN GIANG

NDPBA PROVINCE PROFILE

VIỆT NAM AN GIANG

CAPITAL: LONG XUYÊN

Area: 3,675 km²

An Giang is located in the upper reaches of the Mekong Delta sharing a 100km border with Cambodia to the northwest. With the exception of the west, the fairly flat terrain with many irrigated canals has led the province to being one of the largest rice producing centers in the Delta. An Giang has a largest population in the Delta - home of Kinh people and other ethnic groups such as Khmer and Chams and has large proportion of Muslim population in the country.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.518 • Rank: 19/63



RESILIENCE (R) - moderate
Score: 0.517 • Rank: 35/63



MULTI-HAZARD EXPOSURE - high
Score: 0.587 • Rank: 25/63



VULNERABILITY (V) - high
Score: 0.457 • Rank: 20/63



COPING CAPACITY (CC) - high
Score: 0.491 • Rank: 25/63



Population (2017)
2,385,356



Population in Poverty
3.9%



Illiterate population
9.5%



Access to improved water
82.6%



Average life expectancy
73.40 years

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



MULTI-HAZARD EXPOSURE

RANK: 25 / 63 PROVINCES
SCORE: 0.587

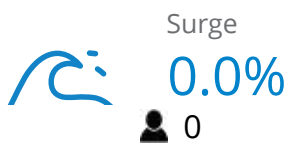
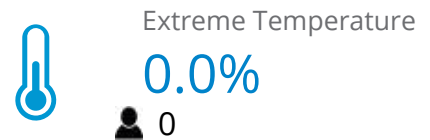
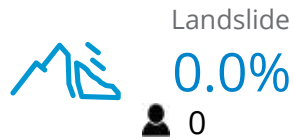
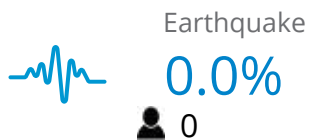
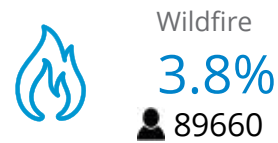


MHE
0.587

Raw MHE
0.726

Relative MHE
0.541

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





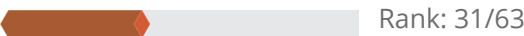
VULNERABILITY (V)

RANK: 20 / 63 PROVINCES
SCORE: 0.457

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



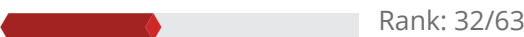
Environmental Stress



-1.7% Forest Change
26.85 Livestock Density (per sq km)



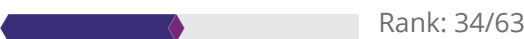
Vulnerable Health Status



73.4 Life Expectancy (years)
14.4 Infant Mortality Rate (per 1,000 live births)
6.2% Acute Malnutrition (Children <5)
122.3 Tuberculosis Incidence (per 100,000 persons)
0.79 Malaria Prevalance (per 100,000 persons)
243.1 HIV Prevalance (per 100,000 persons)



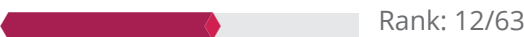
Clean Water Vulnerability



82.6% Households with Safe Water Access
77.6% Households with Hygienic Toilet Access



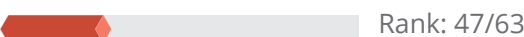
Information Access Vulnerability



9.5% Adult Illiteracy Rate
80.5% School Attendance Rate
87.0% Households without Internet
7.0% Housholds without TV



Economic Constraints



43.8 Economic Dependency Ratio
3.9% Poverty



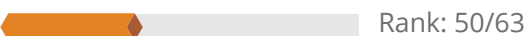
Gender Inequality



0.25 Income Inequality*
0.29 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.2% Average Annual Population Change
2.1% Average Annual Urban Population Change
9.6% Net Migration Rate



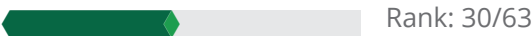
COPING CAPACITY (CC)

RANK: 25 / 63 PROVINCES
SCORE: 0.491

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



Economic Capacity

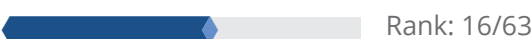


6.88	3,476	34.42	5.99	8.67
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



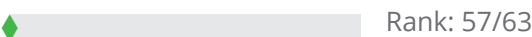
Governance



6.15	5.2	6.92
Law and Order*	Informal Charges*	Transparency*



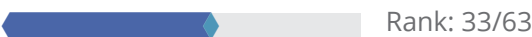
Environmental Capacity



0.0%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 47/63

97.2%	24.61	4.63	11.6	13.03
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 14/63

3,342	13.75
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 37/63

82.9%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 35 / 63 PROVINCES
SCORE: 0.517

An Giang's score and ranking are due to high Vulnerability combined with high Coping Capacity scores.

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



Gender Inequality



Information Access Vulnerability



Health Care Capacity



Economic Capacity



MULTI-HAZARD RISK

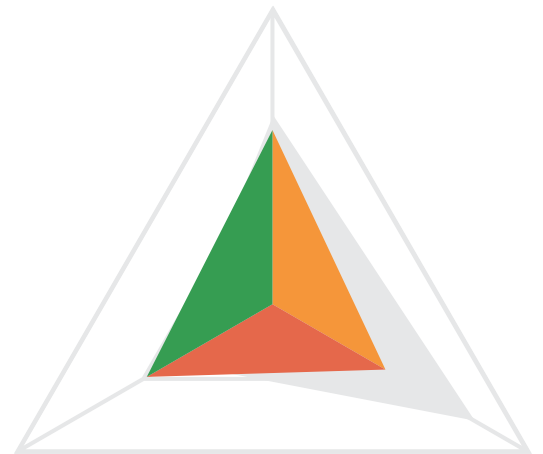
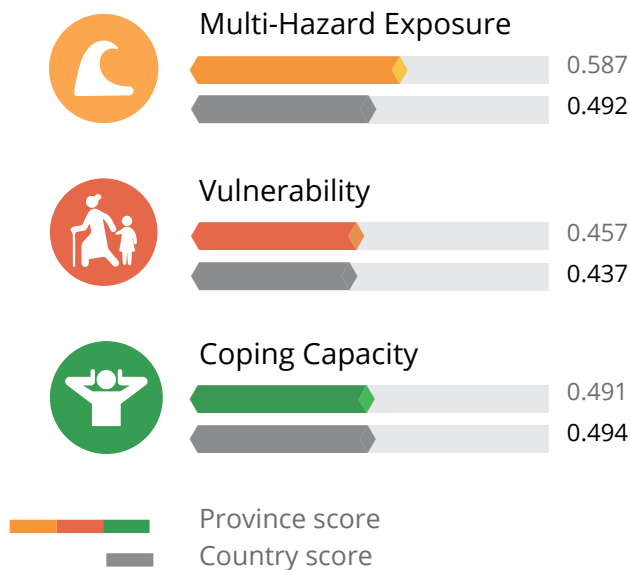
19 / 63

Rank within provinces
Score: 0.518



An Giang's score and ranking are due to high Multi-hazard exposure combined with high Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

BA RIA-VUNG TAU

NDPBA PROVINCE PROFILE

VIỆT NAM BA RIA-VUNG TAU

CAPITAL: BÀ RỊA

Area: 2,004 km²

Ba Ria - Vung Tau province is located on the coast of Viet Nam's southeast region, including Con Dao islands. The provincial economic activities are mostly industrial including petroleum, electricity, petrochemicals, steel and cement production and followed by tourism, commerce and fishing. Vung Tau is one of the country's tourist destinations for its popular beaches and numerous newly-built resorts.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.342 • Rank: 62/63



RESILIENCE (R) - very high
Score: 0.602 • Rank: 10/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.229 • Rank: 60/63



VULNERABILITY (V) - very low
Score: 0.346 • Rank: 57/63



COPING CAPACITY (CC) - high
Score: 0.551 • Rank: 14/63



Population (2017)
1,107,517



Population in Poverty
0.7%



Illiterate population
3.2%



Access to improved water
99.0%



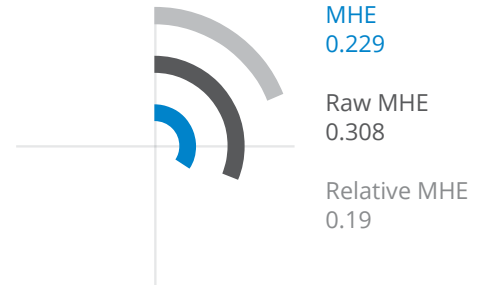
Average life expectancy
76.10 years

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

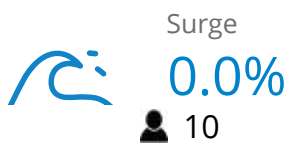
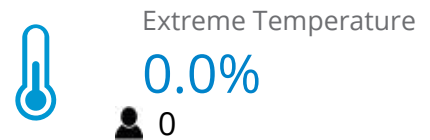
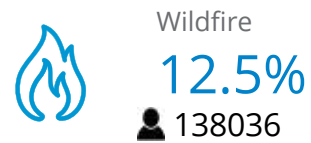
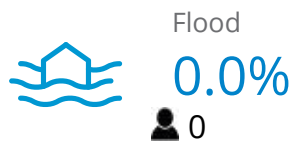


MULTI-HAZARD EXPOSURE

RANK: 60 / 63 PROVINCES
SCORE: 0.229



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





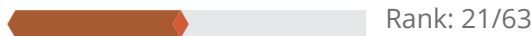
VULNERABILITY (V)

RANK: 57 / 63 PROVINCES
SCORE: 0.346

Vulnerability in Ba Ria-Vung Tau is primarily driven by Gender Inequality and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



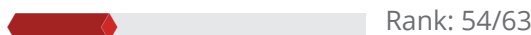
Environmental Stress



-1.4% Forest Change
53.6 Livestock Density (per sq km)



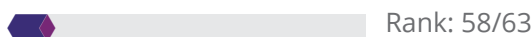
Vulnerable Health Status



76.1 Life Expectancy (years)
8.1 Infant Mortality Rate (per 1,000 live births)
5.6% Acute Malnutrition (Children <5)
71.2 Tuberculosis Incidence (per 100,000 persons)
22.37 Malaria Prevalance (per 100,000 persons)
449.9 HIV Prevalance (per 100,000 persons)



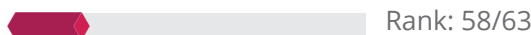
Clean Water Vulnerability



99.0% Households with Safe Water Access
96.7% Households with Hygienic Toilet Access



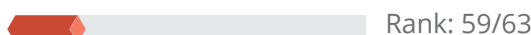
Information Access Vulnerability



3.2% Adult Illiteracy Rate
93.9% School Attendance Rate
73.0% Households without Internet
4.0% Housholds without TV



Economic Constraints



41.2 Economic Dependency Ratio
0.7% Poverty



Gender Inequality

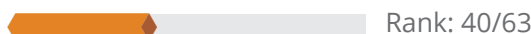


0.3 Income Inequality*
0.36 F M School Enrollment Rate*

*Values closer to 1 represent greater gender parity.



Population Pressures



1.5% Average Annual Population Change
2.6% Average Annual Urban Population Change
0.7% Net Migration Rate



COPING CAPACITY (CC)

RANK: 14 / 63 PROVINCES
SCORE: 0.551

Ba Ria-Vung Tau exhibits weaker Coping Capacity in the areas of Health Care Capacity and Governance. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity



6.42	5,478	44.04	7.08	8.19
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



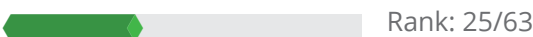
Governance



5.55	5.04	6.36
Law and Order*	Informal Charges*	Transparency*



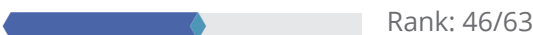
Environmental Capacity



10.3%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 63/63

92.6%	18.07	4.18	10.31	18.59
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 5/63

6,224	22.35
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 4/63

92.1%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 10 / 63 PROVINCES
SCORE: 0.602

Ba Ria-Vung Tau's score and ranking are due to very low Vulnerability combined with high Coping Capacity scores.

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



Gender Inequality



Environmental Stress



Health Care Capacity



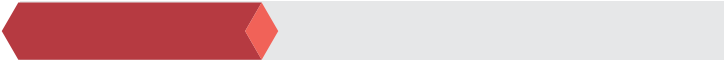
Governance



MULTI-HAZARD RISK

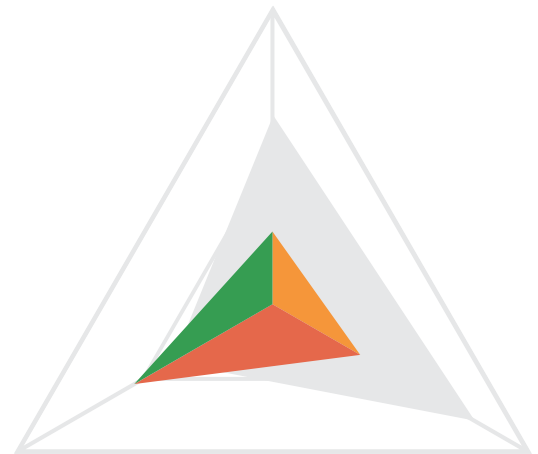
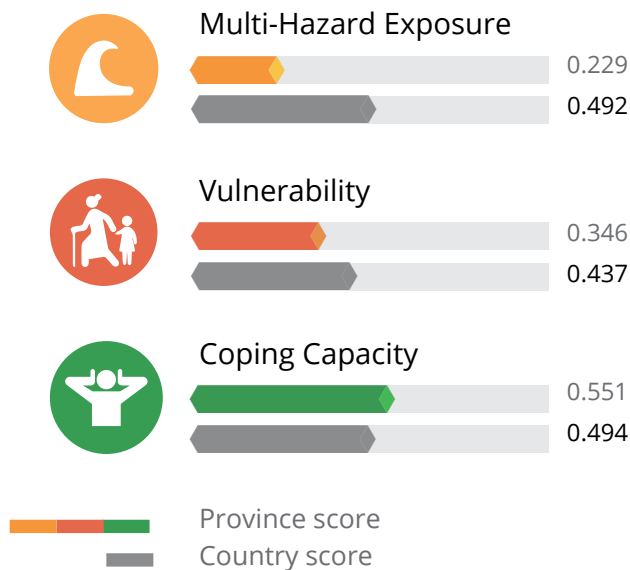
62 / 63

Rank within provinces
Score: 0.342



Ba Ria-Vung Tau's score and ranking are due to very low Multi-hazard exposure combined with very low Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

BAC GIANG

NDPBA PROVINCE PROFILE

VIỆT NAM

BAC GIANG

CAPITAL: BẮC GIANG

Area: 4,508 km²

Bac Giang province is located in the northeast region of Viet Nam as the transition zone between the mountainous region in the North and the Red River Delta in the South. The province's land area is primarily dedicated to agriculture and forestry and Bac Giang is known as a large producer of pineapples and lychees. Being the home to 20 ethnic groups, this province also preserves the special cultural and historical traditions.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.452 • Rank: 43/63



RESILIENCE (R) - moderate
Score: 0.534 • Rank: 30/63



MULTI-HAZARD EXPOSURE - low
Score: 0.424 • Rank: 45/63



VULNERABILITY (V) - moderate
Score: 0.409 • Rank: 36/63



COPING CAPACITY (CC) - moderate
Score: 0.478 • Rank: 34/63



Population (2017)
1,667,141



Population in Poverty
7.9%



Illiterate population
2.3%



Access to improved water
94.9%



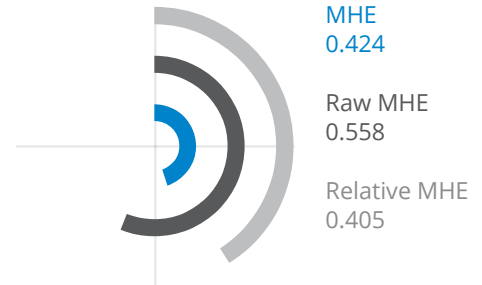
Average life expectancy
73.10 years

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

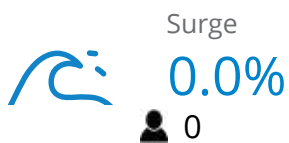
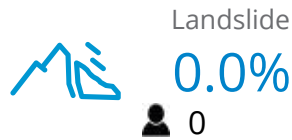
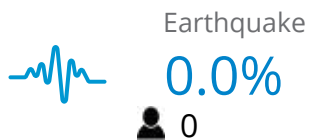
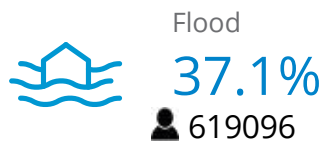


MULTI-HAZARD EXPOSURE

RANK: 45 / 63 PROVINCES
SCORE: 0.424



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





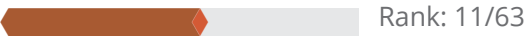
VULNERABILITY (V)

RANK: 36 / 63 PROVINCES
SCORE: 0.409

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



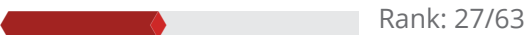
Environmental Stress



3.5% Forest Change
112.39 Livestock Density (per sq km)



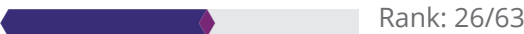
Vulnerable Health Status



73.1 Life Expectancy (years)
15.3 Infant Mortality Rate (per 1,000 live births)
7.8% Acute Malnutrition (Children <5)
43.8 Tuberculosis Incidence (per 100,000 persons)
5.85 Malaria Prevalance (per 100,000 persons)
137.5 HIV Prevalance (per 100,000 persons)



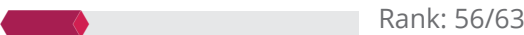
Clean Water Vulnerability



94.9% Households with Safe Water Access
46.7% Households with Hygienic Toilet Access



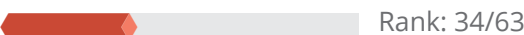
Information Access Vulnerability



2.3% Adult Illiteracy Rate
98.2% School Attendance Rate
87.0% Households without Internet
3.0% Housholds without TV



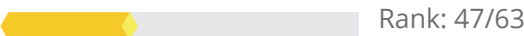
Economic Constraints



44.3 Economic Dependency Ratio
7.9% Poverty



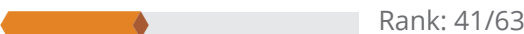
Gender Inequality



0.02 Income Inequality*
0.36 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.7% Average Annual Population Change
3.5% Average Annual Urban Population Change
1.1% Net Migration Rate



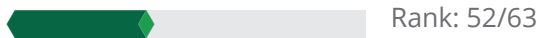
COPING CAPACITY (CC)

RANK: 34 / 63 PROVINCES
SCORE: 0.478

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



Economic Capacity



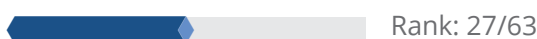
Rank: 52/63

5.7	4,486	12.02	6.06	7.82
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

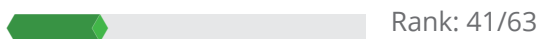


Rank: 27/63

6.1	5.51	6.73
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

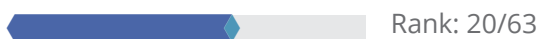


Rank: 41/63

4.8%
Protected Area



Infrastructure Capacity



Rank: 20/63



Health Care Capacity

Rank: 18/63

99.6%	27.4	7.69	11.45	12.98
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 43/63

1,846	42.62
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 17/63

87.7%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 30 / 63 PROVINCES
SCORE: 0.534

Bac Giang's score and ranking are due to moderate Vulnerability combined with moderate Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Environmental
Stress



Economic Capacity



Governance



MULTI-HAZARD RISK

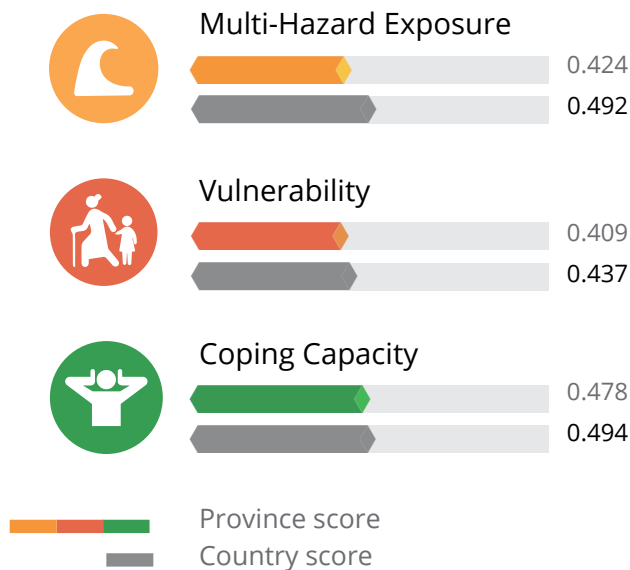
43 / 63

Rank within provinces
Score: 0.452



Bac Giang's score and ranking are due to low Multi-hazard exposure combined with moderate Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

BAC KAN

NDPBA PROVINCE PROFILE

VIỆT NAM BAC KAN

CAPITAL: BẮC KẠN

Area: 5,699 km²

Located in northeastern Viet Nam, Bac Kan is a mountainous province with about 95% forest cover and rich mineral resources. One of the least populated provinces in Viet Nam, the province is the home of Kinh, Tay, Nung, and Dao people. Bac Kan's economy centers on mining, forest products, agriculture, and some degree of tourism offered by its mountains, lakes and the Ba Be national park.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.396 • Rank: 55/63



RESILIENCE (R) - low
Score: 0.48 • Rank: 51/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.149 • Rank: 62/63



VULNERABILITY (V) - high
Score: 0.468 • Rank: 16/63



COPING CAPACITY (CC) - very low
Score: 0.429 • Rank: 52/63



Population (2017)
320,597



Population in Poverty
17.1%



Illiterate population
6.1%



Access to improved water
45.8%



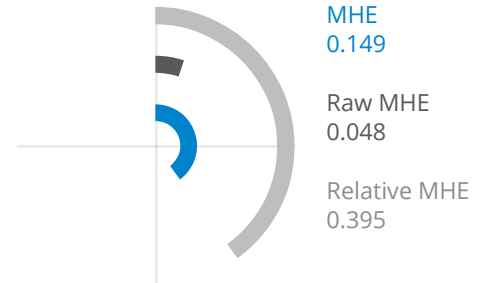
Average life expectancy
72.10 years

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

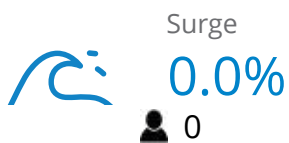
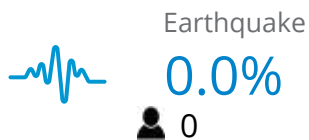
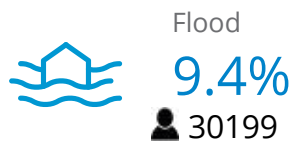
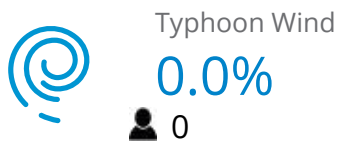


MULTI-HAZARD EXPOSURE

RANK: 62 / 63 PROVINCES
SCORE: 0.149



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

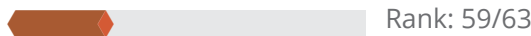
RANK: 16 / 63 PROVINCES

SCORE: 0.468

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



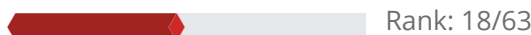
Environmental Stress



5.0% Forest Change
20.6 Livestock Density (per sq km)



Vulnerable Health Status



72.1 Life Expectancy (years)
17.6 Infant Mortality Rate (per 1,000 live births)
7.0% Acute Malnutrition (Children <5)
20.5 Tuberculosis Incidence (per 100,000 persons)
7.81 Malaria Prevalance (per 100,000 persons)
454.3 HIV Prevalance (per 100,000 persons)



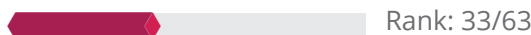
Clean Water Vulnerability



45.8% Households with Safe Water Access
40.4% Households with Hygienic Toilet Access



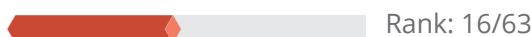
Information Access Vulnerability



6.1% Adult Illiteracy Rate
99.9% School Attendance Rate
88.0% Households without Internet
9.0% Housholds without TV



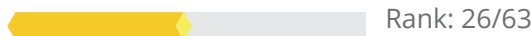
Economic Constraints



40.9 Economic Dependency Ratio
17.1% Poverty



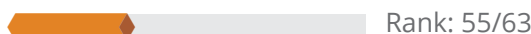
Gender Inequality



0.21 Income Inequality*
0.17 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.9% Average Annual Population Change
3.3% Average Annual Urban Population Change
0.3% Net Migration Rate



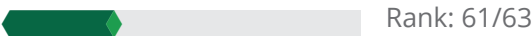
COPING CAPACITY (CC)

RANK: 52 / 63 PROVINCES
SCORE: 0.429

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



Economic Capacity



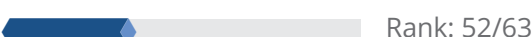
Rank: 61/63

4.83	4,929	12.9	6.32	6.25
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

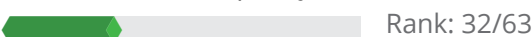


Rank: 52/63

6.06	4.28	6.65
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity



Rank: 32/63

7.2%
Protected Area



Infrastructure Capacity



Rank: 8/63



Health Care Capacity

Rank: 2/63

97.2%	37.81	12.72	19.88	12.37
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 47/63

1,356	38.74
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 33/63

83.9%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 51 / 63 PROVINCES
SCORE: 0.48

Bac Kan's score and ranking are due to high Vulnerability combined with very low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Gender Inequality



Economic Capacity



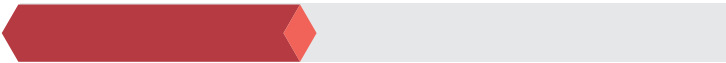
Governance



MULTI-HAZARD RISK

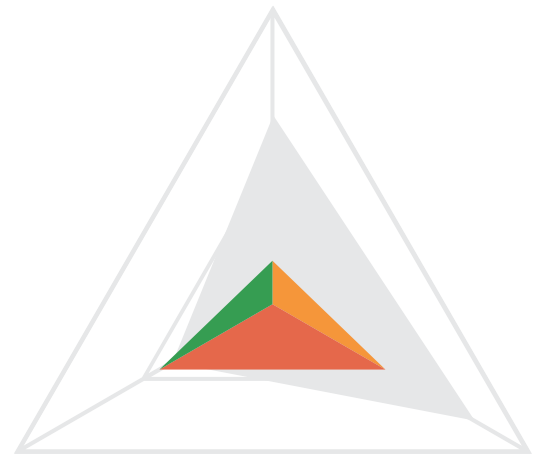
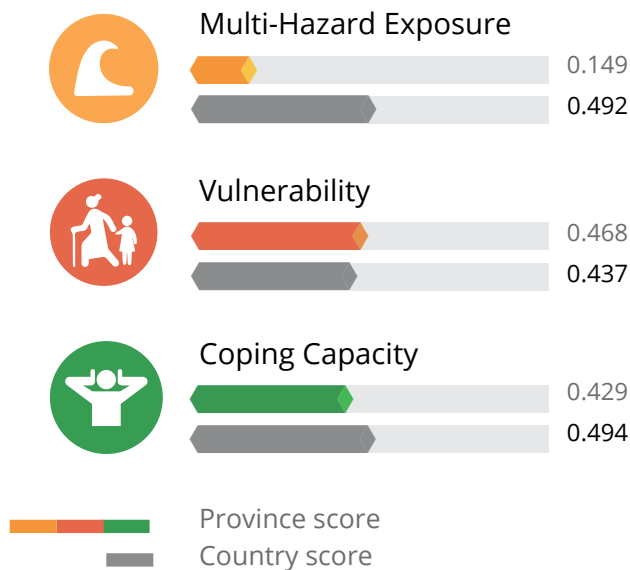
55 / 63

Rank within provinces
Score: 0.396



Bac Kan's score and ranking are due to very low Multi-hazard exposure combined with high Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

BAC LIEU

NDPBA PROVINCE PROFILE

VIỆT NAM BAC LIEU

CAPITAL: BẠC LIÊU

Area: 2,544 km²

Bac Lieu is a coastal province located in the southern part of the Mekong Delta with mostly lowland terrain and many large irrigated canals. Prominent provincial economic activities include rice farming, fishing, food processing, and clothing manufacturing. Viet Nam's largest wind power farm is recently built off shore of the Bac Lieu province, which has also become an tourism attraction. Bac Lieu is home to many ethnic Khmer people, the province is well known for its traditional folk music of Vong Co.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.424 • Rank: 50/63



RESILIENCE (R) - high
Score: 0.538 • Rank: 27/63



MULTI-HAZARD EXPOSURE - low
Score: 0.349 • Rank: 48/63



VULNERABILITY (V) - low
Score: 0.4 • Rank: 44/63



COPING CAPACITY (CC) - moderate
Score: 0.476 • Rank: 35/63



Population (2017)
948,284



Population in Poverty
8.4%



Illiterate population
5.9%



Access to improved water
99.7%



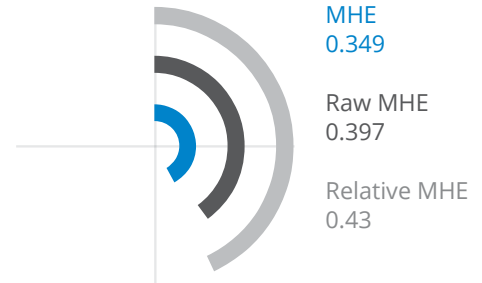
Average life expectancy
74.30 years

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

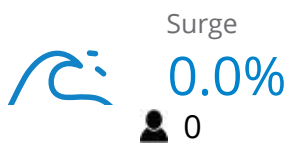
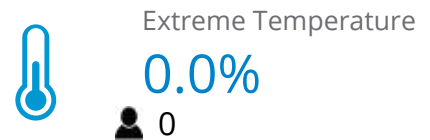
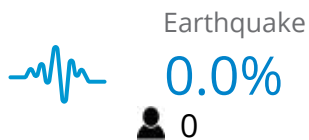
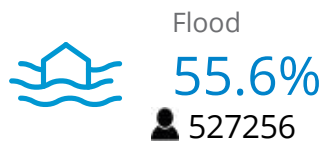


MULTI-HAZARD EXPOSURE

RANK: 48 / 63 PROVINCES
SCORE: 0.349



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





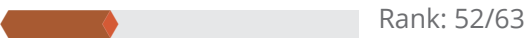
VULNERABILITY (V)

RANK: 44 / 63 PROVINCES
SCORE: 0.4

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



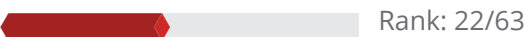
Environmental Stress



3.0% Forest Change
21.58 Livestock Density (per sq km)



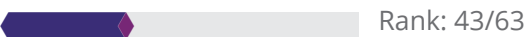
Vulnerable Health Status



74.3 Life Expectancy (years)
12.1 Infant Mortality Rate (per 1,000 live births)
9.3% Acute Malnutrition (Children <5)
73.7 Tuberculosis Incidence (per 100,000 persons)
2.74 Malaria Prevalance (per 100,000 persons)
273.1 HIV Prevalance (per 100,000 persons)



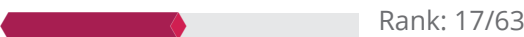
Clean Water Vulnerability



99.7% Households with Safe Water Access
54.0% Households with Hygienic Toilet Access



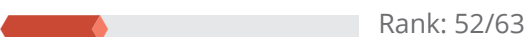
Information Access Vulnerability



5.9% Adult Illiteracy Rate
82.3% School Attendance Rate
91.0% Households without Internet
3.0% Housholds without TV



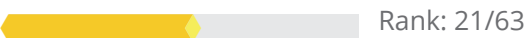
Economic Constraints



38.2 Economic Dependency Ratio
8.4% Poverty



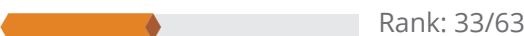
Gender Inequality



0.25 Income Inequality*
0.16 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.9% Average Annual Population Change
1.2% Average Annual Urban Population Change
6.3% Net Migration Rate



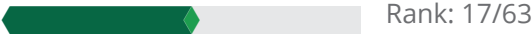
COPING CAPACITY (CC)

RANK: 35 / 63 PROVINCES
SCORE: 0.476

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



Economic Capacity



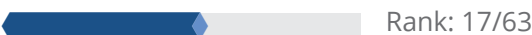
Rank: 17/63

6.7	4,002	41.85	5.77	8.58
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

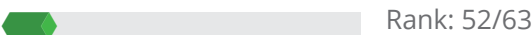


Rank: 17/63

5.68	6.38	6.47
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

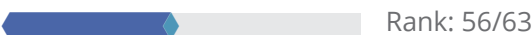


Rank: 52/63

1.0%
Protected Area



Infrastructure Capacity



Rank: 56/63



Health Care Capacity Rank: 50/63

95.1%	23.1	6.12	11.58	10.32
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 38/63

1,805	33.91
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 58/63

72.2%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 27 / 63 PROVINCES
SCORE: 0.538

Bac Lieu's score and ranking are due to low Vulnerability combined with moderate Coping Capacity scores.

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



Gender Inequality



Information Access Vulnerability



Communications Capacity



Health Care Capacity



MULTI-HAZARD RISK

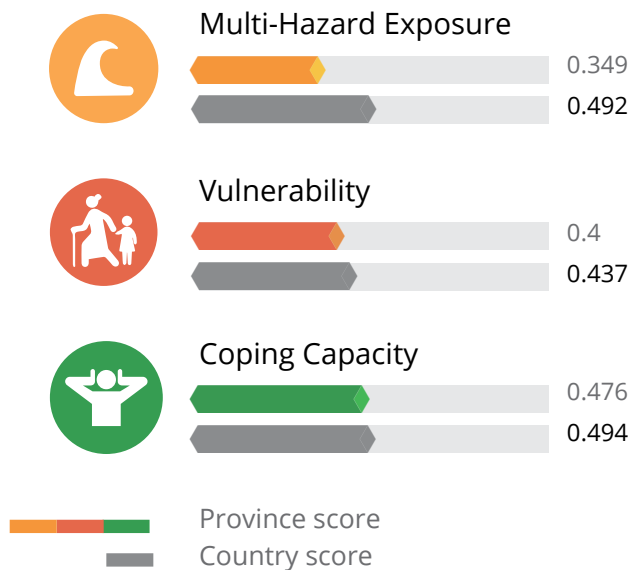
50 / 63

Rank within provinces
Score: 0.424



Bac Lieu's score and ranking are due to low Multi-hazard exposure combined with low Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

BAC NINH

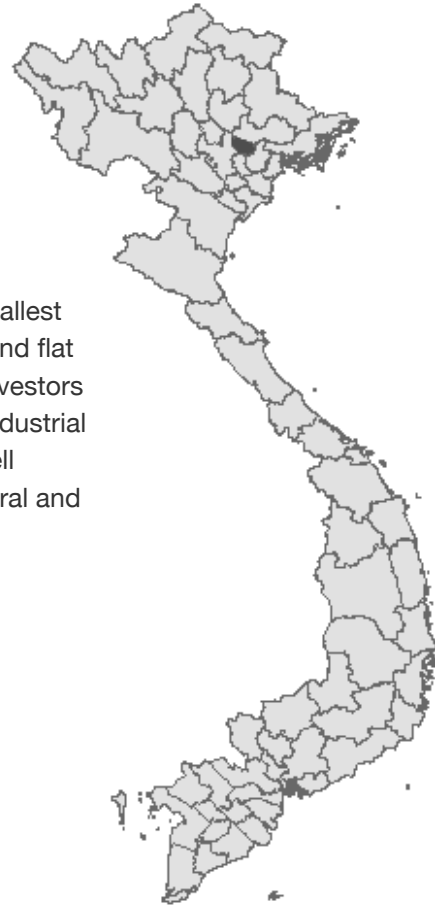
NDPBA PROVINCE PROFILE

VIỆT NAM BAC NINH

CAPITAL: BẮC NINH

Area: 949 km²

Neighboring Hanoi Capital to the east, Bac Ninh is one of the smallest but most industrialized provinces in Viet Nam. With rather even and flat terrain, the province attracted large amounts of manufacturing investors including Canon, Samsung, Foxconn, and Nokia. With over 15 industrial parks, agricultural land is rapidly decreasing. Bac Ninh is also well known by being the home of Quan Ho folk music and other cultural and historical values.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.469 • Rank: 35/63



RESILIENCE (R) - moderate
Score: 0.535 • Rank: 29/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.476 • Rank: 37/63



VULNERABILITY (V) - moderate
Score: 0.428 • Rank: 32/63



COPING CAPACITY (CC) - high
Score: 0.498 • Rank: 22/63



Population (2017)
1,068,880



Population in Poverty
2.1%



Illiterate population
2.5%



Access to improved water
99.1%



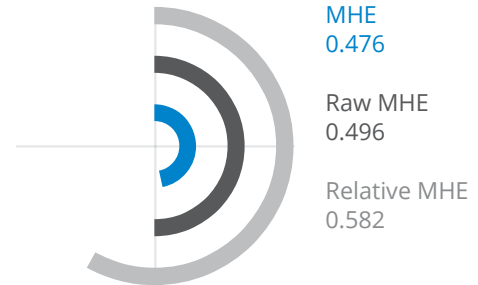
Average life expectancy
74.00 years

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

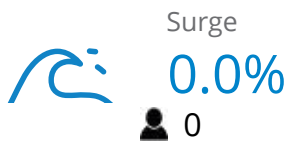
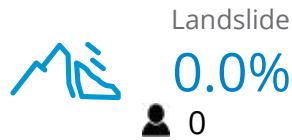
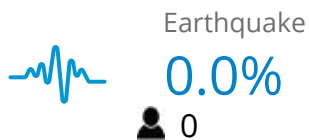
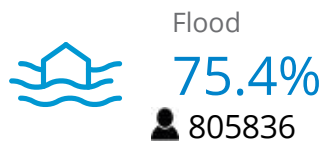


MULTI-HAZARD EXPOSURE

RANK: 37 / 63 PROVINCES
SCORE: 0.476



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

RANK: 32 / 63 PROVINCES
SCORE: 0.428

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



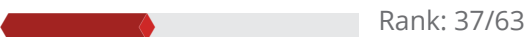
Environmental Stress



0.0% Forest Change
151.99 Livestock Density (per sq km)



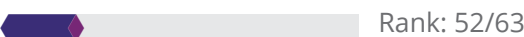
Vulnerable Health Status



74 Life Expectancy (years)
12.8 Infant Mortality Rate (per 1,000 live births)
8.4% Acute Malnutrition (Children <5)
20.3 Tuberculosis Incidence (per 100,000 persons)
13.35 Malaria Prevalance (per 100,000 persons)
164.1 HIV Prevalance (per 100,000 persons)



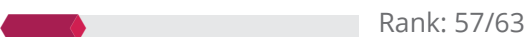
Clean Water Vulnerability



99.1% Households with Safe Water Access
81.1% Households with Hygienic Toilet Access



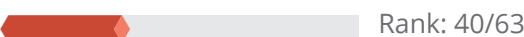
Information Access Vulnerability



2.5% Adult Illiteracy Rate
98.6% School Attendance Rate
77.0% Households without Internet
6.0% Housholds without TV



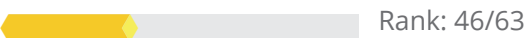
Economic Constraints



49.4 Economic Dependency Ratio
2.1% Poverty



Gender Inequality



0.12 Income Inequality*
0.19 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.7% Average Annual Population Change
10.6% Average Annual Urban Population Change
12.8% Net Migration Rate



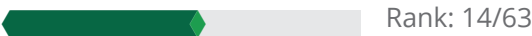
COPING CAPACITY (CC)

RANK: 22 / 63 PROVINCES
SCORE: 0.498

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



Economic Capacity



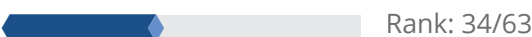
Rank: 14/63

6.65	5,156	29.73	6.86	7.27
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

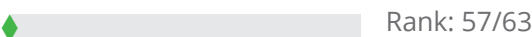


Rank: 34/63

5.39	5.9	5.93
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity



Rank: 57/63

0.0%
Protected Area



Infrastructure Capacity



Rank: 7/63



Health Care Capacity Rank: 15/63

99.8%	28.01	7.28	9.41	3.62
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 27/63

2,284	16.96
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 9/63

89.8%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 29 / 63 PROVINCES
SCORE: 0.535

Bac Ninh's score and ranking are due to moderate Vulnerability combined with high Coping Capacity scores.

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



Population Pressures



Environmental Stress



Governance



Environmental Capacity



MULTI-HAZARD RISK

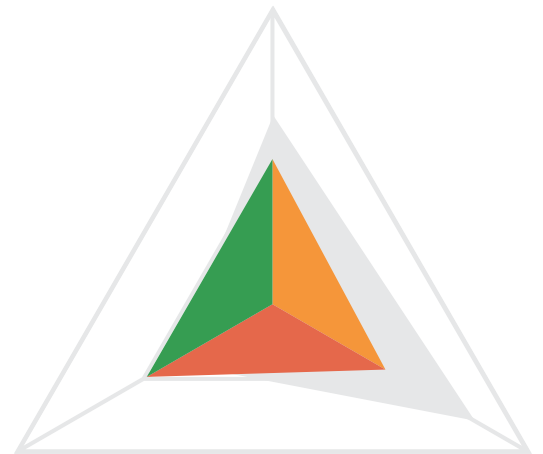
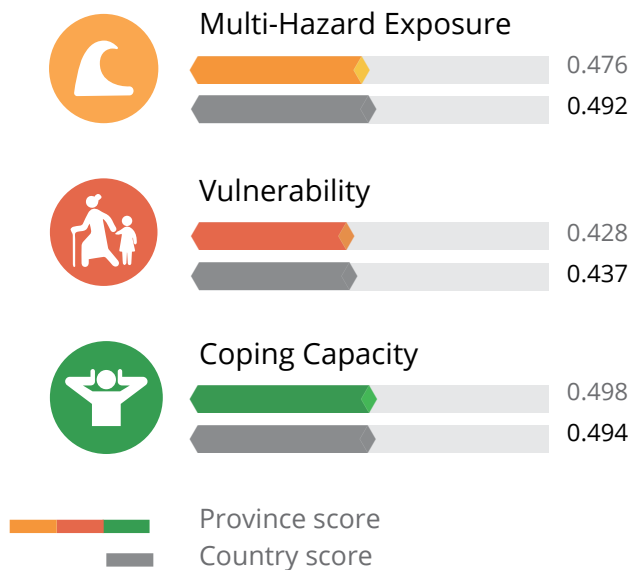
35 / 63

Rank within provinces
Score: 0.469



Bac Ninh's score and ranking are due to moderate Multi-hazard exposure combined with moderate Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

BEN TRE

NDPBA PROVINCE PROFILE

VIỆT NAM BEN TRE

CAPITAL: BẾN TRE

Area: 2,360 km²

Ben Tre province is located in the eastern part of the Mekong Delta, between the two main branches of Tien Giang river. Possessing a complex network of rivers and canals, Ben Tre has a major advantage for agriculture productions and ecotourism, however is vulnerable to frequent salinization, flooding and sea level rise. The province is also known for being the homeland of coconut farms and products.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.39 • Rank: 57/63



RESILIENCE (R) - high
Score: 0.547 • Rank: 24/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.265 • Rank: 56/63



VULNERABILITY (V) - moderate
Score: 0.437 • Rank: 27/63



COPING CAPACITY (CC) - high
Score: 0.53 • Rank: 19/63



Population (2017)
1,290,699



Population in Poverty
8.6%



Illiterate population
5.4%



Access to improved water
80.0%



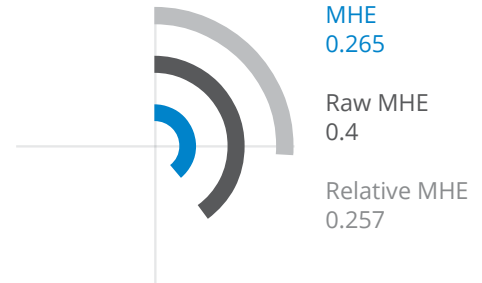
Average life expectancy
75.30 years

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

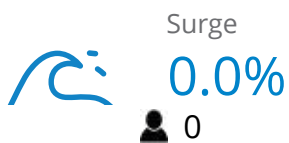
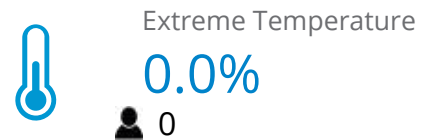
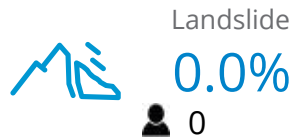
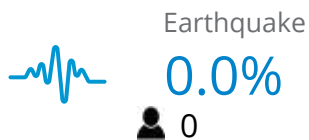


MULTI-HAZARD EXPOSURE

RANK: 56 / 63 PROVINCES
SCORE: 0.265



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





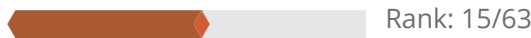
VULNERABILITY (V)

RANK: 27 / 63 PROVINCES
SCORE: 0.437

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



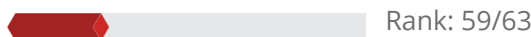
Environmental Stress



1.4% Forest Change
91.57 Livestock Density (per sq km)



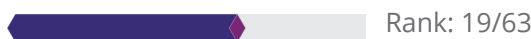
Vulnerable Health Status



75.3 Life Expectancy (years)
9.8 Infant Mortality Rate (per 1,000 live births)
6.0% Acute Malnutrition (Children <5)
63.9 Tuberculosis Incidence (per 100,000 persons)
0.24 Malaria Prevalance (per 100,000 persons)
134.9 HIV Prevalance (per 100,000 persons)



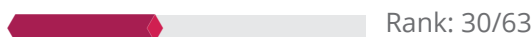
Clean Water Vulnerability



80.0% Households with Safe Water Access
57.5% Households with Hygienic Toilet Access



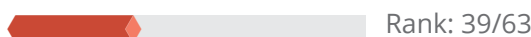
Information Access Vulnerability



5.4% Adult Illiteracy Rate
91.6% School Attendance Rate
84.0% Households without Internet
6.0% Housholds without TV



Economic Constraints



42.9 Economic Dependency Ratio
8.6% Poverty



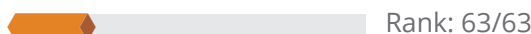
Gender Inequality



0.13 Income Inequality*
0.49 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.1% Average Annual Population Change
1.1% Average Annual Urban Population Change
3.7% Net Migration Rate



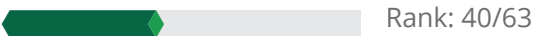
COPING CAPACITY (CC)

RANK: 19 / 63 PROVINCES
SCORE: 0.53

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



Economic Capacity



Rank: 40/63

7.61	3,640	22.28	6.87	7.88
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

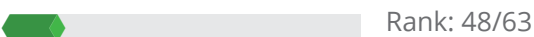


Rank: 6/63

6.78	6.39	6.21
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

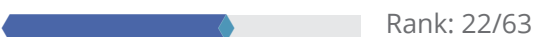


Rank: 48/63

1.5%
Protected Area



Infrastructure Capacity



Rank: 22/63



Health Care Capacity

Rank: 35/63

95.5%	30.58	5.59	11.49	6.82
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 24/63

2,563	13.62
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 11/63

88.8%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 24 / 63 PROVINCES
SCORE: 0.547

Ben Tre's score and ranking are due to moderate Vulnerability combined with high Coping Capacity scores.

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



Gender Inequality



Clean Water Access Vulnerability



Economic Capacity



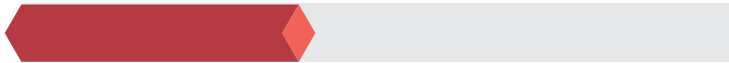
Health Care Capacity



MULTI-HAZARD RISK

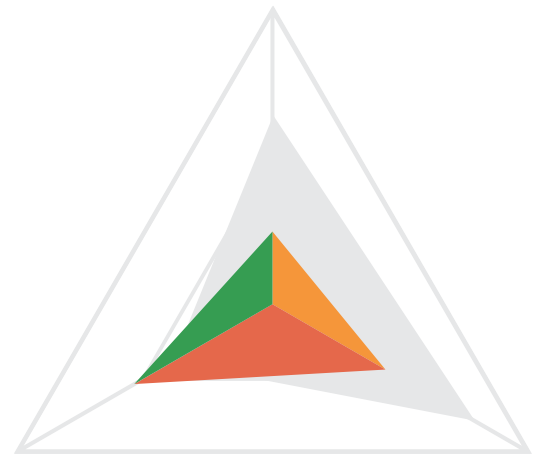
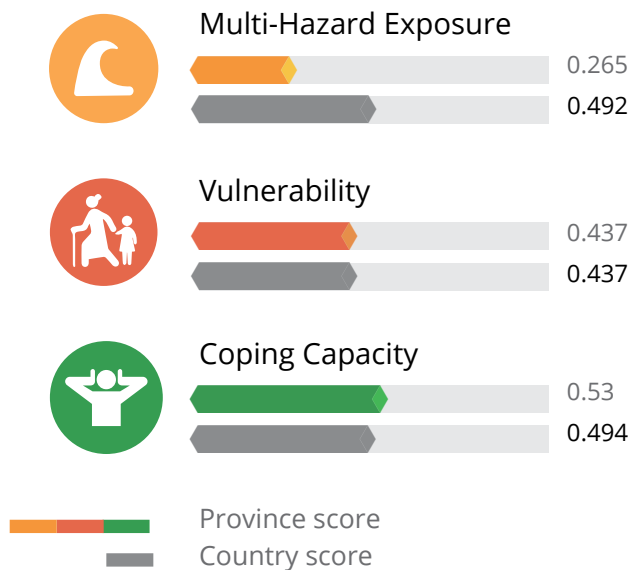
57 / 63

Rank within provinces
Score: 0.39



Ben Tre's score and ranking are due to very low Multi-hazard exposure combined with moderate Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

BINH DINH

NDPBA PROVINCE PROFILE

VIỆT NAM BINH DINH

CAPITAL: QUI NHƠN

Area: 6,436 km²

Located in the south central coast of Viet Nam, Binh Dinh is characterized by mixed topography: mostly covered by mountains or hills in the west and lowlands near coastal areas. As one of the main gateways to the Central Highlands and its port, the province is the region's third largest industrial center (mainly based on furniture manufacturing) and also has strong agricultural, forestry, livestock, and fishing sectors. Rich in historical heritages, Binh Dinh is known by being the center of the old Cham Culture.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.517 • Rank: 20/63



RESILIENCE (R) - moderate
Score: 0.536 • Rank: 28/63



MULTI-HAZARD EXPOSURE - high
Score: 0.624 • Rank: 19/63



VULNERABILITY (V) - moderate
Score: 0.415 • Rank: 35/63



COPING CAPACITY (CC) - high
Score: 0.487 • Rank: 26/63



Population (2017)
1,572,836



Population in Poverty
9.1%



Illiterate population
3.9%



Access to improved water
96.1%



Average life expectancy
73.10 years

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



MULTI-HAZARD EXPOSURE

RANK: 19 / 63 PROVINCES
SCORE: 0.624

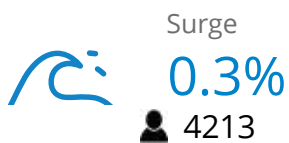
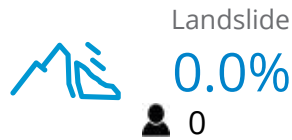
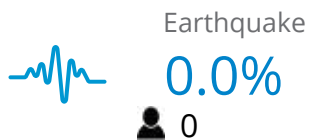
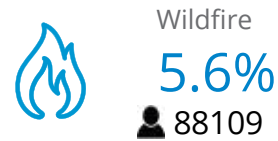


MHE
0.624

Raw MHE
0.651

Relative MHE
0.686

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





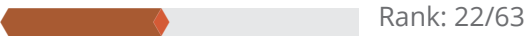
VULNERABILITY (V)

RANK: 35 / 63 PROVINCES
SCORE: 0.415

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



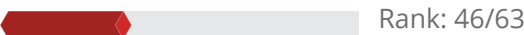
Environmental Stress



2.7% Forest Change
61.27 Livestock Density (per sq km)



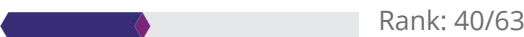
Vulnerable Health Status



73.1 Life Expectancy (years)
15.1 Infant Mortality Rate (per 1,000 live births)
5.0% Acute Malnutrition (Children <5)
39.2 Tuberculosis Incidence (per 100,000 persons)
26.08 Malaria Prevalance (per 100,000 persons)
34.9 HIV Prevalance (per 100,000 persons)



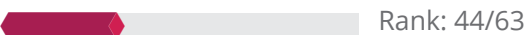
Clean Water Vulnerability



96.1% Households with Safe Water Access
69.7% Households with Hygienic Toilet Access



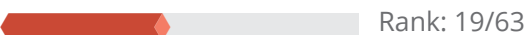
Information Access Vulnerability



3.9% Adult Illiteracy Rate
96.3% School Attendance Rate
86.0% Households without Internet
5.0% Housholds without TV



Economic Constraints



49.2 Economic Dependency Ratio
9.1% Poverty



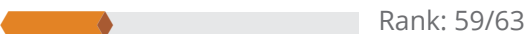
Gender Inequality



0.26 Income Inequality*
0.3 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.3% Average Annual Population Change
2.2% Average Annual Urban Population Change
1.1% Net Migration Rate



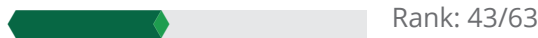
COPING CAPACITY (CC)

RANK: 26 / 63 PROVINCES
SCORE: 0.487

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



Economic Capacity



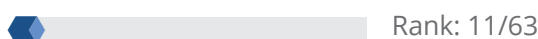
Rank: 43/63

6.48	4,261	30.14	5.82	7.75
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

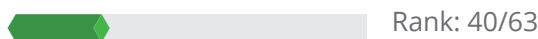


Rank: 11/63

6.31	6.46	6.67
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

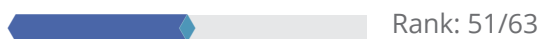


Rank: 40/63

4.9%
Protected Area



Infrastructure Capacity



Rank: 51/63



Health Care Capacity

Rank: 31/63

99.6%	22.45	5.17	14.02	18.2
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 59/63

4,140	160.2
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 34/63

83.7%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 28 / 63 PROVINCES
SCORE: 0.536

Binh Dinh's score and ranking are due to moderate Vulnerability combined with high Coping Capacity scores.

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



Gender Inequality



Economic Constraints



Transportation Capacity



Economic Capacity



MULTI-HAZARD RISK

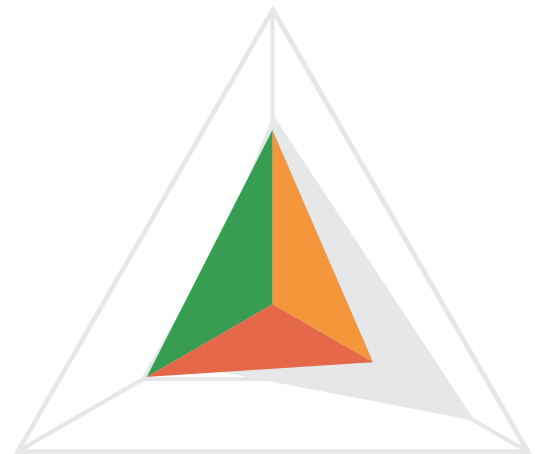
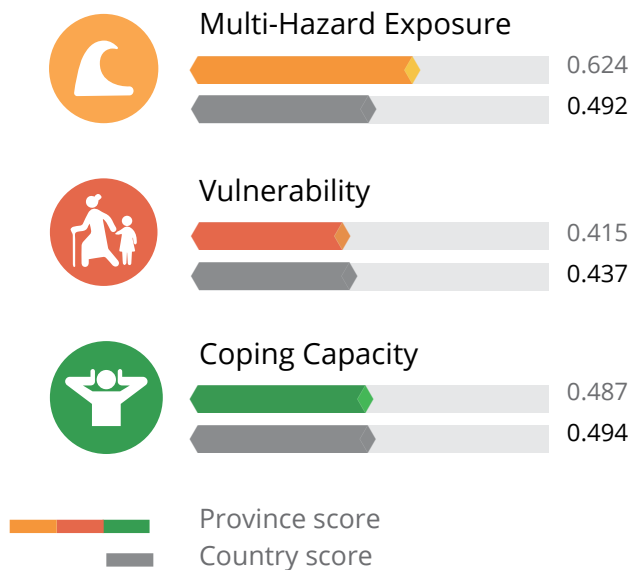
20 / 63

Rank within provinces
Score: 0.517



Binh Dinh's score and ranking are due to high Multi-hazard exposure combined with moderate Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

BINH DUONG

NDPBA PROVINCE PROFILE

VIỆT NAM BINH DUONG

CAPITAL: THỦ DẦU MỘT

Area: 2,806 km²

Neighboring Ho Chi Minh City to the north, Binh Duong is now the largest hub of industrial manufacturing in southern Viet Nam with 28 industrial parks. The plain terrain comprised with bazon and alluvial deposits and with a network of rivers and canals makes the province a good for industrial crop plantation and its products. Binh Duong is also known as land of new opportunities, attracting an influx of young and capable people from other provinces.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.479 • Rank: 30/63



RESILIENCE (R) - very high
Score: 0.6 • Rank: 12/63



MULTI-HAZARD EXPOSURE - high
Score: 0.636 • Rank: 14/63



VULNERABILITY (V) - low
Score: 0.387 • Rank: 48/63



COPING CAPACITY (CC) - very high
Score: 0.587 • Rank: 8/63



Population (2017)
2,290,486



Population in Poverty
0.0%



Illiterate population
2.7%



Access to improved water
99.8%



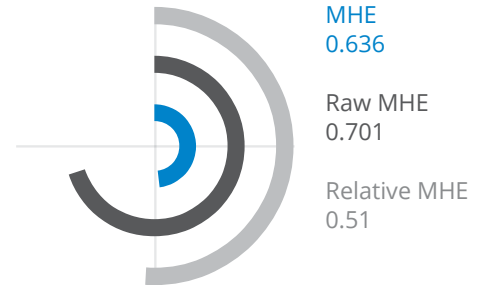
Average life expectancy
75.70 years

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

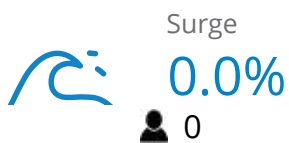
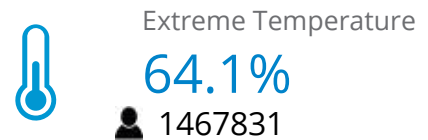
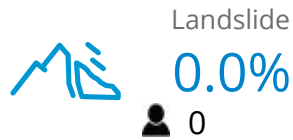
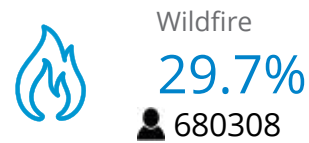


MULTI-HAZARD EXPOSURE

RANK: 14 / 63 PROVINCES
SCORE: 0.636



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





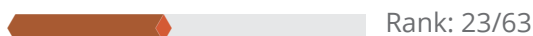
VULNERABILITY (V)

RANK: 48 / 63 PROVINCES
SCORE: 0.387

Vulnerability in Binh Duong is primarily driven by Population Pressures and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



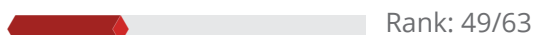
Environmental Stress



1.8% Forest Change
52.1 Livestock Density (per sq km)



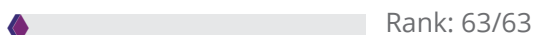
Vulnerable Health Status



75.7 Life Expectancy (years)
9 Infant Mortality Rate (per 1,000 live births)
7.6% Acute Malnutrition (Children <5)
61.4 Tuberculosis Incidence (per 100,000 persons)
4.4 Malaria Prevalance (per 100,000 persons)
150.9 HIV Prevalance (per 100,000 persons)



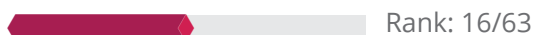
Clean Water Vulnerability



99.8% Households with Safe Water Access
98.7% Households with Hygienic Toilet Access



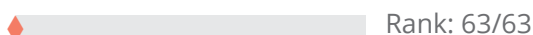
Information Access Vulnerability



2.7% Adult Illiteracy Rate
83.7% School Attendance Rate
85.0% Households without Internet
12.0% Housholds without TV



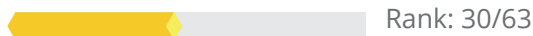
Economic Constraints



30.3 Economic Dependency Ratio
0.0% Poverty



Gender Inequality

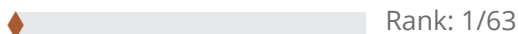


0.07 Income Inequality*
0.38 F M School Enrollment Rate*

*Values closer to 1 represent greater gender parity.



Population Pressures



7.4% Average Annual Population Change
34.5% Average Annual Urban Population Change
42.0% Net Migration Rate



COPING CAPACITY (CC)

RANK: 8 / 63 PROVINCES
SCORE: 0.587

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



Economic Capacity

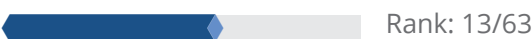


7.45	5,364	54.64	6.69	7.66
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



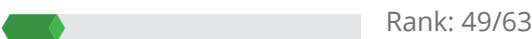
Governance



6.39	5.38	6.52
Law and Order*	Informal Charges*	Transparency*



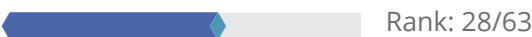
Environmental Capacity



1.5%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 60/63

98.3%	17.77	3.69	7.02	14.06
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 4/63

6,560	19.94
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 2/63

93.0%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 12 / 63 PROVINCES
SCORE: 0.6

Binh Duong's score and ranking are due to low Vulnerability combined with very high Coping Capacity scores.

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



Population Pressures



Information Access Vulnerability



Health Care Capacity



Environmental Capacity



MULTI-HAZARD RISK

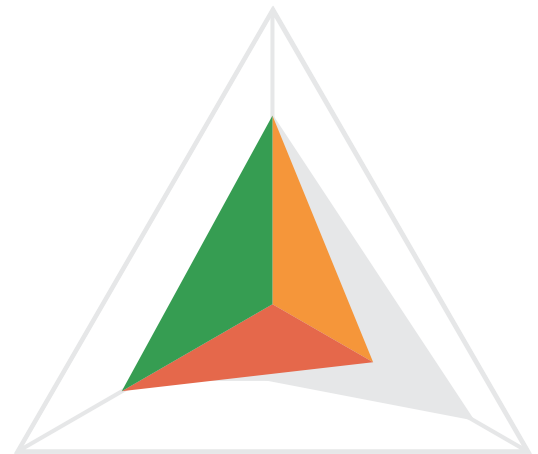
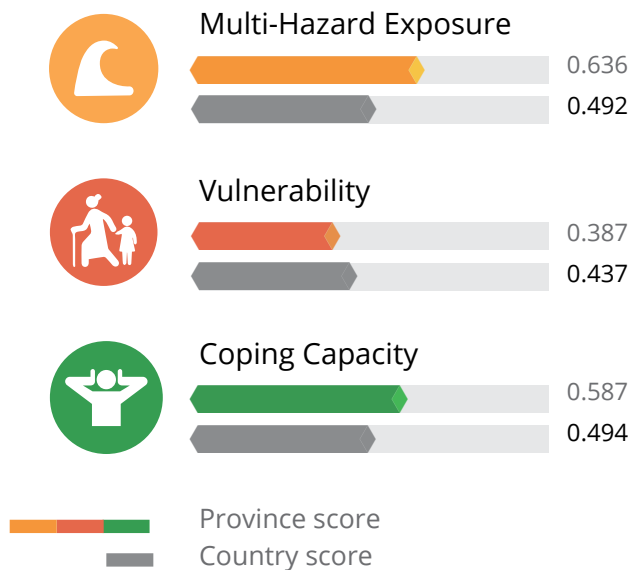
30 / 63

Rank within provinces
Score: 0.479



Binh Duong's score and ranking are due to high Multi-hazard exposure combined with low Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

BINH PHUOC

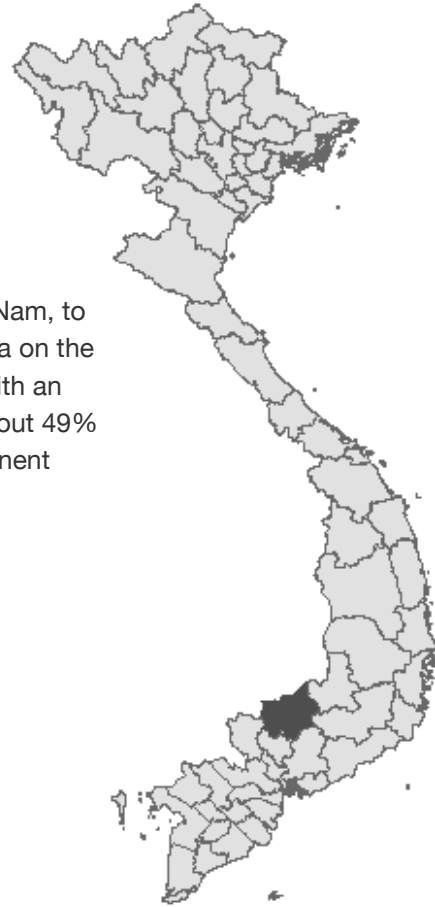
NDPBA PROVINCE PROFILE

VIỆT NAM BINH PHUOC

CAPITAL: ĐỒNG XOÀI

Area: 7,236 km²

Binh Phuoc is a province located in the southeast region of Viet Nam, to the north of Ho Chi Minh City and shares a border with Cambodia on the north and northwest. The terrain in Binh Phuoc is relatively flat with an elevation of between 50 and 200 meters and forests covering about 49% of total land. A predominantly rural province, Binh Phuoc's prominent products are cashew nuts and rubber and food processing.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.527 • Rank: 17/63



RESILIENCE (R) - moderate
Score: 0.518 • Rank: 34/63



MULTI-HAZARD EXPOSURE - high
Score: 0.616 • Rank: 20/63



VULNERABILITY (V) - low
Score: 0.401 • Rank: 43/63



COPING CAPACITY (CC) - low
Score: 0.437 • Rank: 46/63



Population (2017)
1,003,114



Population in Poverty
6.0%



Illiterate population
6.6%



Access to improved water
90.8%



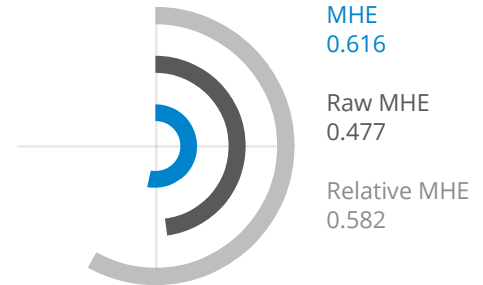
Average life expectancy
73.50 years

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

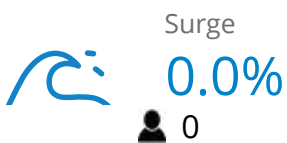
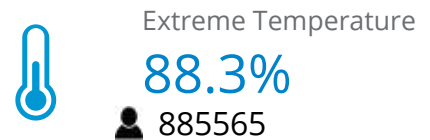
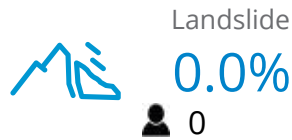
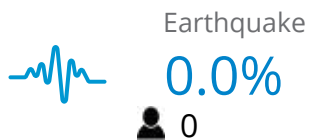
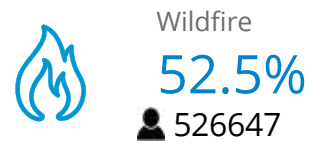
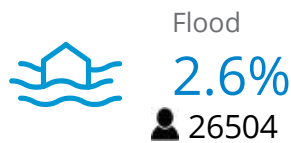


MULTI-HAZARD EXPOSURE

RANK: 20 / 63 PROVINCES
SCORE: 0.616



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





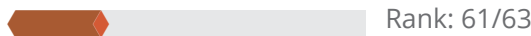
VULNERABILITY (V)

RANK: 43 / 63 PROVINCES
SCORE: 0.401

Vulnerability in Binh Phuoc is primarily driven by Population Pressures and Information Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



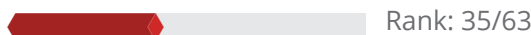
Environmental Stress



2.9% Forest Change
12.6 Livestock Density (per sq km)



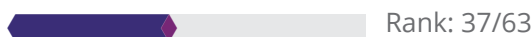
Vulnerable Health Status



73.5 Life Expectancy (years)
14 Infant Mortality Rate (per 1,000 live births)
6.0% Acute Malnutrition (Children <5)
48.4 Tuberculosis Incidence (per 100,000 persons)
170.49 Malaria Prevalance (per 100,000 persons)
186.7 HIV Prevalance (per 100,000 persons)



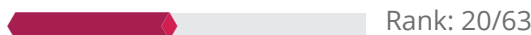
Clean Water Vulnerability



90.8% Households with Safe Water Access
73.7% Households with Hygienic Toilet Access



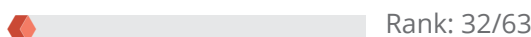
Information Access Vulnerability



6.6% Adult Illiteracy Rate
87.8% School Attendance Rate
84.0% Households without Internet
6.0% Housholds without TV



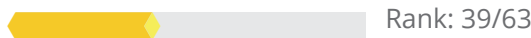
Economic Constraints



47 Economic Dependency Ratio
6.0% Poverty



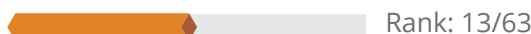
Gender Inequality



0.08 Income Inequality*
0.3 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.8% Average Annual Population Change
6.2% Average Annual Urban Population Change
0.5% Net Migration Rate



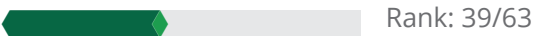
COPING CAPACITY (CC)

RANK: 46 / 63 PROVINCES
SCORE: 0.437

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



Economic Capacity

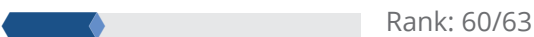


5.76	4,403	31.52	5.51	7.95
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



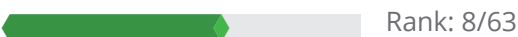
Governance



4.02	4.95	6.36
Law and Order*	Informal Charges*	Transparency*



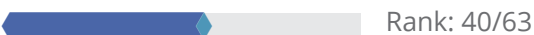
Environmental Capacity



29.7%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 56/63

93.7%	28.15	4.26	11.92	12.22
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 26/63

4,330	53.52
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 8/63

90.4%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 34 / 63 PROVINCES
SCORE: 0.518

Binh Phuoc's score and ranking are due to low Vulnerability combined with low Coping Capacity scores.

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



Population Pressures



Information Access Vulnerability



Governance



Health Care Capacity



MULTI-HAZARD RISK

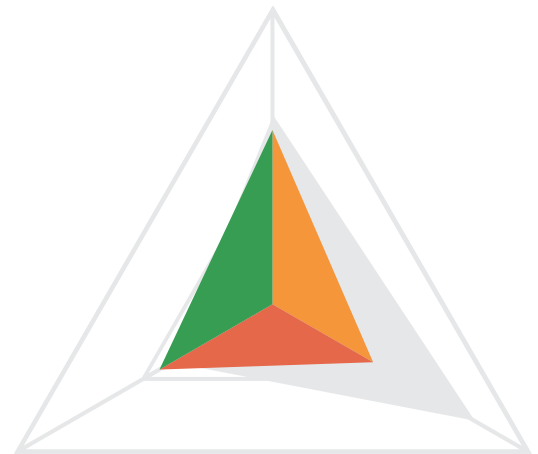
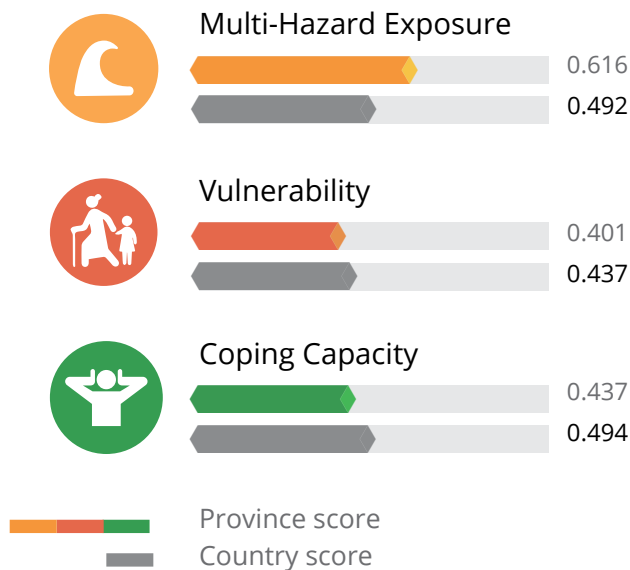
17 / 63

Rank within provinces
Score: 0.527



Binh Phuoc's score and ranking are due to high Multi-hazard exposure combined with low Vulnerability and low Coping Capacity scores.

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





VIỆT NAM

BINH THUAN

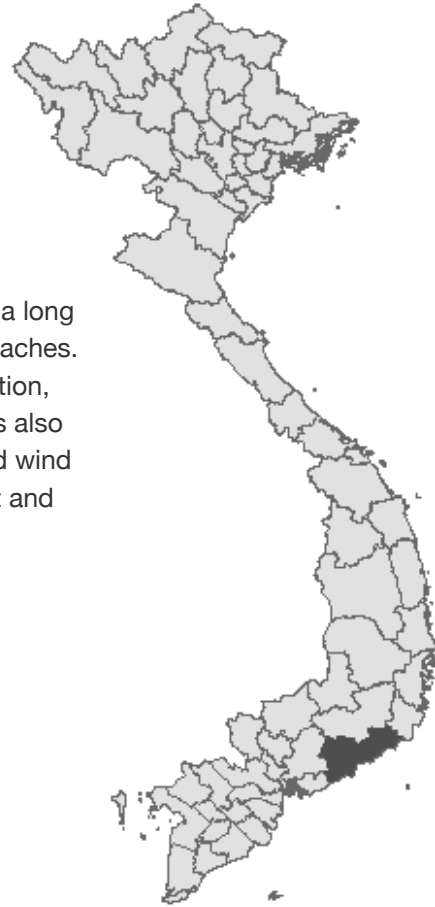
NDPBA PROVINCE PROFILE

VIỆT NAM BINH THUAN

CAPITAL: PHAN THIẾT

Area: 8,296 km²

Located on the Viet Nam's South Central Coast, Binh Thuan has a long coastline of over 192km and is well known for its scenery and beaches. The province's economy is mostly based on tourism, salt production, fishing and agricultural cultivation and its products. Binh Thuan is also known for titanium reserves and significant potential for solar and wind power generation. The province is vulnerable to frequent drought and strong seasonal sea waves.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.463 • Rank: 39/63



RESILIENCE (R) - high
Score: 0.539 • Rank: 26/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.466 • Rank: 38/63



VULNERABILITY (V) - low
Score: 0.409 • Rank: 37/63



COPING CAPACITY (CC) - moderate
Score: 0.487 • Rank: 27/63



Population (2017)
1,228,312



Population in Poverty
3.8%



Illiterate population
6.7%



Access to improved water
96.0%



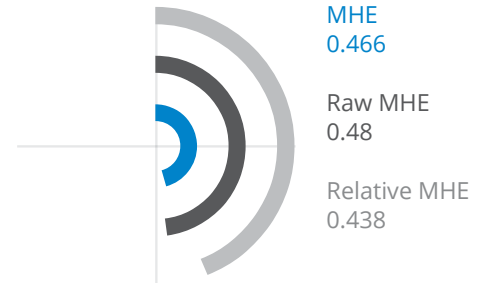
Average life expectancy
74.10 years

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

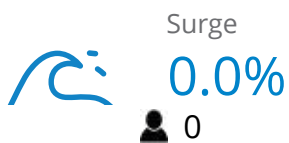
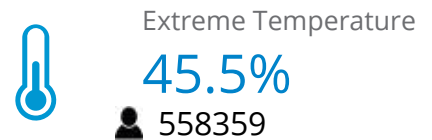
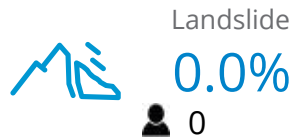
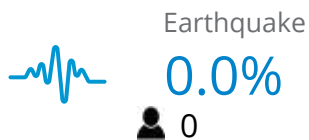
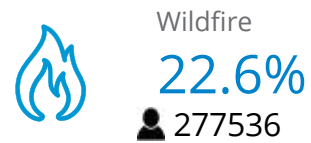
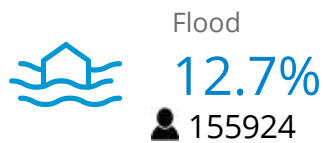


MULTI-HAZARD EXPOSURE

RANK: 38 / 63 PROVINCES
SCORE: 0.466



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





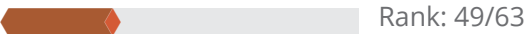
VULNERABILITY (V)

RANK: 37 / 63 PROVINCES
SCORE: 0.409

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



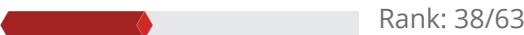
Environmental Stress



2.7% Forest Change
21.92 Livestock Density (per sq km)



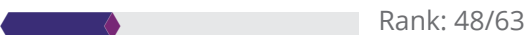
Vulnerable Health Status



74.1 Life Expectancy (years)
12.5 Infant Mortality Rate (per 1,000 live births)
5.8% Acute Malnutrition (Children <5)
121.6 Tuberculosis Incidence (per 100,000 persons)
46.3 Malaria Prevalance (per 100,000 persons)
99.2 HIV Prevalance (per 100,000 persons)



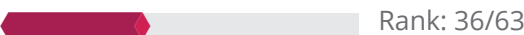
Clean Water Vulnerability



96.0% Households with Safe Water Access
82.5% Households with Hygienic Toilet Access



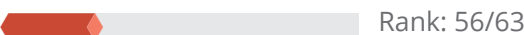
Information Access Vulnerability



6.7% Adult Illiteracy Rate
90.3% School Attendance Rate
84.0% Households without Internet
4.0% Housholds without TV



Economic Constraints



42.4 Economic Dependency Ratio
3.8% Poverty



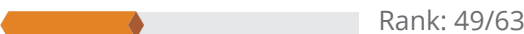
Gender Inequality



0.24 Income Inequality*
0.49 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.7% Average Annual Population Change
1.9% Average Annual Urban Population Change
2.1% Net Migration Rate



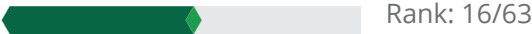
COPING CAPACITY (CC)

RANK: 27 / 63 PROVINCES
SCORE: 0.487

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



Economic Capacity



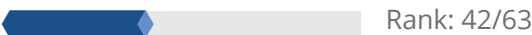
Rank: 16/63

6.22	4,032	29.88	6.95	8.19
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

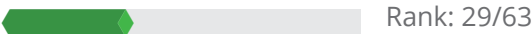


Rank: 42/63

4.82	5.58	6.42
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

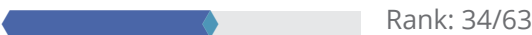


Rank: 29/63

8.9%
Protected Area



Infrastructure Capacity



Rank: 34/63



Health Care Capacity

Rank: 46/63

95.3%	30.07	5.13	12.65	14.36
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 23/63

4,044	37.62
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 30/63

84.3%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 26 / 63 PROVINCES
SCORE: 0.539

Binh Thuan's score and ranking are due to low Vulnerability combined with moderate Coping Capacity scores.

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



Gender Inequality



Vulnerable Health Status



Governance



Health Care Capacity



MULTI-HAZARD RISK

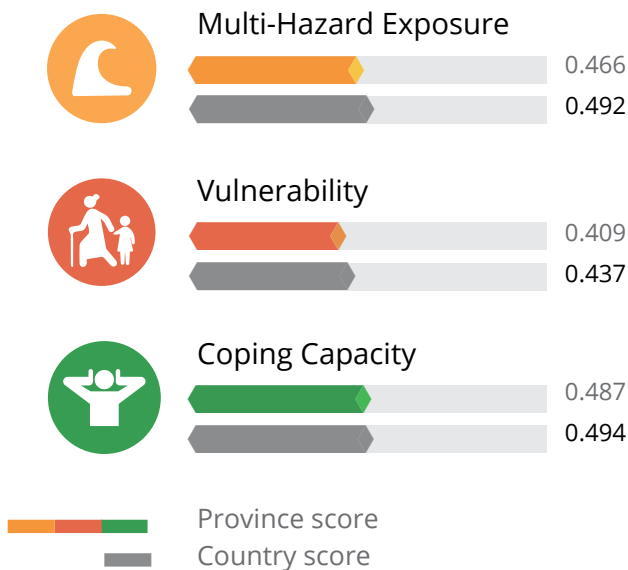
39 / 63

Rank within provinces
Score: 0.463



Binh Thuan's score and ranking are due to moderate Multi-hazard exposure combined with low Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

CA MAU

NDPBA PROVINCE PROFILE

VIỆT NAM CA MAU

CAPITAL: CÀ MAU

Area: 5,303 km²

Located in the Mekong Delta region, Ca Mau is the southernmost province of Viet Nam, bordering to the west by the Gulf of Thailand, and to the south and east by the East Sea. Surrounded by sea and accompanied by a complex rivers and canals network, the province is well-known for swampland and mangrove forests (e.g., U Minh biosphere reserve and Mũi Cà Mau national park). Ca Mau's economy is based on fishing, aquaculture, agriculture and ecotourism, while industry is mostly seafood processing.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.363 • Rank: 60/63



RESILIENCE (R) - very high
Score: 0.601 • Rank: 11/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.29 • Rank: 54/63



VULNERABILITY (V) - very low
Score: 0.354 • Rank: 54/63



COPING CAPACITY (CC) - very high
Score: 0.555 • Rank: 13/63



Population (2017)
1,272,333



Population in Poverty
4.7%



Illiterate population
4.4%



Access to improved water
99.3%



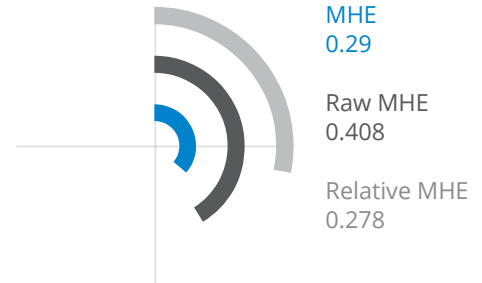
Average life expectancy
74.60 years

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

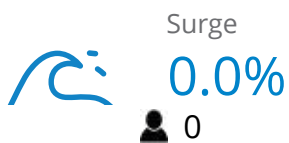
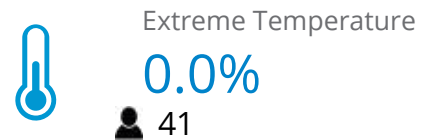
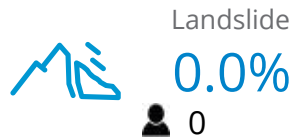
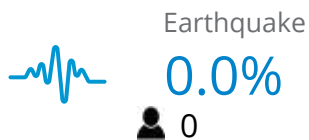
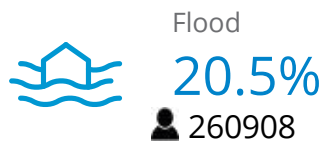


MULTI-HAZARD EXPOSURE

RANK: 54 / 63 PROVINCES
SCORE: 0.29



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





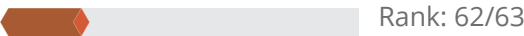
VULNERABILITY (V)

RANK: 54 / 63 PROVINCES
SCORE: 0.354

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



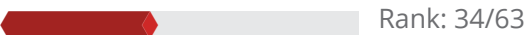
Environmental Stress



2.5% Forest Change
6.7 Livestock Density (per sq km)



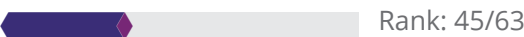
Vulnerable Health Status



74.6 Life Expectancy (years)
11.3 Infant Mortality Rate (per 1,000 live births)
8.6% Acute Malnutrition (Children <5)
74.5 Tuberculosis Incidence (per 100,000 persons)
5.67 Malaria Prevalance (per 100,000 persons)
202.4 HIV Prevalance (per 100,000 persons)



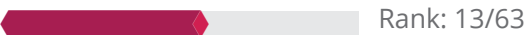
Clean Water Vulnerability



99.3% Households with Safe Water Access
59.2% Households with Hygienic Toilet Access



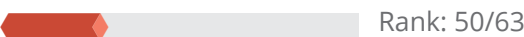
Information Access Vulnerability



4.4% Adult Illiteracy Rate
77.8% School Attendance Rate
89.0% Households without Internet
6.0% Households without TV



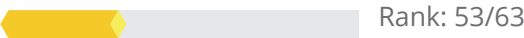
Economic Constraints



42.4 Economic Dependency Ratio
4.7% Poverty



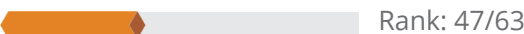
Gender Inequality



0.17 Income Inequality*
0.06 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.3% Average Annual Population Change
1.8% Average Annual Urban Population Change
7.2% Net Migration Rate



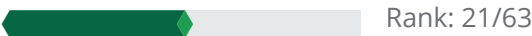
COPING CAPACITY (CC)

RANK: 13 / 63 PROVINCES
SCORE: 0.555

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



Economic Capacity



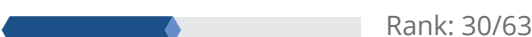
Rank: 21/63

7.01	4,125	38.2	6.3	7.97
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

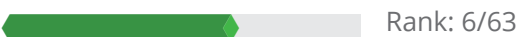


Rank: 30/63

5.45	6.42	5.81
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

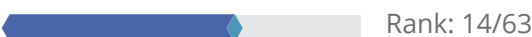


Rank: 6/63

32.5%
Protected Area



Infrastructure Capacity



Rank: 14/63



Health Care Capacity

Rank: 36/63

98.4%	26.24	4.9	10.15	9.32
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 15/63

4,366	35.02
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 5/63

91.5%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 11 / 63 PROVINCES
SCORE: 0.601

Ca Mau's score and ranking are due to very low Vulnerability combined with very high Coping Capacity scores.

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



Information Access Vulnerability



Vulnerable Health Status



Governance



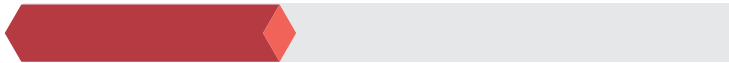
Health Care Capacity



MULTI-HAZARD RISK

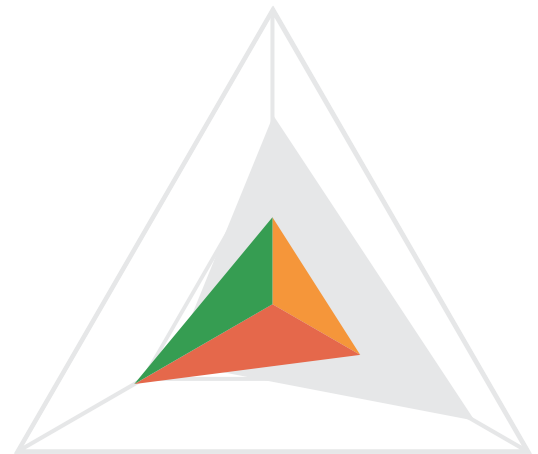
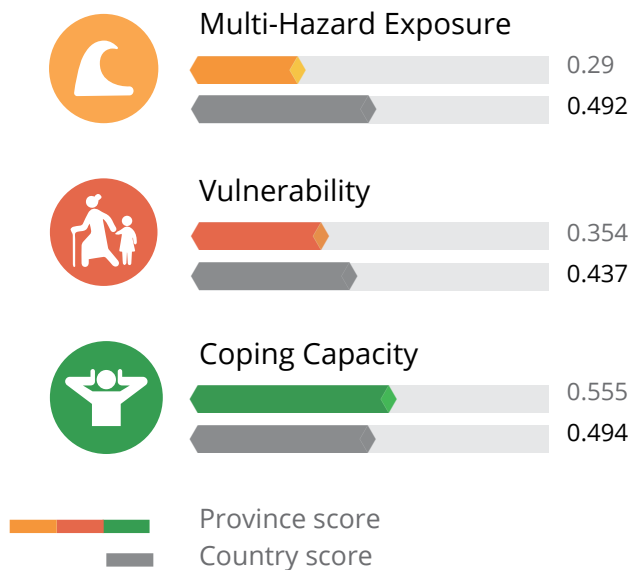
60 / 63

Rank within provinces
Score: 0.363



Ca Mau's score and ranking are due to very low Multi-hazard exposure combined with very low Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

CAN THO

NDPBA PROVINCE PROFILE

VIỆT NAM CAN THO

CAPITAL: CAN

Area: 1,496 km²

The fourth largest city in Viet Nam, Can Tho city is the center of the Mekong Delta in terms of economics, culture, science, and technology. Located on the south bank of the Hau River, the city is noted for its floating market, rice paper-making village, and picturesque rural canals. As the main transportation hub for the Lower Mekong Delta region, Can Tho's economic development is growing fast mainly based on industry and service.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.438 • Rank: 46/63



RESILIENCE (R) - very high
Score: 0.602 • Rank: 9/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.517 • Rank: 29/63



VULNERABILITY (V) - low
Score: 0.375 • Rank: 50/63



COPING CAPACITY (CC) - very high
Score: 0.58 • Rank: 9/63



Population (2017)
1,285,754



Population in Poverty
3.1%



Illiterate population
5.8%



Access to improved water
86.5%



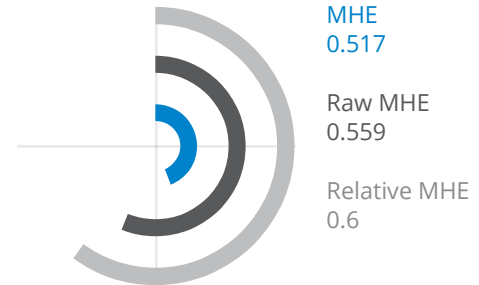
Average life expectancy
75.60 years

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

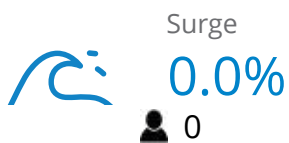
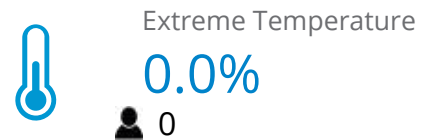
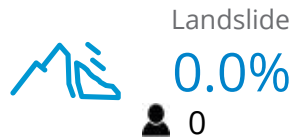
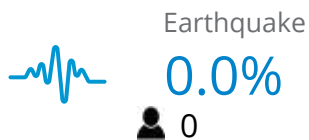
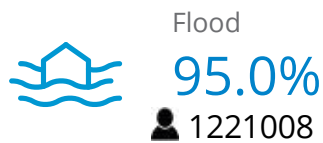


MULTI-HAZARD EXPOSURE

RANK: 29 / 63 PROVINCES
SCORE: 0.517



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





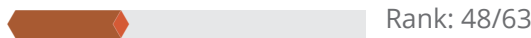
VULNERABILITY (V)

RANK: 50 / 63 PROVINCES
SCORE: 0.375

Vulnerability in Can Tho is primarily driven by Population Pressures and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



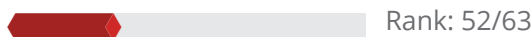
Environmental Stress



2.6% Forest Change
22.29 Livestock Density (per sq km)



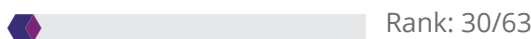
Vulnerable Health Status



75.6 Life Expectancy (years)
9.3 Infant Mortality Rate (per 1,000 live births)
5.9% Acute Malnutrition (Children <5)
103.2 Tuberculosis Incidence (per 100,000 persons)
0.24 Malaria Prevalance (per 100,000 persons)
410.7 HIV Prevalance (per 100,000 persons)



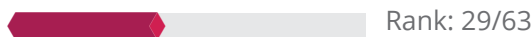
Clean Water Vulnerability



86.5% Households with Safe Water Access
69.0% Households with Hygienic Toilet Access



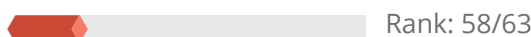
Information Access Vulnerability



5.8% Adult Illiteracy Rate
85.4% School Attendance Rate
77.0% Households without Internet
7.0% Housholds without TV



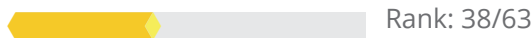
Economic Constraints



38.9 Economic Dependency Ratio
3.1% Poverty



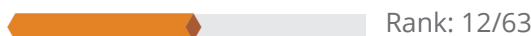
Gender Inequality



0.12 Income Inequality*
0.23 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.9% Average Annual Population Change
4.5% Average Annual Urban Population Change
4.6% Net Migration Rate



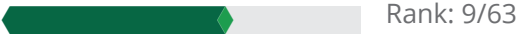
COPING CAPACITY (CC)

RANK: 9 / 63 PROVINCES
SCORE: 0.58

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



Economic Capacity



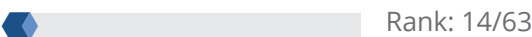
Rank: 9/63

6.78	4,288	52.08	6.84	7.86
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

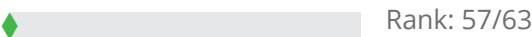


Rank: 14/63

6.51	6.17	6.32
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity



Rank: 57/63

0.0%
Protected Area



Infrastructure Capacity



Rank: 4/63



Health Care Capacity

Rank: 19/63

99.1%	25.43	7.06	11.75	6.97
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 9/63

4,468	12.46
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 10/63

89.1%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 9 / 63 PROVINCES
SCORE: 0.602

Can Tho's score and ranking are due to low Vulnerability combined with very high Coping Capacity scores.

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



Population Pressures



Clean Water Access Vulnerability



Environmental Capacity



Governance



MULTI-HAZARD RISK

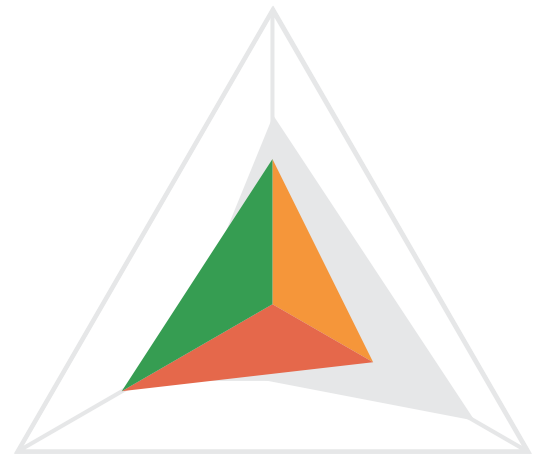
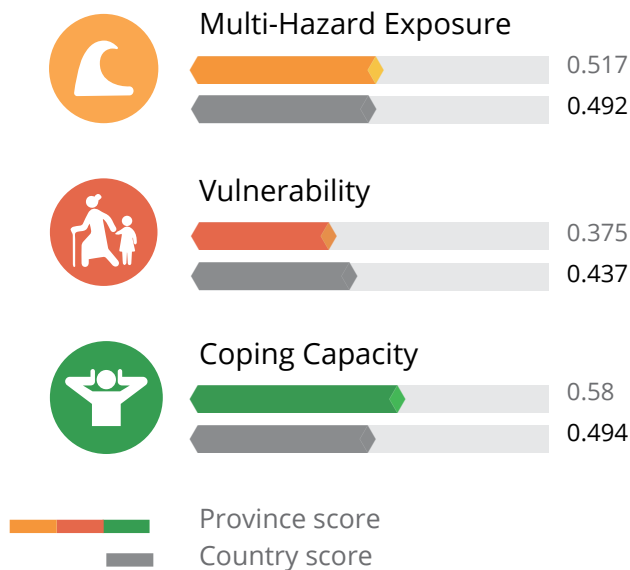
46 / 63

Rank within provinces
Score: 0.438



Can Tho's score and ranking are due to moderate Multi-hazard exposure combined with low Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

CAO BANG

NDPBA PROVINCE PROFILE

VIỆT NAM CAO BANG

CAPITAL: CAO BẰNG

Area: 7,949 km²

Cao Bang is located in the northern part of Viet Nam sharing a border with China to the north. The province is covered with mountains and hills and is home to many people from ethnic minority groups, namely Tay, Nung, Dao, and Hmong with distinctive cultural heritages. Cao Bang is one of the poorest region in northern Viet Nam with the economy centered mostly on agriculture and forestry.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.452 • Rank: 42/63



RESILIENCE (R) - very low
Score: 0.406 • Rank: 60/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.168 • Rank: 61/63



VULNERABILITY (V) - very high
Score: 0.579 • Rank: 5/63



COPING CAPACITY (CC) - very low
Score: 0.391 • Rank: 60/63



Population (2017)
542,733



Population in Poverty
24.4%



Illiterate population
14.5%



Access to improved water
35.8%



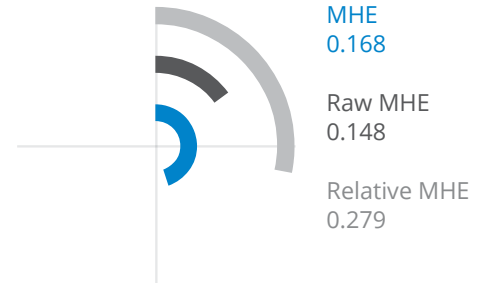
Average life expectancy
70.00 years

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

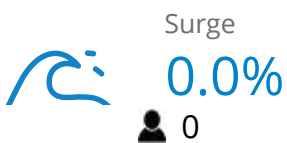
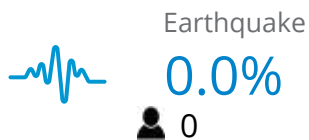
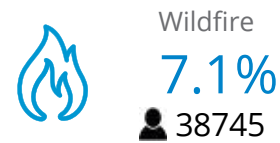
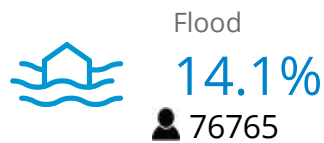
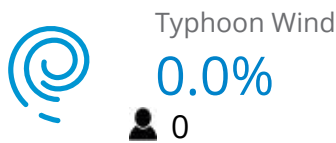


MULTI-HAZARD EXPOSURE

RANK: 61 / 63 PROVINCES
SCORE: 0.168



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





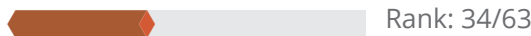
VULNERABILITY (V)

RANK: 5 / 63 PROVINCES
SCORE: 0.579

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



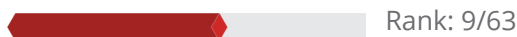
Environmental Stress



1.4% Forest Change
36.38 Livestock Density (per sq km)



Vulnerable Health Status



70 Life Expectancy (years)
23.9 Infant Mortality Rate (per 1,000 live births)
6.9% Acute Malnutrition (Children <5)
24.6 Tuberculosis Incidence (per 100,000 persons)
212.42 Malaria Prevalance (per 100,000 persons)
407.7 HIV Prevalance (per 100,000 persons)



Clean Water Vulnerability



35.8% Households with Safe Water Access
32.0% Households with Hygienic Toilet Access



Information Access Vulnerability



14.5% Adult Illiteracy Rate
77.0% School Attendance Rate
87.0% Households without Internet
22.0% Housholds without TV



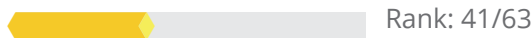
Economic Constraints



47 Economic Dependency Ratio
24.4% Poverty



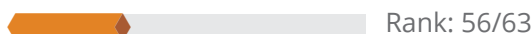
Gender Inequality



0.07 Income Inequality*
0.3 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.4% Average Annual Population Change
6.4% Average Annual Urban Population Change
0.1% Net Migration Rate



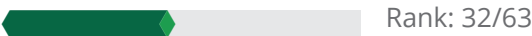
COPING CAPACITY (CC)

RANK: 60 / 63 PROVINCES
SCORE: 0.391

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



Economic Capacity

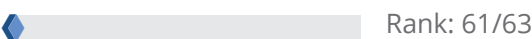


5.03	4,945	10.27	7.18	7.28
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



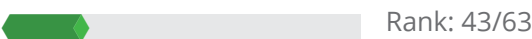
Governance



5.61	4.1	5.72
Law and Order*	Informal Charges*	Transparency*



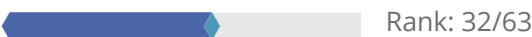
Environmental Capacity



3.4%
Protected Area



Infrastructure Capacity



Health Care Capacity Rank: 4/63

95.5%	42.52	13.46	22.78	21.32
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 53/63

1,808	76.97
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 57/63

73.6%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 60 / 63 PROVINCES
SCORE: 0.406

Cao Bang's score and ranking are due to very high Vulnerability combined with very low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Information
Access
Vulnerability



Governance



Transportation
Capacity



MULTI-HAZARD RISK

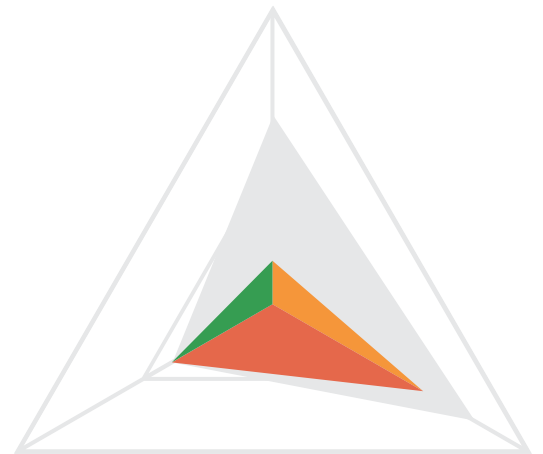
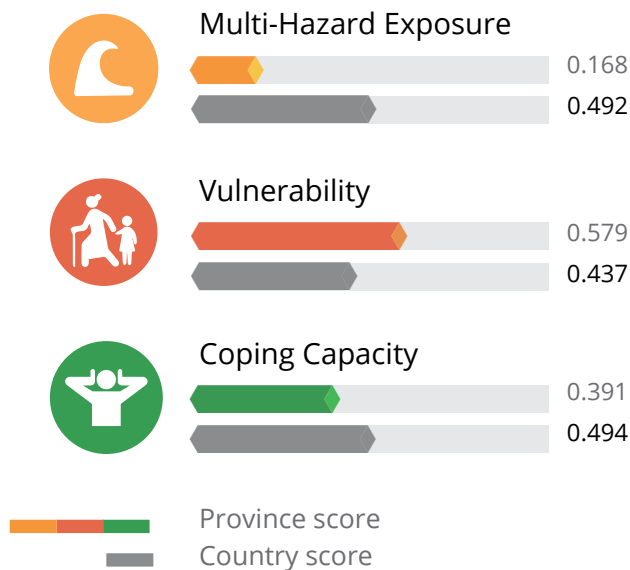
42 / 63

Rank within provinces
Score: 0.452



Cao Bang's score and ranking are due to very low Multi-hazard exposure combined with very high Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

DA NANG

NDPBA PROVINCE PROFILE

VIỆT NAM ĐÀ NẴNG

CAPITAL: HẢI CHÂU DISTRICT

Area: 1,065 km²

Located on the coast of the East Sea at the mouth of the Han River, Da Nang city is the commercial and educational center of central Viet Nam and the fifth largest city in the country. As one of the most important port cities in Viet Nam, Da Nang has the highest urbanization rate and rapid industrial development with six industrial parks. With rich scenery and cultural heritages and heavy investment, the tourism sector is a vital component of Da Nang's economy. The city consists of both coastal and mountainous terrain, and is susceptible to damage from typhoons and flooding during the wet season.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.333 • Rank: 63/63



RESILIENCE (R) - very high
Score: 0.749 • Rank: 1/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.496 • Rank: 32/63



VULNERABILITY (V) - very low
Score: 0.288 • Rank: 63/63



COPING CAPACITY (CC) - very high
Score: 0.786 • Rank: 1/63



Population (2017)
1,008,358



Population in Poverty
0.8%



Illiterate population
2.5%



Access to improved water
99.3%



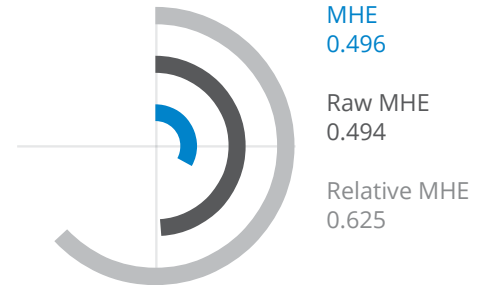
Average life expectancy
75.80 years

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

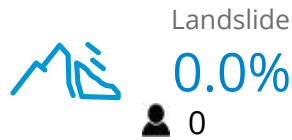
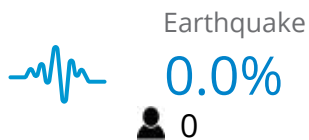
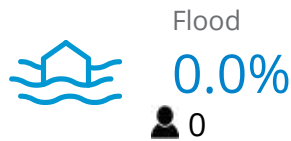


MULTI-HAZARD EXPOSURE

RANK: 32 / 63 PROVINCES
SCORE: 0.496



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





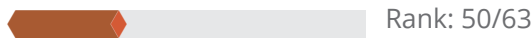
VULNERABILITY (V)

RANK: 63 / 63 PROVINCES
SCORE: 0.288

Vulnerability in Da Nang is primarily driven by Population Pressures and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



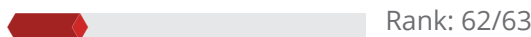
Environmental Stress



2.5% Forest Change
20.79 Livestock Density (per sq km)



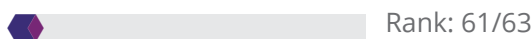
Vulnerable Health Status



75.8 Life Expectancy (years)
8.8 Infant Mortality Rate (per 1,000 live births)
4.0% Acute Malnutrition (Children <5)
80.7 Tuberculosis Incidence (per 100,000 persons)
2.68 Malaria Prevalance (per 100,000 persons)
73.7 HIV Prevalance (per 100,000 persons)



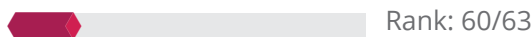
Clean Water Vulnerability



99.3% Households with Safe Water Access
98.6% Households with Hygienic Toilet Access



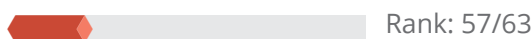
Information Access Vulnerability



2.5% Adult Illiteracy Rate
98.2% School Attendance Rate
56.0% Households without Internet
7.0% Housholds without TV



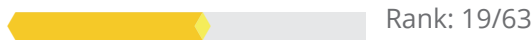
Economic Constraints



42.5 Economic Dependency Ratio
0.8% Poverty



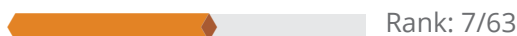
Gender Inequality



0.2 Income Inequality*
0.24 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



2.7% Average Annual Population Change
3.3% Average Annual Urban Population Change
4.9% Net Migration Rate



COPING CAPACITY (CC)

RANK: 1 / 63 PROVINCES
SCORE: 0.786

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



Economic Capacity



Rank: 2/63

7.76	5,522	59.26	6.93	8.55
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance



Rank: 4/63

6.74	6.29	6.46
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity



Rank: 4/63

44.3%
Protected Area



Infrastructure Capacity



Rank: 1/63



Health Care Capacity Rank: 1/63

99.2%	46.76	9.25	17.75	12.61
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 17/63

3,435	22.95
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 1/63

93.5%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 1 / 63 PROVINCES
SCORE: 0.749

Da Nang's score and ranking are due to very low Vulnerability combined with very high Coping Capacity scores.

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



Population Pressures



Gender Inequality



Transportation Capacity



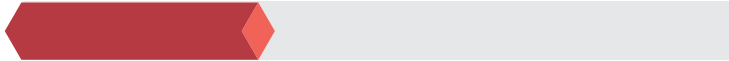
Governance



MULTI-HAZARD RISK

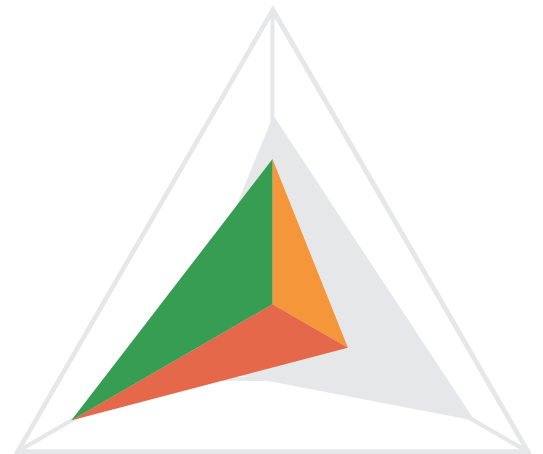
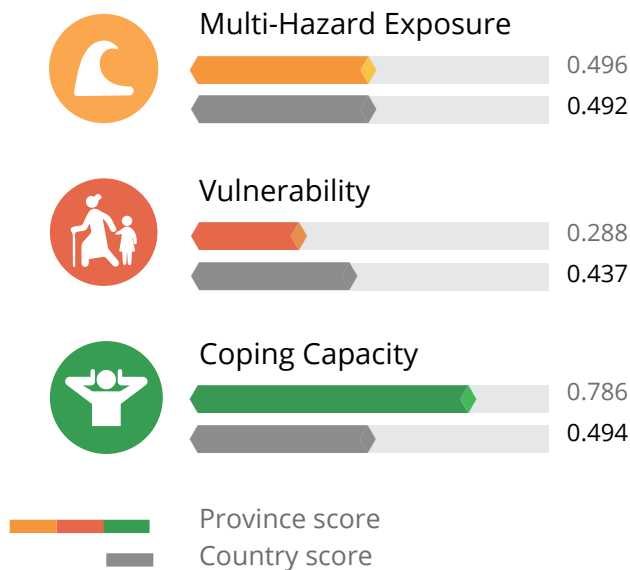
63 / 63

Rank within provinces
Score: 0.333



Da Nang's score and ranking are due to moderate Multi-hazard exposure combined with very low Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

DAK LAK

NDPBA PROVINCE PROFILE

VIỆT NAM DAK LAK

CAPITAL: BUÔN MA THUỘT

Area: 13,898 km²

Located in the center of Viet Nam's Central Highland, Dak Lak is on a plateau of around 400-800m and shares a border with Cambodia to the west. The region is known for the diverse yet deeply-rooted traditions and cultures - home to a high number of indigenous people namely E
 ☐e, Ja rai, M'ngong. Prominent outputs of the province are coffee, fruit, rubber, tea and pepper while tourism and hydropower also play a role in Dak Lak's economy.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.513 • Rank: 21/63



RESILIENCE (R) - very low
Score: 0.479 • Rank: 52/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.499 • Rank: 31/63



VULNERABILITY (V) - very high
Score: 0.501 • Rank: 12/63



COPING CAPACITY (CC) - low
Score: 0.46 • Rank: 40/63



Population (2017)
1,941,816



Population in Poverty
10.0%



Illiterate population
7.1%



Access to improved water
79.4%



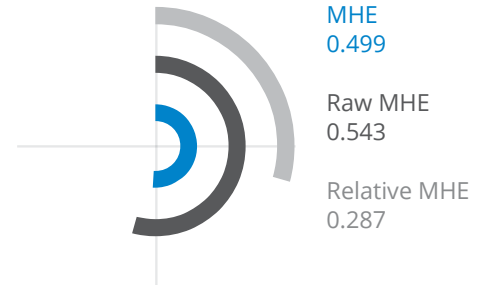
Average life expectancy
70.10 years

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

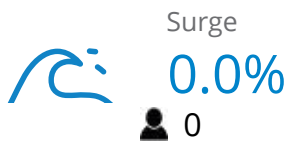
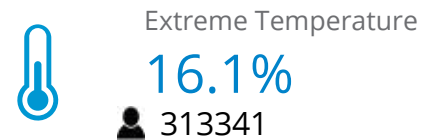
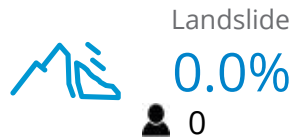
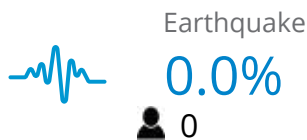
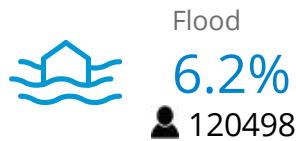


MULTI-HAZARD EXPOSURE

RANK: 31 / 63 PROVINCES
SCORE: 0.499



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





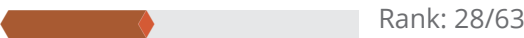
VULNERABILITY (V)

RANK: 12 / 63 PROVINCES
SCORE: 0.501

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



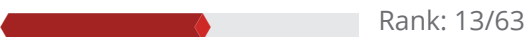
Environmental Stress



-3.2% **24.57**
Forest Change Livestock Density
(per sq km)



Vulnerable Health Status



70.1 **24** **7.2%** **30.6** **125.18** **93.1**
Life Expectancy Infant Mortality Acute Tuberculosis Malaria HIV Prevalance
(years) Rate (per 1,000 live births) Malnutrition (Children <5) Incidence (per 100,000 persons) Prevalance (per 100,000 persons)



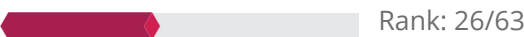
Clean Water Vulnerability



79.4% **48.0%**
Households Households with
with Safe Water Hygienic Toilet
Access Access



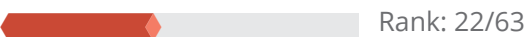
Information Access Vulnerability



7.1% **89.2%** **82.0%** **6.0%**
Adult Illiteracy School Households Housholds
Rate Attendance Rate without Internet without TV



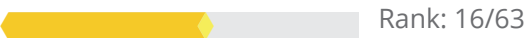
Economic Constraints



46.5 **10.0%**
Economic Poverty
Dependency Ratio



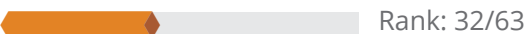
Gender Inequality



0.14 **0.39** *Values closer to 1 represent greater gender parity.
Income F M School
Inequality* Enrollment Rate*



Population Pressures



1.2% **2.3%** **2.0%**
Average Annual Average Net Migration
Population Urban Population
Change Change Rate



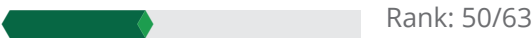
COPING CAPACITY (CC)

RANK: 40 / 63 PROVINCES
SCORE: 0.46

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



Economic Capacity



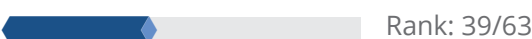
Rank: 50/63

6.02	3,957	28.14	6.8	6.99
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

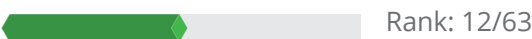


Rank: 39/63

5.84	4.88	6.34
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

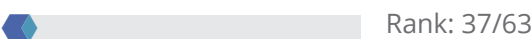


Rank: 12/63

19.0%
Protected Area



Infrastructure Capacity



Rank: 37/63



Health Care Capacity

Rank: 54/63

93.9%	25.64	5.87	11.17	14.39
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 18/63

4,967	44.56
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 21/63

87.1%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 52 / 63 PROVINCES
SCORE: 0.479

Dak Lak's score and ranking are due to very high Vulnerability combined with low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Gender Inequality



Health Care Capacity



Economic Capacity



MULTI-HAZARD RISK

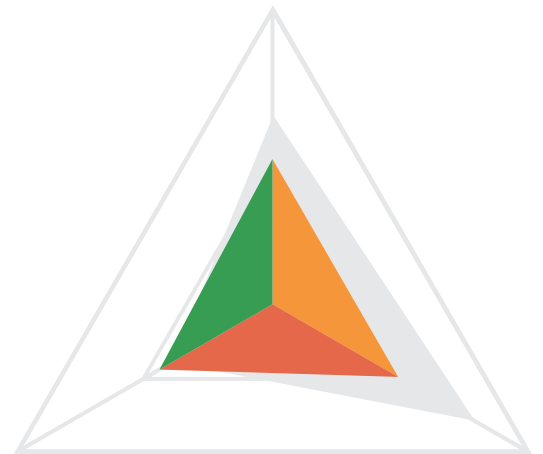
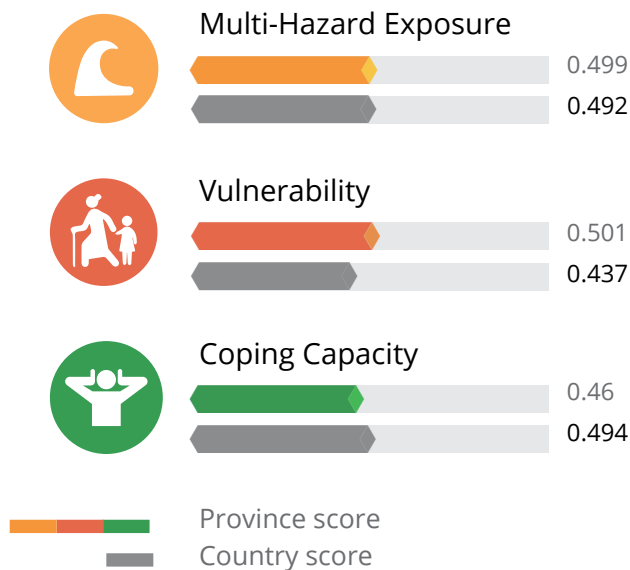


21 / 63

Rank within provinces
Score: 0.513

Dak Lak's score and ranking are due to moderate Multi-hazard exposure combined with very high Vulnerability and low Coping Capacity scores.

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





VIỆT NAM

DAK NONG

NDPBA PROVINCE PROFILE

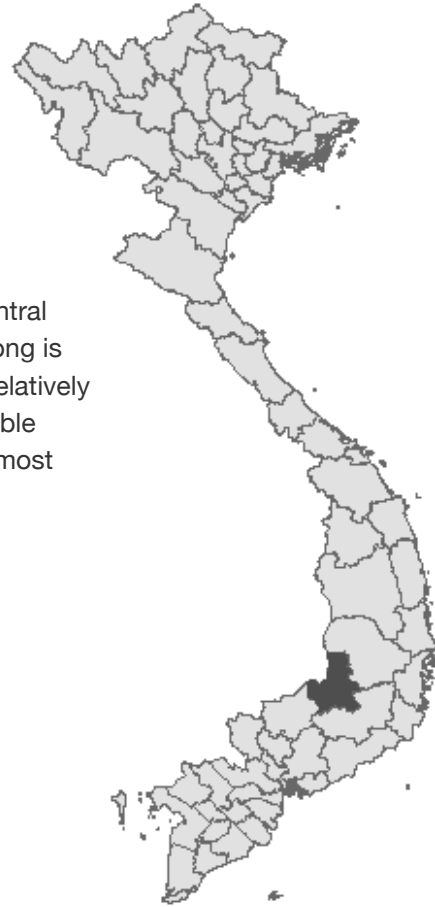
VIỆT NAM

DAK NONG

CAPITAL: GIA NGHĨA

Area: 6,846 km²

Dak Nong province is located in the southwestern part of the Central Highland of Viet Nam, adjacent to Cambodia to the west. Dak Nong is quite similar to Dak Lak in terms of geography and culture. The relatively flat cultivated surface with mainly bazon makes Dak Nong favorable for long-day industrial crops. Coffee, pepper and rubber are the most important products of the province.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.488 • Rank: 28/63



RESILIENCE (R) - very low
Score: 0.423 • Rank: 58/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.309 • Rank: 52/63



VULNERABILITY (V) - very high
Score: 0.513 • Rank: 9/63



COPING CAPACITY (CC) - very low
Score: 0.359 • Rank: 62/63



Population (2017)
607,165



Population in Poverty
15.7%



Illiterate population
6.3%



Access to improved water
89.3%



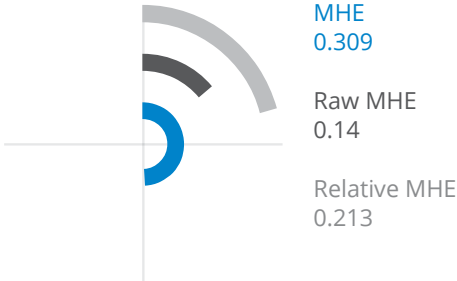
Average life expectancy
69.20 years

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



MULTI-HAZARD EXPOSURE

RANK: 52 / 63 PROVINCES
SCORE: 0.309



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:



Typhoon Wind
100.0%
607138



Flood
5.3%
31912



Wildfire
60.7%
368489



Earthquake
0.0%
0



Landslide
0.0%
0



Extreme Temperature
0.0%
0



Surge
0.0%
0



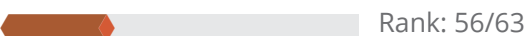
VULNERABILITY (V)

RANK: 9 / 63 PROVINCES
SCORE: 0.513

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



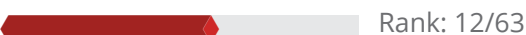
Environmental Stress



-2.1% Forest Change
7.64 Livestock Density (per sq km)



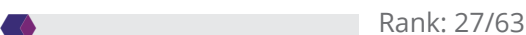
Vulnerable Health Status



69.2 Life Expectancy (years)
25.7 Infant Mortality Rate (per 1,000 live births)
7.1% Acute Malnutrition (Children <5)
27.1 Tuberculosis Incidence (per 100,000 persons)
109.57 Malaria Prevalance (per 100,000 persons)
93.5 HIV Prevalance (per 100,000 persons)



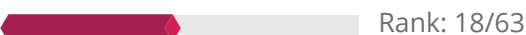
Clean Water Vulnerability



89.3% Households with Safe Water Access
58.4% Households with Hygienic Toilet Access



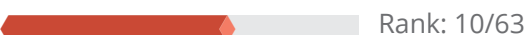
Information Access Vulnerability



6.3% Adult Illiteracy Rate
87.6% School Attendance Rate
87.0% Households without Internet
6.0% Housholds without TV



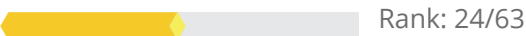
Economic Constraints



54.1 Economic Dependency Ratio
15.7% Poverty



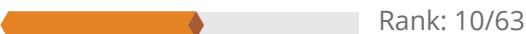
Gender Inequality



0.11 Income Inequality*
0.34 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



3.9% Average Annual Population Change
4.5% Average Annual Urban Population Change
1.1% Net Migration Rate



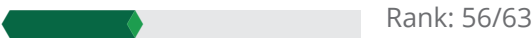
COPING CAPACITY (CC)

RANK: 62 / 63 PROVINCES
SCORE: 0.359

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



Economic Capacity



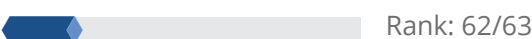
Rank: 56/63

6.18	4,599	18.6	6.19	7.06
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

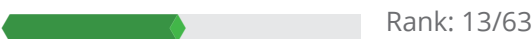


Rank: 62/63

4.27	4.11	5.94
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

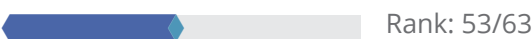


Rank: 13/63

18.7%
Protected Area



Infrastructure Capacity



Rank: 53/63



Health Care Capacity

Rank: 61/63

94.2%	19.32	4.06	10.24	16.24
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 32/63

3,160	45.45
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 25/63

86.2%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 58 / 63 PROVINCES
SCORE: 0.423

Dak Nong's score and ranking are due to very high Vulnerability combined with very low Coping Capacity scores.

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



Economic Constraints



Vulnerable Health Status



Governance



Health Care Capacity



MULTI-HAZARD RISK

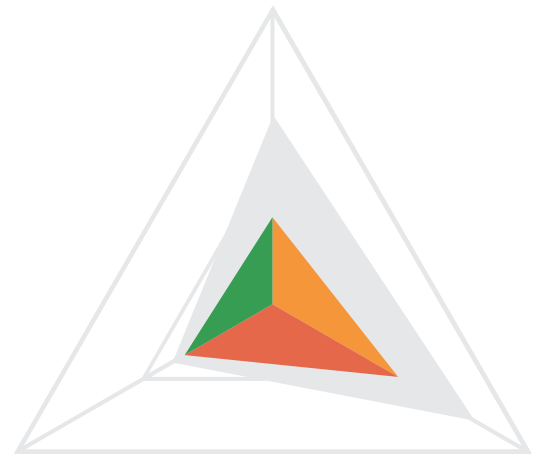
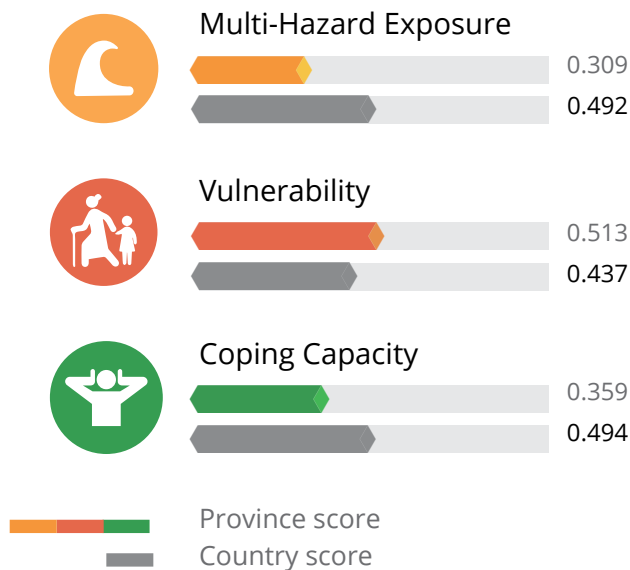
28 / 63

Rank within provinces
Score: 0.488



Dak Nong's score and ranking are due to very low Multi-hazard exposure combined with very high Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

DIEN BIEN

NDPBA PROVINCE PROFILE

VIỆT NAM

DIEN BIEN

CAPITAL: ĐIỆN BIÊN PHỦ

Area: 11,093 km²

Dien Bien is a mountainous province located in the Northwest region of Viet Nam, adjacent China to the northwest and Laos to the west. Dien Bien is well known for its vast Muong Thanh valley, where famous Dien Bien rice is grown. Besides agriculture and forest products, the province's economy is also based on tourism and international trade for its important position as main gateway to the northwest region and its historical / cultural riches. Currently, Dien Bien is the home of 21 ethnic groups, including Thai, Hmong, Kinh, Dao, and Kho Mu people.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.649 • Rank: 1/63



RESILIENCE (R) - very low
Score: 0.382 • Rank: 62/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.711 • Rank: 4/63



VULNERABILITY (V) - very high
Score: 0.647 • Rank: 2/63



COPING CAPACITY (CC) - very low
Score: 0.411 • Rank: 58/63



Population (2017)
559,711



Population in Poverty
29.1%



Illiterate population
24.9%



Access to improved water
31.8%



Average life expectancy
67.20 years

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



MULTI-HAZARD EXPOSURE

RANK: 4 / 63 PROVINCES
SCORE: 0.711

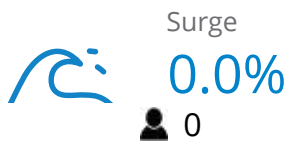
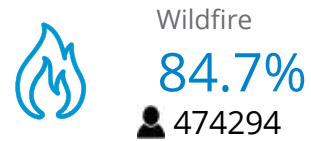
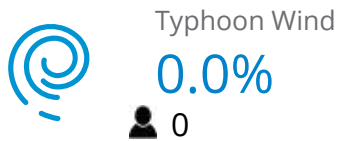


MHE
0.711

Raw MHE
0.353

Relative MHE
0.744

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





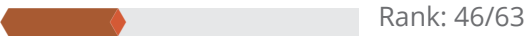
VULNERABILITY (V)

RANK: 2 / 63 PROVINCES
SCORE: 0.647

Vulnerability in Dien Bien is primarily driven by Economic Constraints and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress



1.1% Forest Change
20.44 Livestock Density (per sq km)



Vulnerable Health Status



67.2 Life Expectancy (years)
33.8 Infant Mortality Rate (per 1,000 live births)
7.5% Acute Malnutrition (Children <5)
12.6 Tuberculosis Incidence (per 100,000 persons)
54.93 Malaria Prevalance (per 100,000 persons)
850.6 HIV Prevalance (per 100,000 persons)



Clean Water Vulnerability



31.8% Households with Safe Water Access
28.6% Households with Hygienic Toilet Access



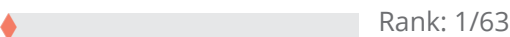
Information Access Vulnerability



24.9% Adult Illiteracy Rate
83.9% School Attendance Rate
88.0% Households without Internet
30.0% Housholds without TV



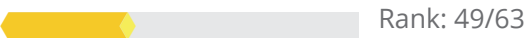
Economic Constraints



62.8 Economic Dependency Ratio
29.1% Poverty



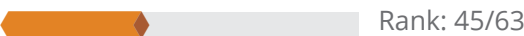
Gender Inequality



0.08 Income Inequality*
0.26 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



2.5% Average Annual Population Change
1.7% Average Annual Urban Population Change
0.6% Net Migration Rate



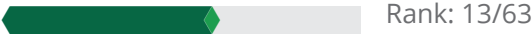
COPING CAPACITY (CC)

RANK: 58 / 63 PROVINCES
SCORE: 0.411

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



Economic Capacity

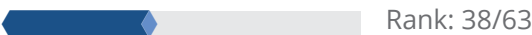


6.23	5,954	12.64	6.93	7.74
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



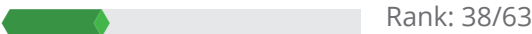
Governance



6	4.47	6.36
Law and Order*	Informal Charges*	Transparency*



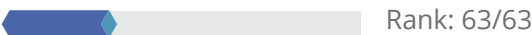
Environmental Capacity



5.6%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 39/63

89.4%	35.46	9.42	16.11	25.33
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 62/63

1,171	133.49
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 63/63

57.0%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 62 / 63 PROVINCES
SCORE: 0.382

Dien Bien's score and ranking are due to very high Vulnerability combined with very low Coping Capacity scores.

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



Economic Constraints



Clean Water Access Vulnerability



Communications Capacity



Transportation Capacity



MULTI-HAZARD RISK

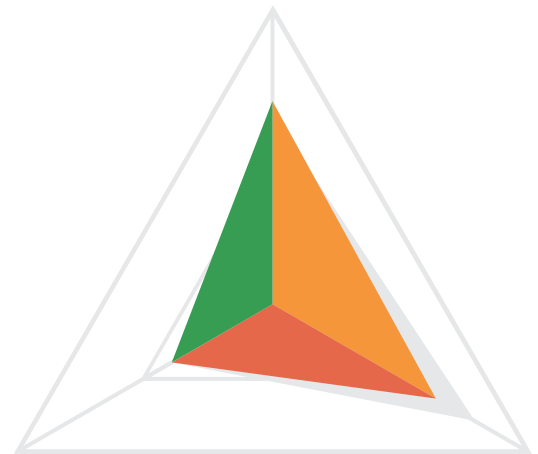
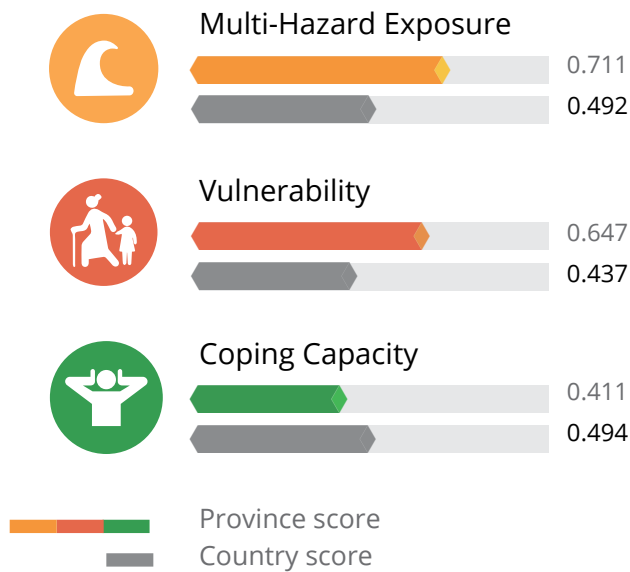
1 / 63

Rank within provinces
Score: 0.649



Dien Bien's score and ranking are due to very high Multi-hazard exposure combined with very high Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

DONG NAI

NDPBA PROVINCE PROFILE

VIỆT NAM DONG NAI

CAPITAL: BIÊN HÒA

Area: 6,092 km²

Neighboring Ho Chi Minh City to the northeast, Dong Nai is an important province in the Southern economic main hub and is second only to Binh Duong in both population growth and net migration. The province is a main manufacturing center with about 100 major plants and enterprises. The plain terrain with mostly bazon and alluvial soil provides good conditions for growing fruits and industrial plants.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.41 • Rank: 53/63



RESILIENCE (R) - very high
Score: 0.631 • Rank: 4/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.49 • Rank: 33/63



VULNERABILITY (V) - very low
Score: 0.357 • Rank: 53/63



COPING CAPACITY (CC) - very high
Score: 0.618 • Rank: 6/63



Population (2017)
2,928,784



Population in Poverty
0.8%



Illiterate population
2.9%



Access to improved water
97.8%



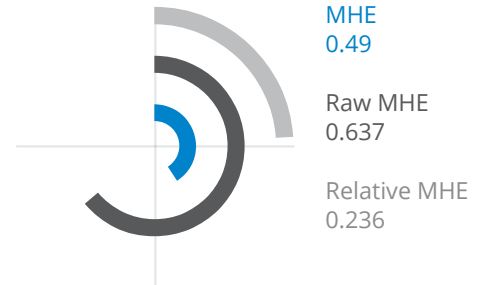
Average life expectancy
76.40 years

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

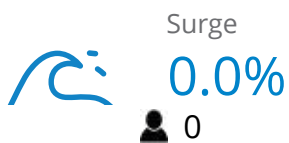
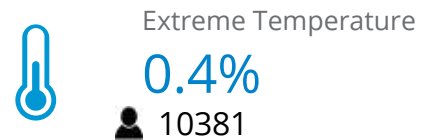
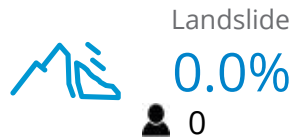
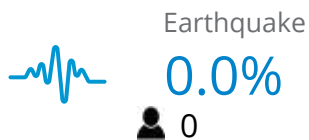
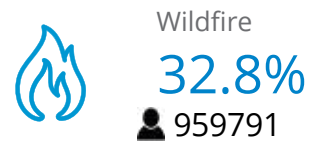


MULTI-HAZARD EXPOSURE

RANK: 33 / 63 PROVINCES
SCORE: 0.49



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





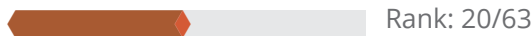
VULNERABILITY (V)

RANK: 53 / 63 PROVINCES
SCORE: 0.357

Vulnerability in Dong Nai is primarily driven by Population Pressures and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



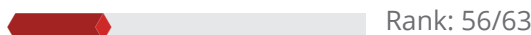
Environmental Stress



2.1% Forest Change
73.41 Livestock Density (per sq km)



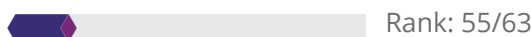
Vulnerable Health Status



76.4 Life Expectancy (years)
7.7 Infant Mortality Rate (per 1,000 live births)
7.0% Acute Malnutrition (Children <5)
51.7 Tuberculosis Incidence (per 100,000 persons)
6.62 Malaria Prevalance (per 100,000 persons)
216.9 HIV Prevalance (per 100,000 persons)



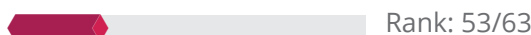
Clean Water Vulnerability



97.8% Households with Safe Water Access
95.8% Households with Hygienic Toilet Access



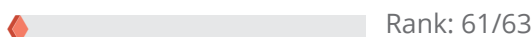
Information Access Vulnerability



2.9% Adult Illiteracy Rate
94.0% School Attendance Rate
77.0% Households without Internet
5.0% Housholds without TV



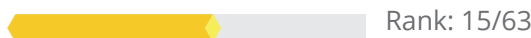
Economic Constraints



38.5 Economic Dependency Ratio
0.8% Poverty



Gender Inequality



0.11 Income Inequality*
0.43 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



2.8% Average Annual Population Change
3.9% Average Annual Urban Population Change
14.1% Net Migration Rate



COPING CAPACITY (CC)

RANK: 6 / 63 PROVINCES
SCORE: 0.618

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



Economic Capacity



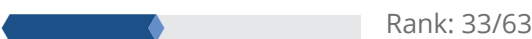
Rank: 7/63

6.51	5,321	42.23	6.75	8.05
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance



Rank: 33/63

5.77	5.01	6.24
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity



Rank: 3/63

44.7%
Protected Area



Infrastructure Capacity



Rank: 6/63



Health Care Capacity

Rank: 30/63

99.4%	25.82	4.69	11.43	11.73
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 3/63

7,545	25.99
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 7/63

90.6%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 4 / 63 PROVINCES
SCORE: 0.631

Dong Nai's score and ranking are due to very low Vulnerability combined with very high Coping Capacity scores.

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



Population Pressures



Gender Inequality



Governance



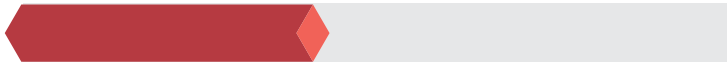
Health Care Capacity



MULTI-HAZARD RISK

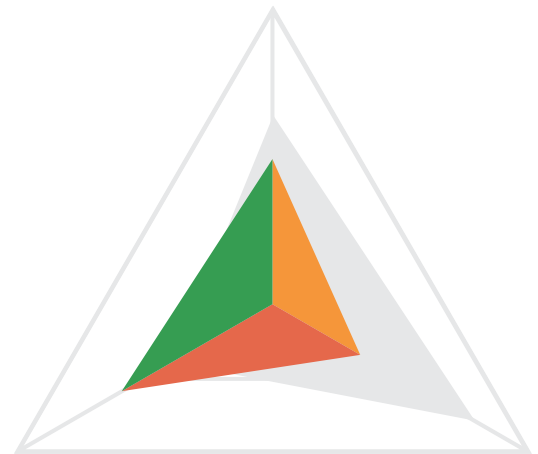
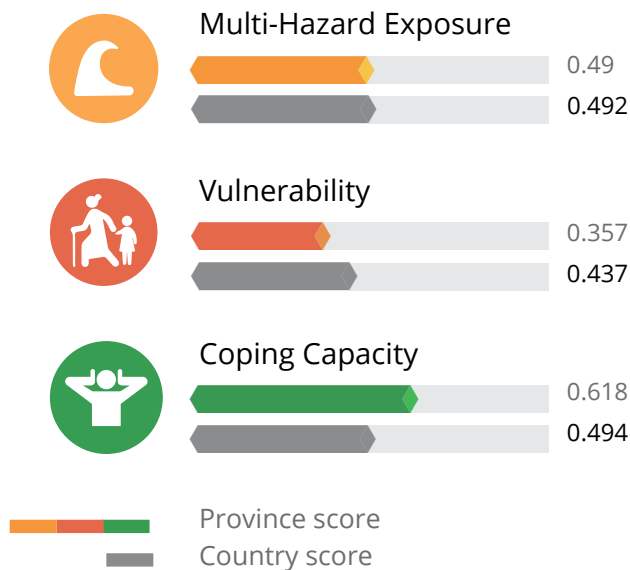
53 / 63

Rank within provinces
Score: 0.41



Dong Nai's score and ranking are due to moderate Multi-hazard exposure combined with very low Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

DONG THAP

NDPBA PROVINCE PROFILE

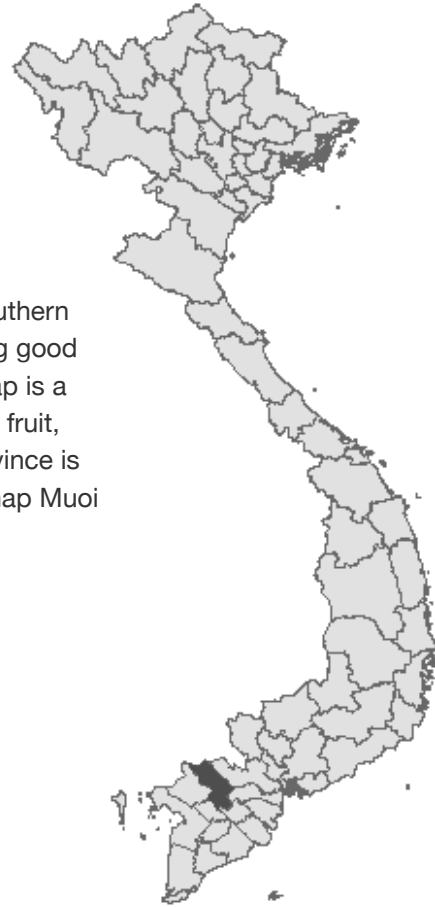
VIỆT NAM

DONG THAP

CAPITAL: CAO LÃNH

Area: 3,522 km²

Dong Thap province is located in the Mekong Delta region of Southern Viet Nam, bordering with Cambodia to the northwest. Possessing good soil, climate, and large river, canal and spring systems, Dong Thap is a major supplier of aquaculture and agriculture products, including fruit, flowers, and rice (3rd largest paddy field in the country). The province is also well known for its submerged in-land ecosystem of Dong Thap Muoi and Tram Chim National Park.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.45 • Rank: 44/63



RESILIENCE (R) - very high
Score: 0.62 • Rank: 6/63



MULTI-HAZARD EXPOSURE - high
Score: 0.59 • Rank: 24/63



VULNERABILITY (V) - low
Score: 0.404 • Rank: 41/63



COPING CAPACITY (CC) - very high
Score: 0.645 • Rank: 4/63



Population (2017)
1,825,101



Population in Poverty
7.2%



Illiterate population
6.4%



Access to improved water
69.0%



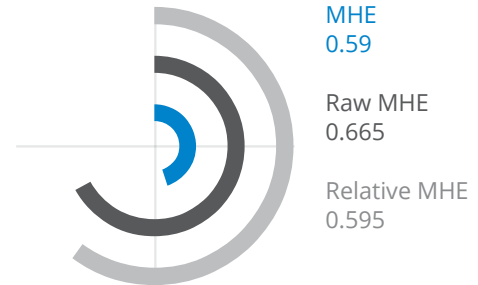
Average life expectancy
74.40 years

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

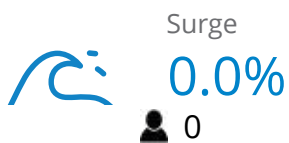
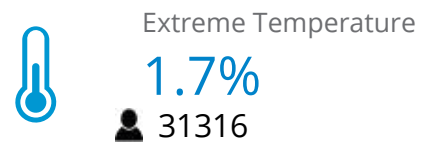
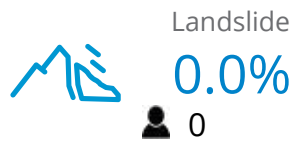
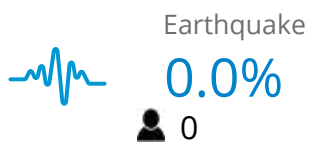


MULTI-HAZARD EXPOSURE

RANK: 24 / 63 PROVINCES
SCORE: 0.59



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

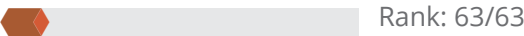
RANK: 41 / 63 PROVINCES

SCORE: 0.404

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



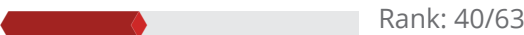
Environmental Stress



17.0% Forest Change
22.18 Livestock Density (per sq km)



Vulnerable Health Status



74.4 Life Expectancy (years)
11.9 Infant Mortality Rate (per 1,000 live births)
6.7% Acute Malnutrition (Children <5)
99.6 Tuberculosis Incidence (per 100,000 persons)
1.72 Malaria Prevalance (per 100,000 persons)
271.2 HIV Prevalance (per 100,000 persons)



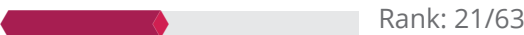
Clean Water Vulnerability



69.0% Households with Safe Water Access
60.5% Households with Hygienic Toilet Access



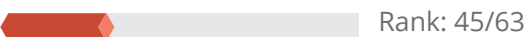
Information Access Vulnerability



6.4% Adult Illiteracy Rate
88.2% School Attendance Rate
88.0% Households without Internet
4.0% Housholds without TV



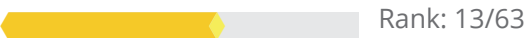
Economic Constraints



40.7 Economic Dependency Ratio
7.2% Poverty



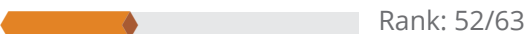
Gender Inequality



0.24 Income Inequality*
0.25 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.3% Average Annual Population Change
1.4% Average Annual Urban Population Change
7.3% Net Migration Rate



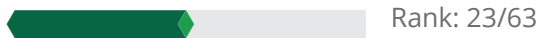
COPING CAPACITY (CC)

RANK: 4 / 63 PROVINCES
SCORE: 0.645

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



Economic Capacity



Rank: 23/63

8.69	3,446	35.5	6.7	8.3
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

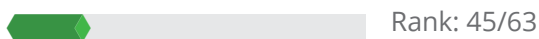


Rank: 1/63

7.1	6.86	7.25
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

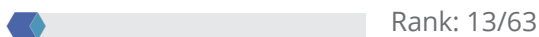


Rank: 45/63

3.0%
Protected Area



Infrastructure Capacity



Rank: 13/63



Health Care Capacity

Rank: 29/63

97.4%	25.44	5.64	12.45	8.87
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 7/63

4,700	11.07
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 28/63

85.7%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 6 / 63 PROVINCES
SCORE: 0.62

Dong Thap's score and ranking are due to low Vulnerability combined with very high Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Gender Inequality



Economic Capacity



Health Care Capacity



MULTI-HAZARD RISK

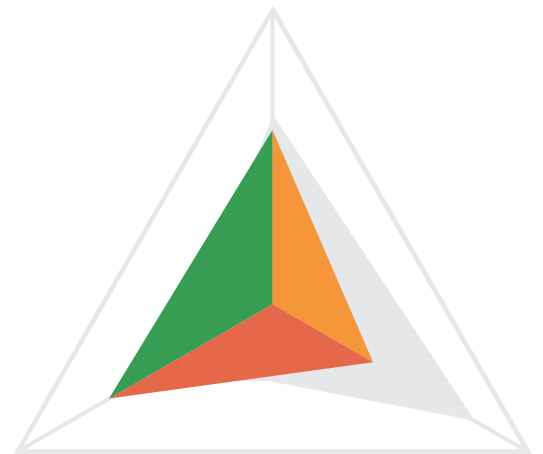
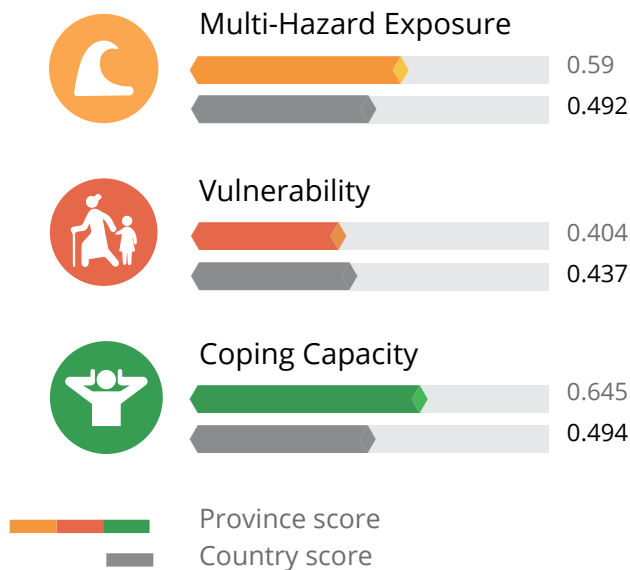
44 / 63

Rank within provinces
Score: 0.45



Dong Thap's score and ranking are due to high Multi-hazard exposure combined with low Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

GIA LAI

NDPBA PROVINCE PROFILE

VIỆT NAM GIA LAI

CAPITAL: PLEIKU

Area: 18,202 km²

Located in the north of Viet Nam's Central Highland, Gia Lai shares a border with Cambodia to the west - with a mix of mountains, plateaus, and valleys. The province is the home to a number of indigenous people namely Ja rai, Ba Na, and E r, with a long history and old ethnic culture. Currently, Gia Lai is a main supplier of rubber, coffee, fruit and other agriculture products with high hydropower generation potential.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.531 • Rank: 14/63



RESILIENCE (R) - very low
Score: 0.426 • Rank: 57/63



MULTI-HAZARD EXPOSURE - low
Score: 0.446 • Rank: 41/63



VULNERABILITY (V) - very high
Score: 0.565 • Rank: 6/63



COPING CAPACITY (CC) - very low
Score: 0.418 • Rank: 55/63



Population (2017)
1,460,930



Population in Poverty
15.7%



Illiterate population
16.0%



Access to improved water
83.8%



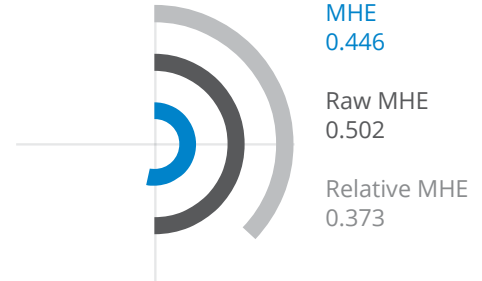
Average life expectancy
68.70 years

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

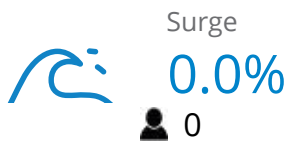
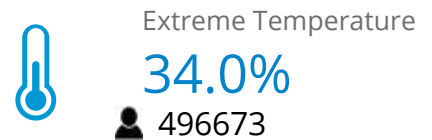
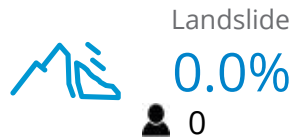
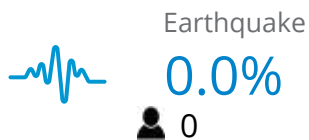
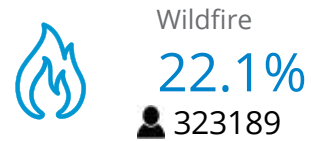
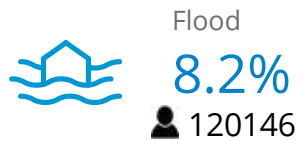


MULTI-HAZARD EXPOSURE

RANK: 41 / 63 PROVINCES
SCORE: 0.446



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





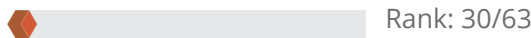
VULNERABILITY (V)

RANK: 6 / 63 PROVINCES
SCORE: 0.565

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



Environmental Stress



-3.2% Forest Change
22.37 Livestock Density (per sq km)



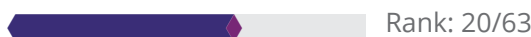
Vulnerable Health Status



68.7 Life Expectancy (years)
26.3 Infant Mortality Rate (per 1,000 live births)
8.9% Acute Malnutrition (Children <5)
27.2 Tuberculosis Incidence (per 100,000 persons)
321.21 Malaria Prevalance (per 100,000 persons)
59.5 HIV Prevalance (per 100,000 persons)



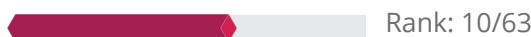
Clean Water Vulnerability



83.8% Households with Safe Water Access
55.6% Households with Hygienic Toilet Access



Information Access Vulnerability



16.0% Adult Illiteracy Rate
75.6% School Attendance Rate
84.0% Households without Internet
6.0% Housholds without TV



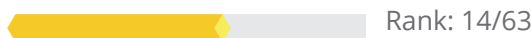
Economic Constraints



54.6 Economic Dependency Ratio
15.7% Poverty



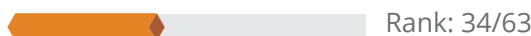
Gender Inequality



0.14 Income Inequality*
0.4 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.9% Average Annual Population Change
3.0% Average Annual Urban Population Change
0.6% Net Migration Rate



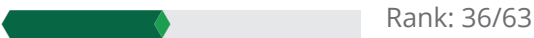
COPING CAPACITY (CC)

RANK: 55 / 63 PROVINCES
SCORE: 0.418

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



Economic Capacity

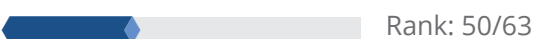


5.23	3,946	29.14	7.19	7.13
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



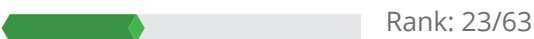
Governance



5.7	4.86	6.46
Law and Order*	Informal Charges*	Transparency*



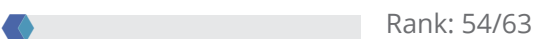
Environmental Capacity



10.7%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 55/63

93.6%	24.64	5.91	13.13	18.41
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 52/63

4,418	123.92
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 29/63

84.8%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 57 / 63 PROVINCES
SCORE: 0.426

Gia Lai's score and ranking are due to very high Vulnerability combined with very low Coping Capacity scores.

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



Vulnerable Health Status



Economic Constraints



Governance



Health Care Capacity



MULTI-HAZARD RISK

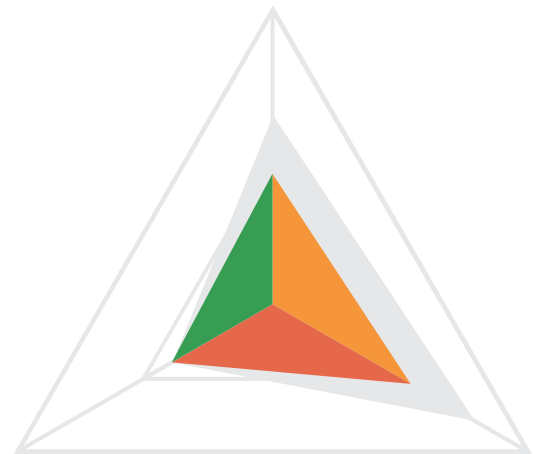
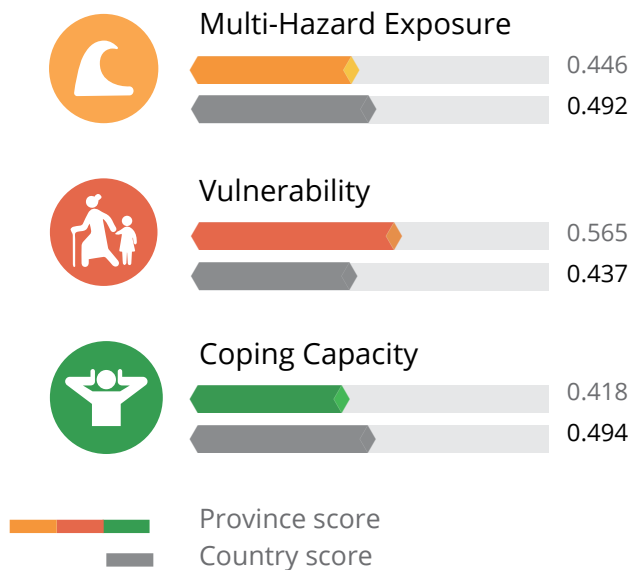
14 / 63

Rank within provinces
Score: 0.531



Gia Lai's score and ranking are due to low Multi-hazard exposure combined with very high Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

HA GIANG

NDPBA PROVINCE PROFILE

VIỆT NAM HA GIANG

CAPITAL: HÀ GIANG

Area: 9,415 km²

As the northern-most province of Viet Nam, Ha Giang belongs to the mountainous region and shares a border with China to the north. Hà Giang is one of the poorest provinces of Viet Nam with economic activities revolved around small-scale agriculture and forestry due to its mountainous topography and limited infrastructure. As the home of more than 20 ethnic minority groups, most notably the Hmong, Tay, Dao, Nung, and Lo Lo people, the province is well-known by the rich culture and traditional value.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.495 • Rank: 26/63



RESILIENCE (R) - very low
Score: 0.407 • Rank: 59/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.298 • Rank: 53/63



VULNERABILITY (V) - very high
Score: 0.641 • Rank: 3/63



COPING CAPACITY (CC) - low
Score: 0.454 • Rank: 42/63



Population (2017)
823,893



Population in Poverty
24.2%



Illiterate population
25.1%



Access to improved water
31.7%



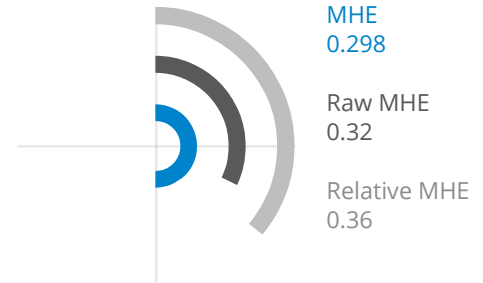
Average life expectancy
67.20 years

*For more information on data and components please visit: <https://bit.ly/2LqVoU0>

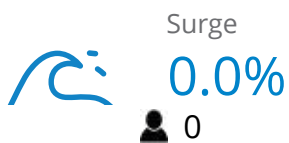
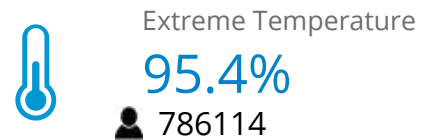
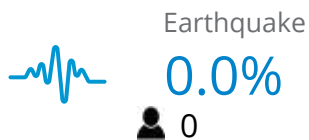
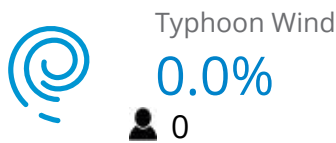


MULTI-HAZARD EXPOSURE

RANK: 53 / 63 PROVINCES
SCORE: 0.298



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





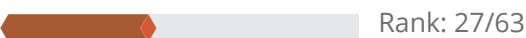
VULNERABILITY (V)

RANK: 3 / 63 PROVINCES
SCORE: 0.641

Vulnerability in Ha Giang is primarily driven by Clean Water Access Vulnerability and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress



0.0% Forest Change
37.53 Livestock Density (per sq km)



Vulnerable Health Status



67.2 Life Expectancy (years)
33.6 Infant Mortality Rate (per 1,000 live births)
9.8% Acute Malnutrition (Children <5)
25 Tuberculosis Incidence (per 100,000 persons)
23.2 Malaria Prevalance (per 100,000 persons)
151.4 HIV Prevalance (per 100,000 persons)



Clean Water Vulnerability



31.7% Households with Safe Water Access
37.5% Households with Hygienic Toilet Access



Information Access Vulnerability



25.1% Adult Illiteracy Rate
79.8% School Attendance Rate
90.0% Households without Internet
25.0% Housholds without TV



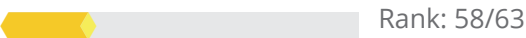
Economic Constraints



57.3 Economic Dependency Ratio
24.2% Poverty



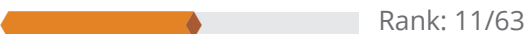
Gender Inequality



0.1 Income Inequality*
0.11 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.8% Average Annual Population Change
5.4% Average Annual Urban Population Change
1.5% Net Migration Rate



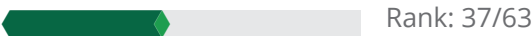
COPING CAPACITY (CC)

RANK: 42 / 63 PROVINCES
SCORE: 0.454

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



Economic Capacity



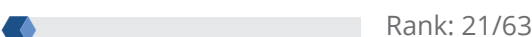
Rank: 37/63

7.27	5,070	7.85	6.26	7.91
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

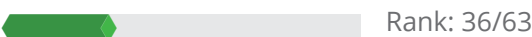


Rank: 21/63

7.01	4.49	6.18
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

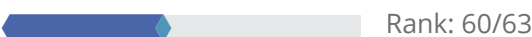


Rank: 36/63

6.5%
Protected Area



Infrastructure Capacity



Rank: 60/63



Health Care Capacity

Rank: 32/63

92.7%	34.5	8.34	17.27	18.29
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 54/63

2,013	92.91
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 59/63

70.6%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 59 / 63 PROVINCES
SCORE: 0.407

Ha Giang's score and ranking are due to very high Vulnerability combined with low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Economic
Constraints



Communications
Capacity



Transportation
Capacity



MULTI-HAZARD RISK

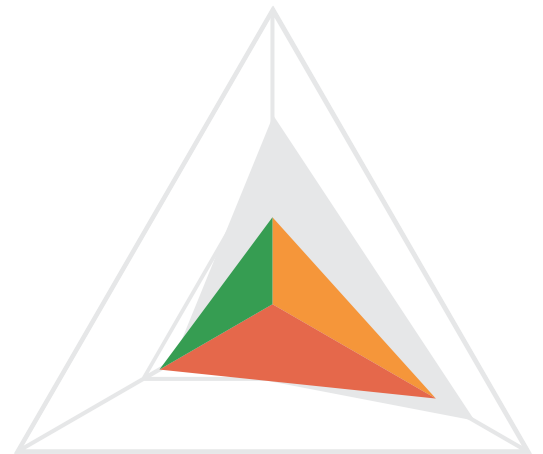
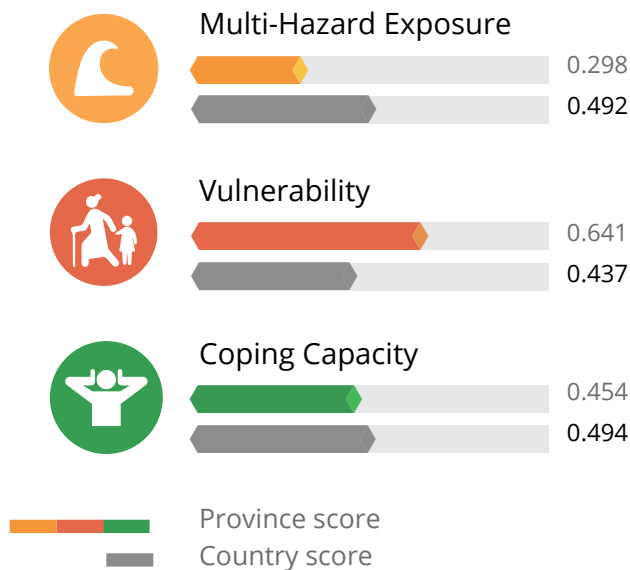
26 / 63

Rank within provinces
Score: 0.495



Ha Giang's score and ranking are due to very low Multi-hazard exposure combined with very high Vulnerability and low Coping Capacity scores.

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





VIỆT NAM

HA NAM

NDPBA PROVINCE PROFILE

VIỆT NAM HA NAM

CAPITAL: PHỦ LÝ

Area: 988 km²

Neighboring Hanoi Capital to the south, Ha Nam is a province in the Red River Delta. With lowland terrain and a wide irrigation network, the province's economy is traditionally based on agriculture, aquaculture, poultry, and handicraft production. With Hanoi expansion, Ha Nam is rapidly developing with new urban complex, education institutions, and industrial parks.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.56 • Rank: 8/63



RESILIENCE (R) - low
Score: 0.513 • Rank: 40/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.706 • Rank: 5/63



VULNERABILITY (V) - moderate
Score: 0.407 • Rank: 39/63



COPING CAPACITY (CC) - very low
Score: 0.433 • Rank: 51/63



Population (2017)
823,794



Population in Poverty
5.5%



Illiterate population
1.8%



Access to improved water
99.6%



Average life expectancy
74.30 years

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



MULTI-HAZARD EXPOSURE

RANK: 5 / 63 PROVINCES
SCORE: 0.706



MHE
0.706
Raw MHE
0.542
Relative MHE
1

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:



Typhoon Wind
100.0%
823794



Flood
87.9%
724493



Wildfire
0.0%
0



Earthquake
0.0%
62



Landslide
0.0%
0



Extreme Temperature
100.0%
823794



Surge
0.0%
0



VULNERABILITY (V)

RANK: 39 / 63 PROVINCES
SCORE: 0.407

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



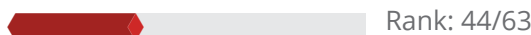
Environmental Stress



1.5% Forest Change
136.15 Livestock Density (per sq km)



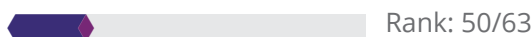
Vulnerable Health Status



74.3 Life Expectancy (years)
12 Infant Mortality Rate (per 1,000 live births)
6.4% Acute Malnutrition (Children <5)
43.7 Tuberculosis Incidence (per 100,000 persons)
44.53 Malaria Prevalance (per 100,000 persons)
116.7 HIV Prevalance (per 100,000 persons)



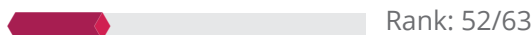
Clean Water Vulnerability



99.6% Households with Safe Water Access
74.6% Households with Hygienic Toilet Access



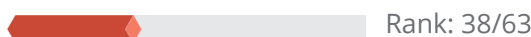
Information Access Vulnerability



1.8% Adult Illiteracy Rate
98.2% School Attendance Rate
91.0% Households without Internet
4.0% Housholds without TV



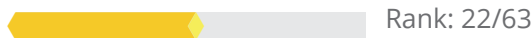
Economic Constraints



46.4 Economic Dependency Ratio
5.5% Poverty



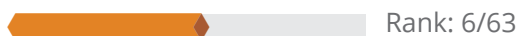
Gender Inequality



0.13 Income Inequality*
0.35 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.1% Average Annual Population Change
9.6% Average Annual Urban Population Change
3.2% Net Migration Rate



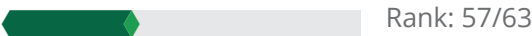
COPING CAPACITY (CC)

RANK: 51 / 63 PROVINCES
SCORE: 0.433

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



Economic Capacity



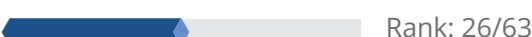
Rank: 57/63

7.03	3,824	17.49	6.21	7.77
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

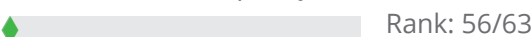


Rank: 26/63

5.77	5.36	6.35
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

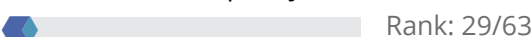


Rank: 56/63

0.0%
Protected Area



Infrastructure Capacity



Rank: 29/63



Health Care Capacity Rank: 9/63

99.5%	31.51	6.15	13.84	5
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 44/63

1,232	20.42
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 55/63

74.4%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 40 / 63 PROVINCES
SCORE: 0.513

Ha Nam's score and ranking are due to moderate Vulnerability combined with very low Coping Capacity scores.

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



Environmental Stress



Population Pressures



Economic Capacity



Communications Capacity



MULTI-HAZARD RISK

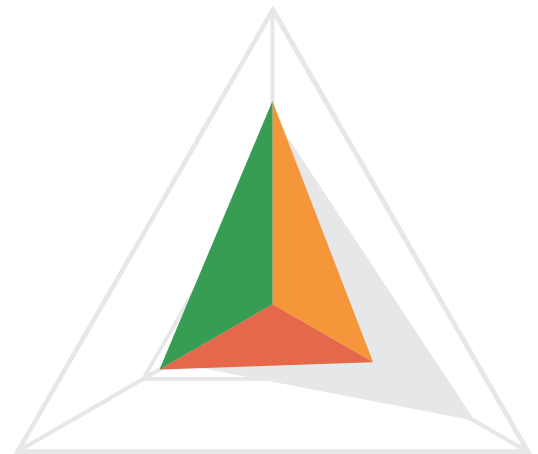
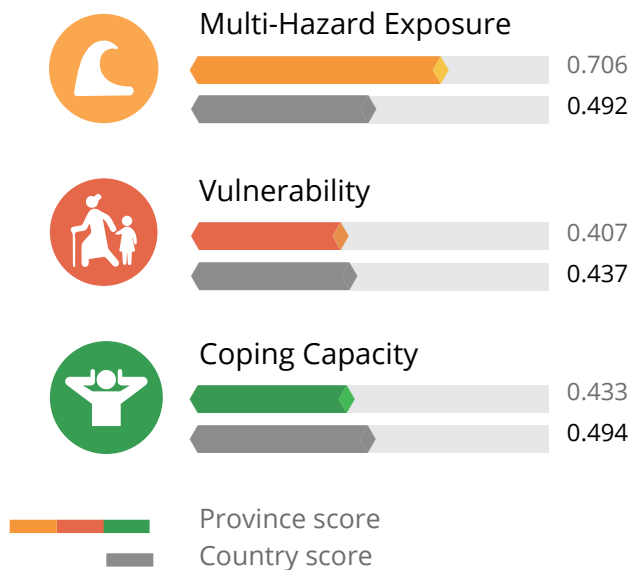
8 / 63

Rank within provinces
Score: 0.56



Ha Nam's score and ranking are due to very high Multi-hazard exposure combined with moderate Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

HA NOI

NDPBA PROVINCE PROFILE

VIỆT NAM HA NOI

CAPITAL: HOÀN KIẾM DISTRICT

Area: 3,989 km²

Located at the center of the Red River Delta, Ha Noi - the Capital city of Viet Nam -, is the country's second largest city in population (about 7.7 million people in 2015). The city has a long history of more than 1,000 years and is rich in culture and natural landscapes, including certain landmarks for tourists such as the old quarter, colonial Hanoi, Thang Long imperial citadel, lakes, Ba Vi sacred peaks and many traditional handicrafts and villages. Hanoi rapidly urbanized as its economy gradually transformed from agriculture to trade, tourism, service, and industry-based.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.472 • Rank: 34/63



RESILIENCE (R) - very high
Score: 0.611 • Rank: 7/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.639 • Rank: 12/63



VULNERABILITY (V) - very low
Score: 0.32 • Rank: 60/63



COPING CAPACITY (CC) - high
Score: 0.542 • Rank: 16/63



Population (2017)
7,402,247



Population in Poverty
1.8%



Illiterate population
1.5%



Access to improved water
99.4%



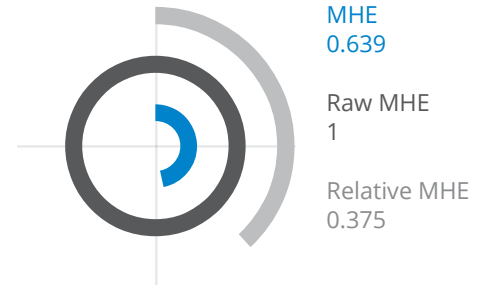
Average life expectancy
75.20 years

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

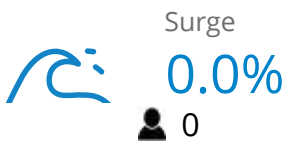
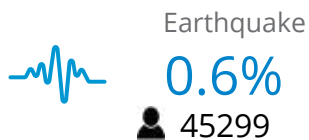
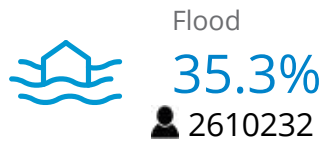


MULTI-HAZARD EXPOSURE

RANK: 12 / 63 PROVINCES
SCORE: 0.639



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

RANK: 60 / 63 PROVINCES
SCORE: 0.32

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



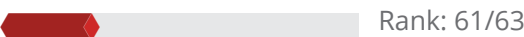
Environmental Stress



-3.6% Forest Change
143.79 Livestock Density (per sq km)



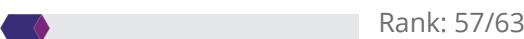
Vulnerable Health Status



75.2 Life Expectancy (years)
10.2 Infant Mortality Rate (per 1,000 live births)
5.8% Acute Malnutrition (Children <5)
26.4 Tuberculosis Incidence (per 100,000 persons)
0.23 Malaria Prevalance (per 100,000 persons)
300.7 HIV Prevalance (per 100,000 persons)



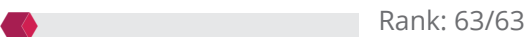
Clean Water Vulnerability



99.4% Households with Safe Water Access
92.3% Households with Hygienic Toilet Access



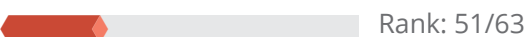
Information Access Vulnerability



1.5% Adult Illiteracy Rate
98.5% School Attendance Rate
56.0% Households without Internet
4.0% Housholds without TV



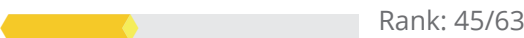
Economic Constraints



45.6 Economic Dependency Ratio
1.8% Poverty



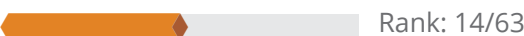
Gender Inequality



0.12 Income Inequality*
0.2 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



2.3% Average Annual Population Change
5.1% Average Annual Urban Population Change
0.6% Net Migration Rate



COPING CAPACITY (CC)

RANK: 16 / 63 PROVINCES
SCORE: 0.542

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



Economic Capacity

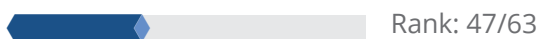


7.19	5,703	52.13	7.68	6.72
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



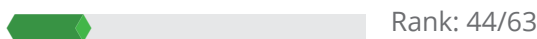
Governance



4.88	4.4	6.31
Law and Order*	Informal Charges*	Transparency*



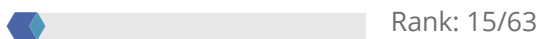
Environmental Capacity



3.1%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 59/63

95.0%	15.01	4.94	10.1	6.78
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 2/63

12,143	15.99
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 6/63

91.1%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 7 / 63 PROVINCES
SCORE: 0.611

Ha Noi's score and ranking are due to very low Vulnerability combined with high Coping Capacity scores.

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



Environmental Stress



Population Pressures



Health Care Capacity



Governance



MULTI-HAZARD RISK

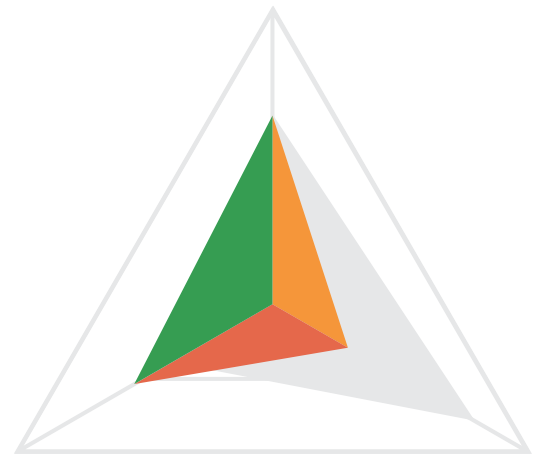
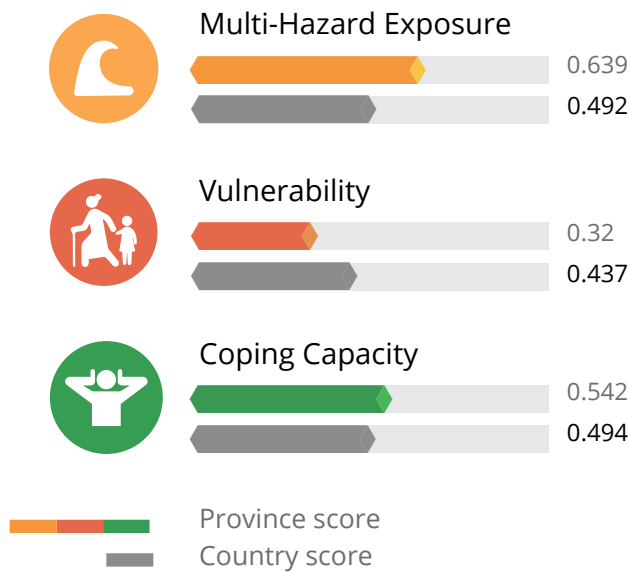
34 / 63

Rank within provinces
Score: 0.472



Ha Noi's score and ranking are due to very high Multi-hazard exposure combined with very low Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

HA TINH

NDPBA PROVINCE PROFILE

VIỆT NAM HA TINH

CAPITAL: HÀ TĨNH

Area: 6,654 km²

Ha Tinh province is located in the North Central Coast of Viet Nam, sharing a border with Laos to the west. The deep-cut terrain with harsh climate conditions accompanied with frequent typhoons makes the province one of the poorest provinces in Viet Nam. Ha Tinh's economy is mostly based on agriculture, mining, fishing, and food processing. The recently established Vung Ang economic zone with a deep seaport, steel mill, and thermal power plant is expected to transform the province's economy.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.539 • Rank: 11/63



RESILIENCE (R) - low
Score: 0.498 • Rank: 44/63



MULTI-HAZARD EXPOSURE - high
Score: 0.613 • Rank: 21/63



VULNERABILITY (V) - high
Score: 0.452 • Rank: 23/63



COPING CAPACITY (CC) - low
Score: 0.448 • Rank: 44/63



Population (2017)
1,252,519



Population in Poverty
13.3%



Illiterate population
2.4%



Access to improved water
93.8%



Average life expectancy
72.30 years

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



MULTI-HAZARD EXPOSURE

RANK: 21 / 63 PROVINCES
SCORE: 0.613

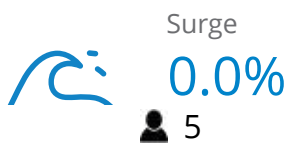
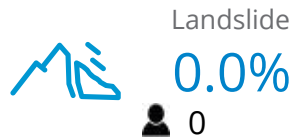
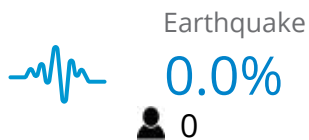


MHE
0.613

Raw MHE
0.589

Relative MHE
0.711

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





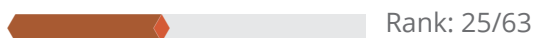
VULNERABILITY (V)

RANK: 23 / 63 PROVINCES
SCORE: 0.452

Vulnerability in Ha Tinh is primarily driven by Clean Water Access Vulnerability and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



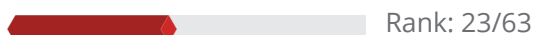
Environmental Stress



0.3% Forest Change
43.72 Livestock Density (per sq km)



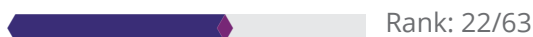
Vulnerable Health Status



72.3 Life Expectancy (years)
17.1 Infant Mortality Rate (per 1,000 live births)
6.5% Acute Malnutrition (Children <5)
44.5 Tuberculosis Incidence (per 100,000 persons)
91.29 Malaria Prevalance (per 100,000 persons)
67.5 HIV Prevalance (per 100,000 persons)



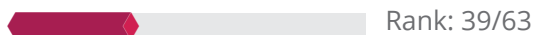
Clean Water Vulnerability



93.8% Households with Safe Water Access
45.0% Households with Hygienic Toilet Access



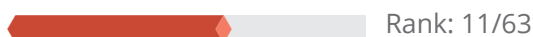
Information Access Vulnerability



2.4% Adult Illiteracy Rate
98.1% School Attendance Rate
87.0% Households without Internet
9.0% Housholds without TV



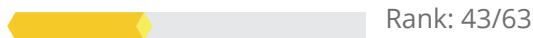
Economic Constraints



54.8 Economic Dependency Ratio
13.3% Poverty



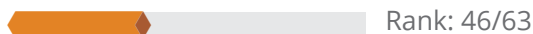
Gender Inequality



0.11 Income Inequality*
0.23 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.1% Average Annual Population Change
4.7% Average Annual Urban Population Change
4.3% Net Migration Rate



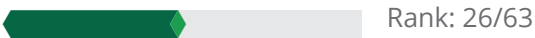
COPING CAPACITY (CC)

RANK: 44 / 63 PROVINCES
SCORE: 0.448

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



Economic Capacity

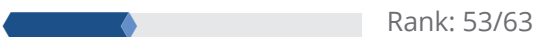


5.65	4,207	29.62	6.9	7.56
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



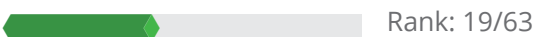
Governance



5.75	4.76	6.16
Law and Order*	Informal Charges*	Transparency*



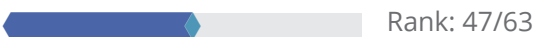
Environmental Capacity



13.1%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 34/63

98.3%	30.28	7.19	12.72	28.67
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 56/63

3,792	133.13
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 24/63

86.4%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 44 / 63 PROVINCES
SCORE: 0.498

Ha Tinh's score and ranking are due to high Vulnerability combined with low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Economic
Constraints



Governance



Transportation
Capacity



MULTI-HAZARD RISK

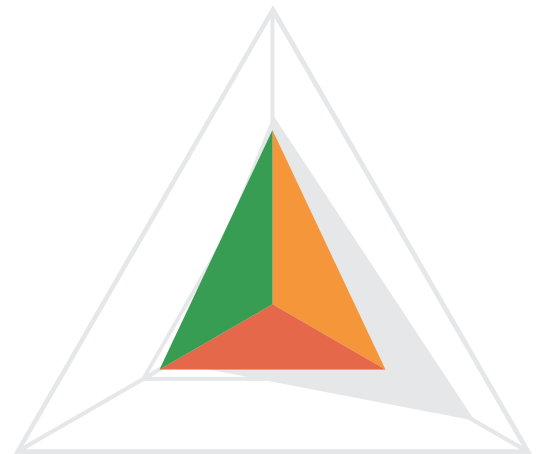
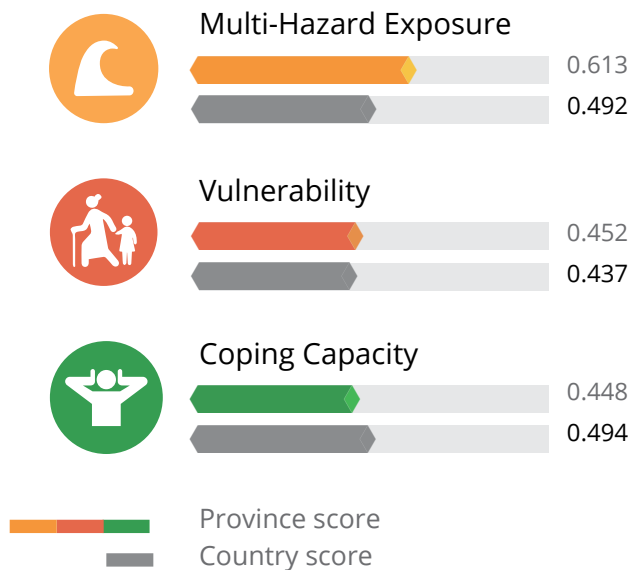


11 / 63

Rank within provinces
Score: 0.539

Ha Tinh's score and ranking are due to high Multi-hazard exposure combined with high Vulnerability and low Coping Capacity scores.

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





VIỆT NAM

HAI DUONG

NDPBA PROVINCE PROFILE

VIỆT NAM HAI DUONG

CAPITAL: HẢI DƯƠNG

Area: 1,924 km²

Hai Duong province is landlocked in the center of the Red River Delta. With favorable conditions for natural resources, land area and transportation, Hai Duong is one of the most industrialized and developed provinces in Viet Nam. The province mainly focuses on developing agriculture and industrial production, attracting domestic and international investment in over 50 industrial areas. Well-known products include lychees and the traditional mung bean sweet.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.528 • Rank: 16/63



RESILIENCE (R) - high
Score: 0.552 • Rank: 22/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.687 • Rank: 8/63



VULNERABILITY (V) - very low
Score: 0.331 • Rank: 58/63



COPING CAPACITY (CC) - low
Score: 0.435 • Rank: 47/63



Population (2017)
1,767,185



Population in Poverty
3.5%



Illiterate population
1.8%



Access to improved water
99.7%



Average life expectancy
74.40 years

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



MULTI-HAZARD EXPOSURE

RANK: 8 / 63 PROVINCES
SCORE: 0.687

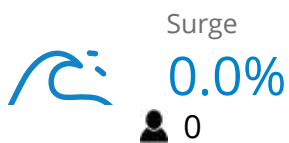
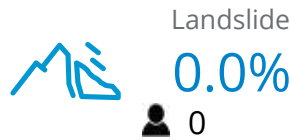
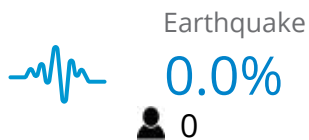


MHE
0.687

Raw MHE
0.715

Relative MHE
0.776

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





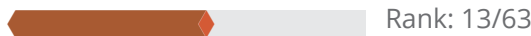
VULNERABILITY (V)

RANK: 58 / 63 PROVINCES
SCORE: 0.331

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



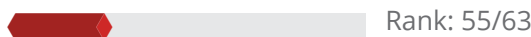
Environmental Stress



1.6% Forest Change
98.96 Livestock Density (per sq km)



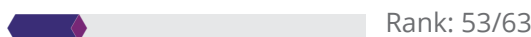
Vulnerable Health Status



74.4 Life Expectancy (years)
11.7 Infant Mortality Rate (per 1,000 live births)
4.7% Acute Malnutrition (Children <5)
27.7 Tuberculosis Incidence (per 100,000 persons)
1.59 Malaria Prevalance (per 100,000 persons)
184.2 HIV Prevalance (per 100,000 persons)



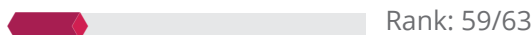
Clean Water Vulnerability



99.7% Households with Safe Water Access
76.2% Households with Hygienic Toilet Access



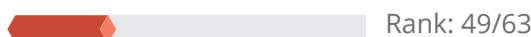
Information Access Vulnerability



1.8% Adult Illiteracy Rate
98.2% School Attendance Rate
83.0% Households without Internet
4.0% Housholds without TV



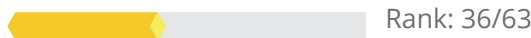
Economic Constraints



43.8 Economic Dependency Ratio
3.5% Poverty



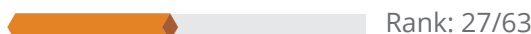
Gender Inequality



0.12 Income Inequality*
0.26 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.5% Average Annual Population Change
6.1% Average Annual Urban Population Change
1.0% Net Migration Rate



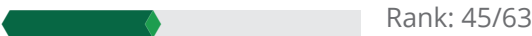
COPING CAPACITY (CC)

RANK: 47 / 63 PROVINCES
SCORE: 0.435

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



Economic Capacity



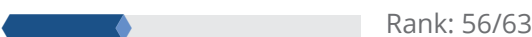
Rank: 45/63

6.32	4,417	21.32	6.17	7.67
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

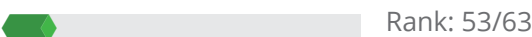


Rank: 56/63

5.63	5.46	5.45
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

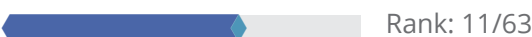


Rank: 53/63

1.0%
Protected Area



Infrastructure Capacity



Rank: 11/63



Health Care Capacity

Rank: 12/63

99.1%	30.23	6.24	15.68	8.3
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 22/63

2,848	16.43
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 45/63

80.3%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 22 / 63 PROVINCES
SCORE: 0.552

Hai Duong's score and ranking are due to very low Vulnerability combined with low Coping Capacity scores.

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



Environmental Stress



Population Pressures



Governance



Economic Capacity



MULTI-HAZARD RISK

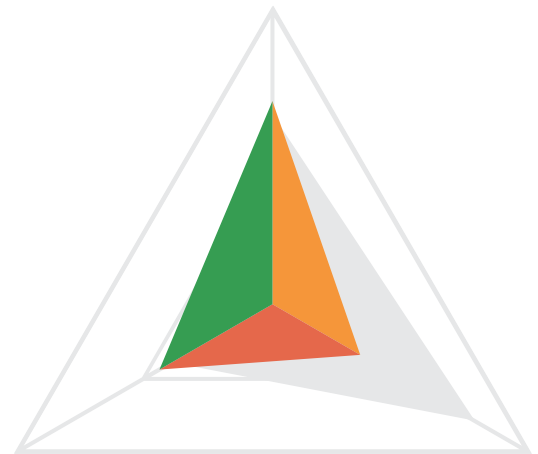
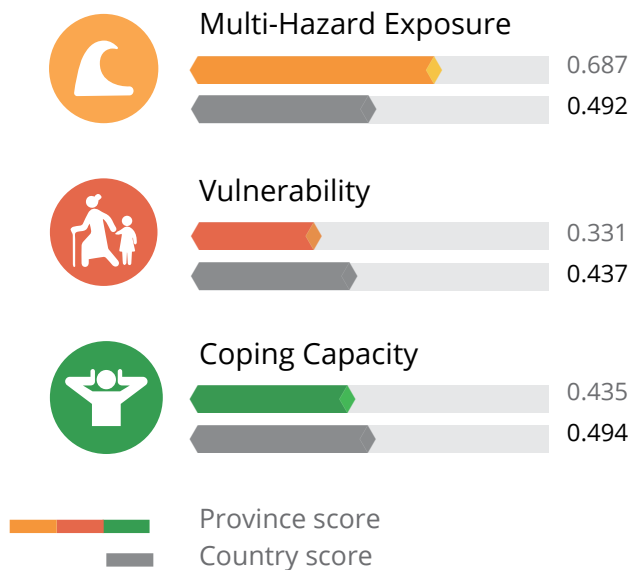
16 / 63

Rank within provinces
Score: 0.528



Hai Duong's score and ranking are due to very high Multi-hazard exposure combined with very low Vulnerability and low Coping Capacity scores.

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





VIỆT NAM

HAI PHONG

NDPBA PROVINCE PROFILE

VIỆT NAM HAI PHONG

CAPITAL: HỒNG BÀNG DISTRICT

Area: 1,575 km²

Located at the mouth of the Cam River and a part of the Red River Delta, Hai Phong is the largest port city in northern Viet Nam and a major industrial city. Many larger manufactures such as LG, Bridgestone, Fuji, Xerox, Kyocera, and Vinfast are operating in the province's five largest industrial zones. With flat terrain a coastal location, agriculture and fisheries still play an important role in the province's economy. Hai Phong is also known for it's Cat Ba archipelago a part of the UNESCO World Biosphere Reserve.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.457 • Rank: 40/63



RESILIENCE (R) - very high
Score: 0.629 • Rank: 5/63



MULTI-HAZARD EXPOSURE - high
Score: 0.628 • Rank: 18/63



VULNERABILITY (V) - very low
Score: 0.3 • Rank: 61/63



COPING CAPACITY (CC) - very high
Score: 0.558 • Rank: 11/63



Population (2017)
2,038,579



Population in Poverty
2.9%



Illiterate population
1.8%



Access to improved water
99.8%



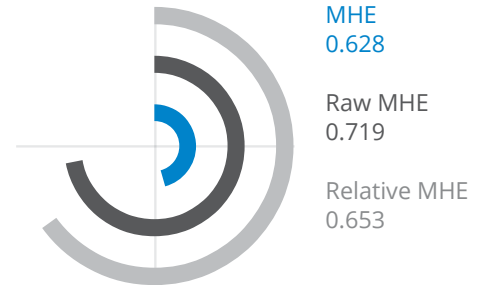
Average life expectancy
74.30 years

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

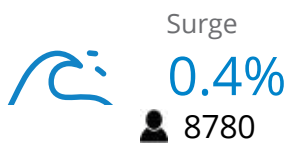
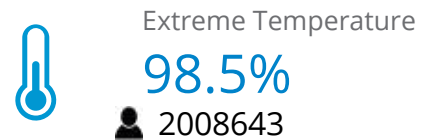
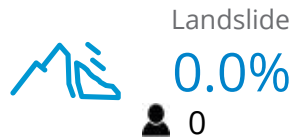
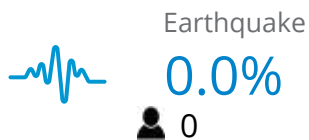
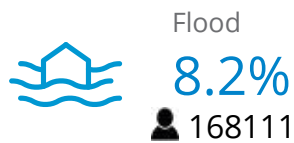


MULTI-HAZARD EXPOSURE

RANK: 18 / 63 PROVINCES
SCORE: 0.628



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





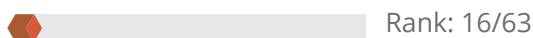
VULNERABILITY (V)

RANK: 61 / 63 PROVINCES
SCORE: 0.3

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



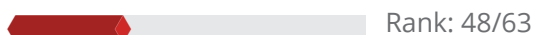
Environmental Stress



0.6% Forest Change
86.34 Livestock Density (per sq km)



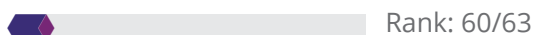
Vulnerable Health Status



74.3 Life Expectancy (years)
12 Infant Mortality Rate (per 1,000 live births)
5.4% Acute Malnutrition (Children <5)
34.4 Tuberculosis Incidence (per 100,000 persons)
3.19 Malaria Prevalance (per 100,000 persons)
374.2 HIV Prevalance (per 100,000 persons)



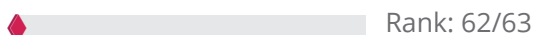
Clean Water Vulnerability



99.8% Households with Safe Water Access
88.2% Households with Hygienic Toilet Access



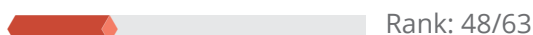
Information Access Vulnerability



1.8% Adult Illiteracy Rate
98.7% School Attendance Rate
71.0% Households without Internet
4.0% Housholds without TV



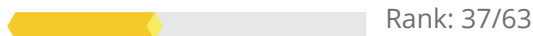
Economic Constraints



44.8 Economic Dependency Ratio
2.9% Poverty



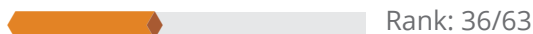
Gender Inequality



0.17 Income Inequality*
0.16 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.1% Average Annual Population Change
2.7% Average Annual Urban Population Change
1.4% Net Migration Rate



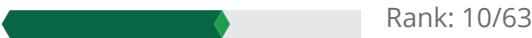
COPING CAPACITY (CC)

RANK: 11 / 63 PROVINCES
SCORE: 0.558

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



Economic Capacity

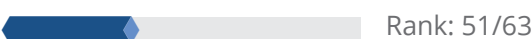


5.71	4,868	39.35	6.74	7.94
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



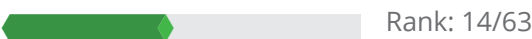
Governance



5.48	6.02	5.73
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity



16.1%
Protected Area



Infrastructure Capacity



Health Care Capacity Rank: 7/63

97.9%	33.74	7.84	16.28	4.41
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 16/63

2,925	11.9
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 15/63

87.9%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 5 / 63 PROVINCES
SCORE: 0.629

Hai Phong's score and ranking are due to very low Vulnerability combined with very high Coping Capacity scores.

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



Environmental Stress



Population Pressures



Governance



Economic Capacity



MULTI-HAZARD RISK

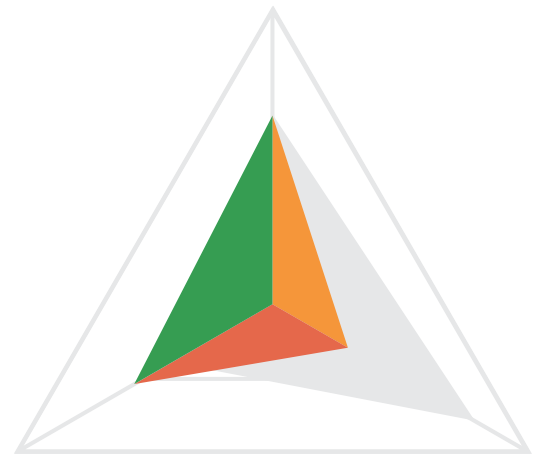
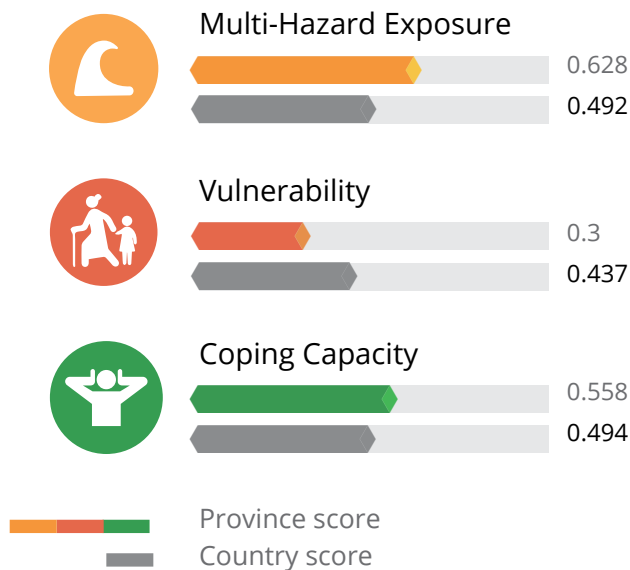
40 / 63

Rank within provinces
Score: 0.457



Hai Phong's score and ranking are due to high Multi-hazard exposure combined with very low Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

HAU GIANG

NDPBA PROVINCE PROFILE

VIỆT NAM HAU GIANG

CAPITAL: VỊ THANH

Area: 1,682 km²

Hau Giang province is located in the middle of the Mekong Delta. The province shares the same lowland topography features of the surrounding region with a complex river and canal network. Prominent provincial economic activities include rice, fruit tree and aquaculture. Hau Giang is also famous for floating markets. As a landlocked province, Hau Giang is facing difficulty in diversifying and developing its economy.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.478 • Rank: 32/63



RESILIENCE (R) - moderate
Score: 0.528 • Rank: 31/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.49 • Rank: 34/63



VULNERABILITY (V) - moderate
Score: 0.428 • Rank: 33/63



COPING CAPACITY (CC) - moderate
Score: 0.485 • Rank: 28/63



Population (2017)
824,882



Population in Poverty
9.9%



Illiterate population
5.7%



Access to improved water
87.0%



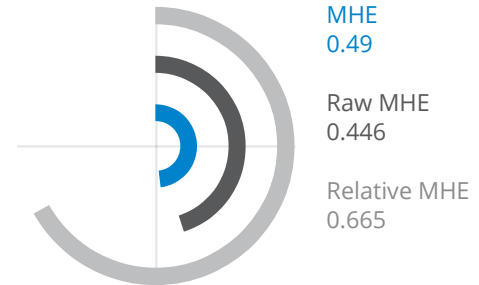
Average life expectancy
75.20 years

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

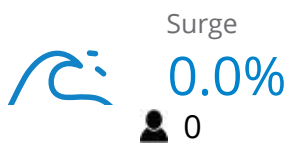
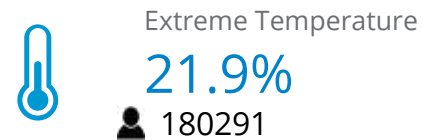
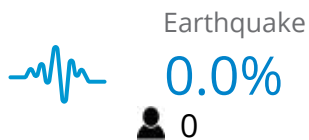
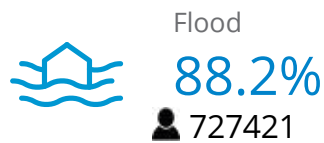


MULTI-HAZARD EXPOSURE

RANK: 34 / 63 PROVINCES
SCORE: 0.49



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





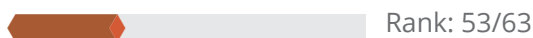
VULNERABILITY (V)

RANK: 33 / 63 PROVINCES
SCORE: 0.428

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



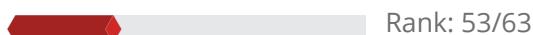
Environmental Stress



2.6% Forest Change
20.34 Livestock Density (per sq km)



Vulnerable Health Status



75.2 Life Expectancy (years)
10.1 Infant Mortality Rate (per 1,000 live births)
6.1% Acute Malnutrition (Children <5)
107.5 Tuberculosis Incidence (per 100,000 persons)
0.13 Malaria Prevalance (per 100,000 persons)
145.6 HIV Prevalance (per 100,000 persons)



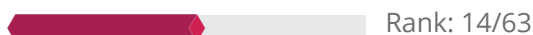
Clean Water Vulnerability



87.0% Households with Safe Water Access
44.6% Households with Hygienic Toilet Access



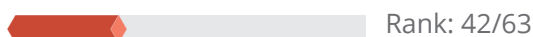
Information Access Vulnerability



5.7% Adult Illiteracy Rate
82.1% School Attendance Rate
92.0% Households without Internet
4.0% Housholds without TV



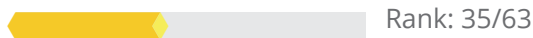
Economic Constraints



38.7 Economic Dependency Ratio
9.9% Poverty



Gender Inequality

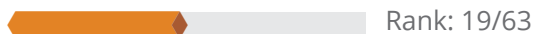


0.16 Income Inequality*
0.19 F M School Enrollment Rate*

*Values closer to 1 represent greater gender parity.



Population Pressures



0.3% Average Annual Population Change
6.1% Average Annual Urban Population Change
4.2% Net Migration Rate



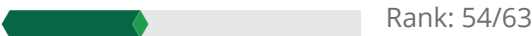
COPING CAPACITY (CC)

RANK: 28 / 63 PROVINCES
SCORE: 0.485

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



Economic Capacity



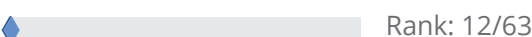
Rank: 54/63

7.89	3,579	36.18	5.53	7.91
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

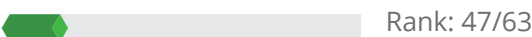


Rank: 12/63

6.14	6.09	6.11
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

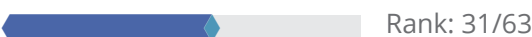


Rank: 47/63

1.7%
Protected Area



Infrastructure Capacity



Rank: 31/63



Health Care Capacity Rank: 27/63

97.3%	29	5.58	11.67	5.74
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 30/63

2,500	30.85
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 46/63

79.9%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 31 / 63 PROVINCES
SCORE: 0.528

Hau Giang's score and ranking are due to moderate Vulnerability combined with moderate Coping Capacity scores.

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



Clean Water Access Vulnerability



Information Access Vulnerability



Economic Capacity



Health Care Capacity



MULTI-HAZARD RISK

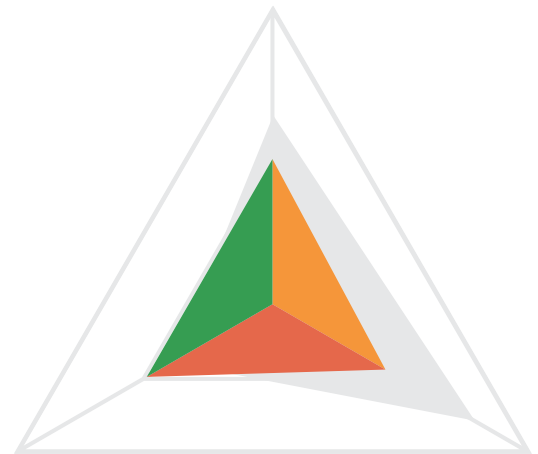
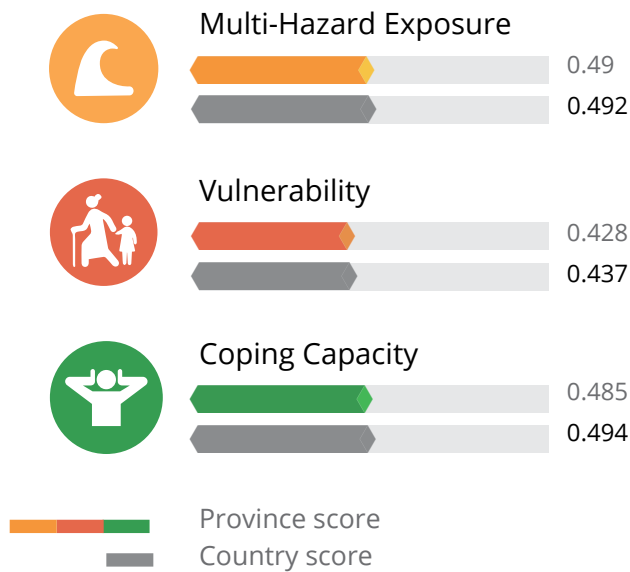
32 / 63

Rank within provinces
Score: 0.478



Hau Giang's score and ranking are due to moderate Multi-hazard exposure combined with moderate Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

HO CHI MINH CITY

NDPBA PROVINCE PROFILE

VIỆT NAM

HO CHI MINH CITY

CAPITAL: DISTRICT 1

Area: 2,033 km²

Located in the southeastern region of Viet Nam, Ho Chi Minh City (also known as former Saigon) is the most populous city in Viet Nam (about 8.4 million in 2017). The city is the economic center of Viet Nam, accounting for 20.2% of its GDP and 27.9% of its industrial output in 2005 and is the country's most vibrant and fast growing city. Ho Chi Minh city is now facing a number of modern metropolitan problems such as traffic congestion, pollution, and social problems. Located on the Saigon River and on the lowland near the sea, Ho Chi Minh City is vulnerable to severe flooding for heavy rains, tides, and uncontrolled housing development.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.39 • Rank: 58/63



RESILIENCE (R) - very high
Score: 0.696 • Rank: 2/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.561 • Rank: 27/63



VULNERABILITY (V) - very low
Score: 0.292 • Rank: 62/63



COPING CAPACITY (CC) - very high
Score: 0.684 • Rank: 2/63



Population (2017)
8,393,295



Population in Poverty
0.0%



Illiterate population
3.2%



Access to improved water
99.4%



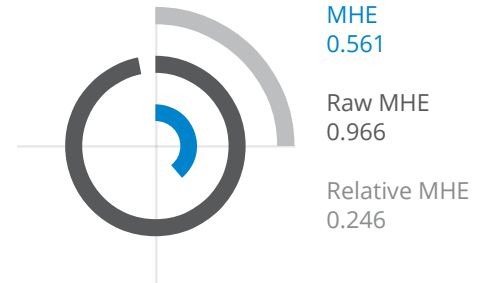
Average life expectancy
76.10 years

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

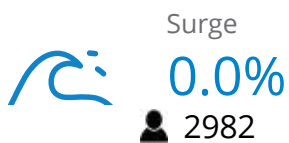
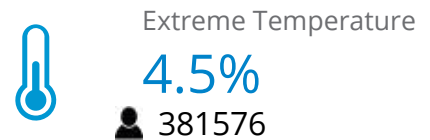
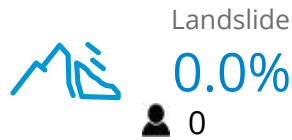
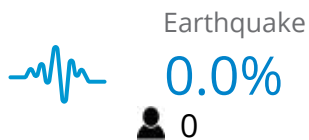
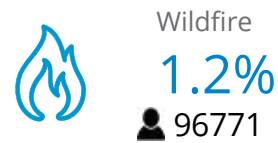
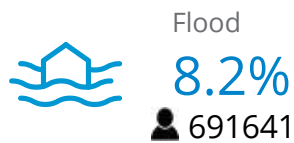


MULTI-HAZARD EXPOSURE

RANK: 27 / 63 PROVINCES
SCORE: 0.561



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





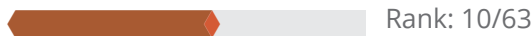
VULNERABILITY (V)

RANK: 62 / 63 PROVINCES
SCORE: 0.292

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



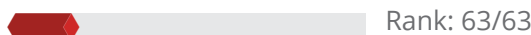
Environmental Stress



-2.9% Forest Change
78.63 Livestock Density (per sq km)



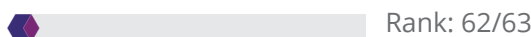
Vulnerable Health Status



76.1 Life Expectancy (years)
7.7 Infant Mortality Rate (per 1,000 live births)
2.6% Acute Malnutrition (Children <5)
88.2 Tuberculosis Incidence (per 100,000 persons)
0.71 Malaria Prevalance (per 100,000 persons)
685.4 HIV Prevalance (per 100,000 persons)



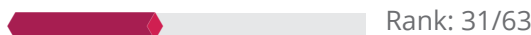
Clean Water Vulnerability



99.4% Households with Safe Water Access
99.3% Households with Hygienic Toilet Access



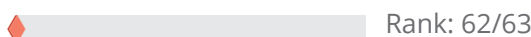
Information Access Vulnerability



3.2% Adult Illiteracy Rate
94.4% School Attendance Rate
96.0% Households without Internet
4.0% Housholds without TV



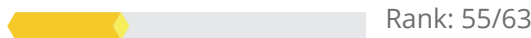
Economic Constraints



34.2 Economic Dependency Ratio
0.0% Poverty



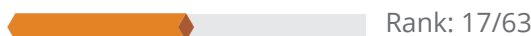
Gender Inequality



0.13 Income Inequality*
0.13 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



3.0% Average Annual Population Change
2.9% Average Annual Urban Population Change
1.6% Net Migration Rate



COPING CAPACITY (CC)

RANK: 2 / 63 PROVINCES
SCORE: 0.684

Ho Chi Minh City exhibits weaker Coping Capacity in the areas of Governance and Health Care Capacity. The bar chart indicates the socioeconomic themes contributing to the province's overall Coping Capacity score.



Economic Capacity

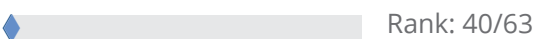


7.1	5,991	87.5	7.82	7.44
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



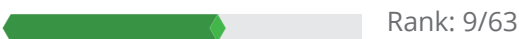
Governance



5.13	4.97	6.16
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity



28.4%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 13/63

98.3%	35.58	5.96	13	6.13
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 1/63

14,158	11.29
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 3/63

92.4%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 2 / 63 PROVINCES
SCORE: 0.696

Ho Chi Minh City's score and ranking are due to very low Vulnerability combined with very high Coping Capacity scores.

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



Environmental Stress



Population Pressures



Governance



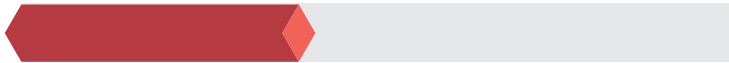
Health Care Capacity



MULTI-HAZARD RISK

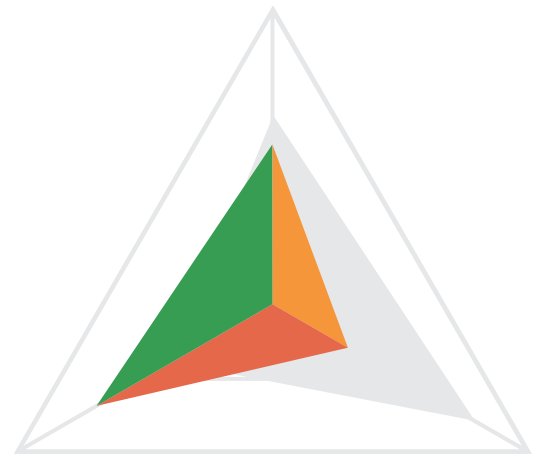
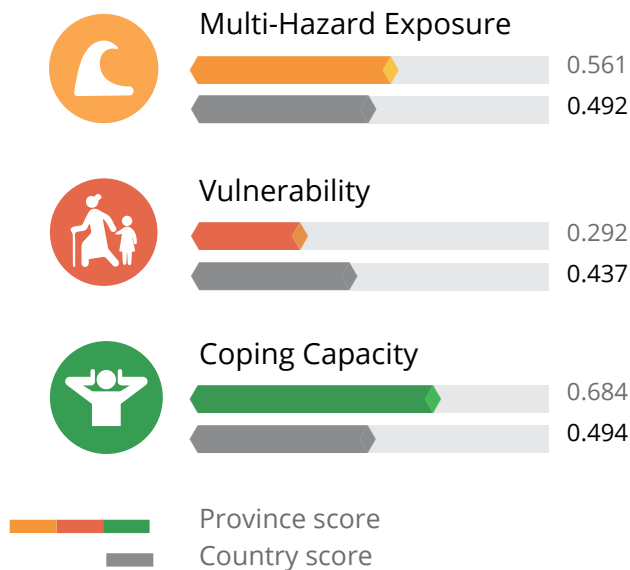
58 / 63

Rank within provinces
Score: 0.39



Ho Chi Minh City's score and ranking are due to moderate Multi-hazard exposure combined with very low Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

HOA BINH

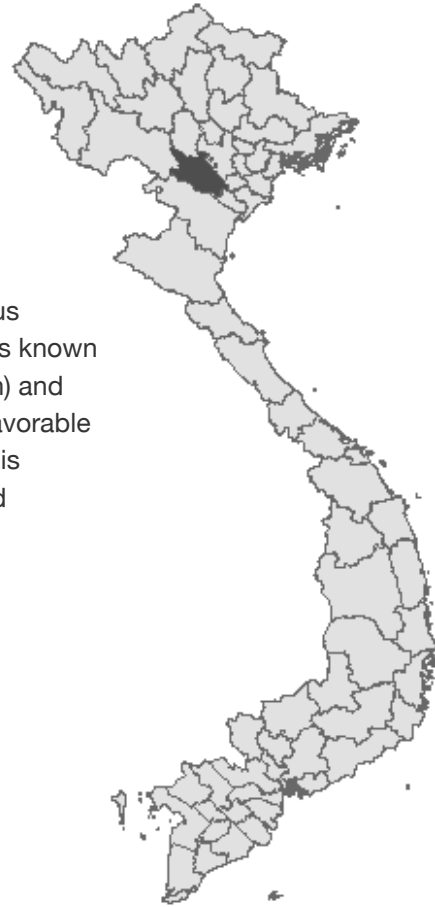
NDPBA PROVINCE PROFILE

VIỆT NAM HOA BINH

CAPITAL: HÒA BÌNH

Area: 5,071 km²

Neighboring Hanoi Capital to the west, Hoa Binh is a mountainous province located in the Northwest region of Viet Nam. Hoa Binh is known as the home to the Muong people (about 63% of total population) and other ethnic groups of Kinh, Thai, Dao, Tay, and Hmong. Given favorable natural conditions and cultural diversity, the province's economy is mostly based on agroforestry, specialized crops, ecotourism, and hydropower.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.521 • Rank: 18/63



RESILIENCE (R) - moderate
Score: 0.515 • Rank: 37/63



MULTI-HAZARD EXPOSURE - high
Score: 0.592 • Rank: 23/63



VULNERABILITY (V) - low
Score: 0.397 • Rank: 45/63



COPING CAPACITY (CC) - very low
Score: 0.427 • Rank: 54/63



Population (2017)
853,037



Population in Poverty
15.7%



Illiterate population
2.0%



Access to improved water
60.0%



Average life expectancy
72.40 years

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



MULTI-HAZARD EXPOSURE

RANK: 23 / 63 PROVINCES
SCORE: 0.592

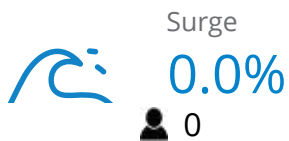
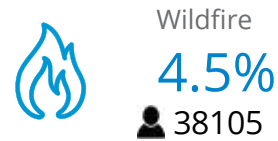
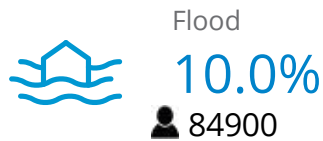


MHE
0.592

Raw MHE
0.497

Relative MHE
0.791

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





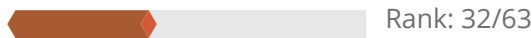
VULNERABILITY (V)

RANK: 45 / 63 PROVINCES
SCORE: 0.397

Vulnerability in Hoa Binh is primarily driven by Clean Water Access Vulnerability and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



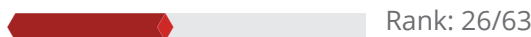
Environmental Stress



3.0% Forest Change
44.37 Livestock Density (per sq km)



Vulnerable Health Status



72.4 Life Expectancy (years)
17.4 Infant Mortality Rate (per 1,000 live births)
5.8% Acute Malnutrition (Children <5)
29 Tuberculosis Incidence (per 100,000 persons)
100.81 Malaria Prevalance (per 100,000 persons)
164.1 HIV Prevalance (per 100,000 persons)



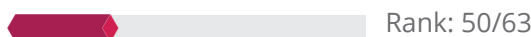
Clean Water Vulnerability



60.0% Households with Safe Water Access
42.6% Households with Hygienic Toilet Access



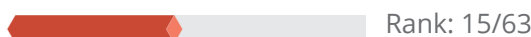
Information Access Vulnerability



2.0% Adult Illiteracy Rate
97.8% School Attendance Rate
89.0% Households without Internet
5.0% Housholds without TV



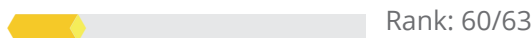
Economic Constraints



42.7 Economic Dependency Ratio
15.7% Poverty



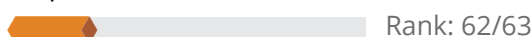
Gender Inequality



0.01 Income Inequality*
0.21 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.2% Average Annual Population Change
0.8% Average Annual Urban Population Change
1.1% Net Migration Rate



COPING CAPACITY (CC)

RANK: 54 / 63 PROVINCES
SCORE: 0.427

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



Economic Capacity

Rank: 60/63

5.1	4,138	12.14	5.94	7.6
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

Rank: 55/63

5.63	4.14	6.77
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

Rank: 20/63

12.3%
Protected Area



Infrastructure Capacity

Rank: 18/63



Health Care Capacity

Rank: 16/63

97.3%	33.89	7	14.35	9.28
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 42/63

2,003	46.56
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 23/63

86.6%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 37 / 63 PROVINCES
SCORE: 0.515

Ho Binh's score and ranking are due to low Vulnerability combined with very low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Economic
Constraints



Economic Capacity



Governance



MULTI-HAZARD RISK

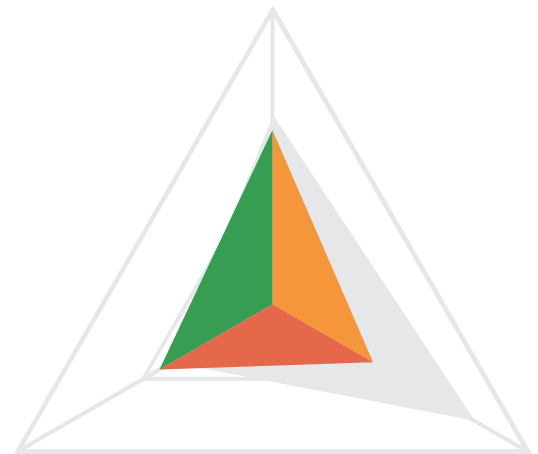
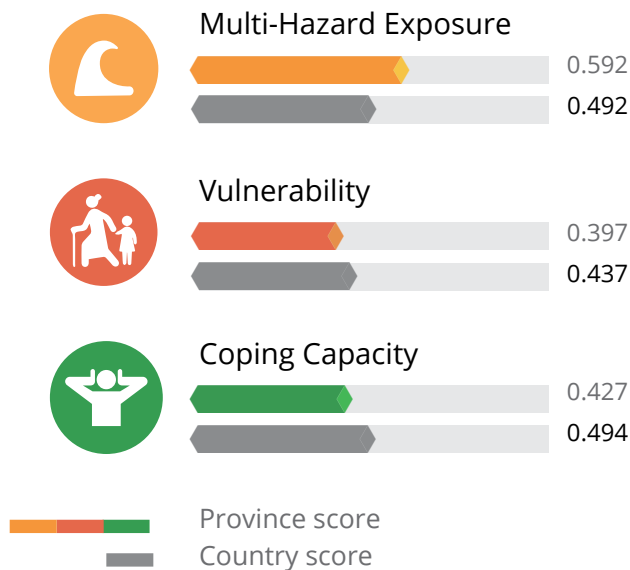
18 / 63

Rank within provinces
Score: 0.521



Ho Binh's score and ranking are due to high Multi-hazard exposure combined with low Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

HUNG YEN

NDPBA PROVINCE PROFILE

VIỆT NAM HUNG YEN

CAPITAL: HƯNG YÊN

Area: 1,069 km²

Neighboring Hanoi Capital to the southeast, Hung Yen province is located in the center of the Red River Delta. With delta topography features and plentiful water resource, the land is favorable for agriculture production. Hung Yen has been rapidly industrialized in recent years with 10 industrial parks in operation. With Hanoi expansion, the province is now rapidly developing new urban complexes and education institutions.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.552 • Rank: 9/63



RESILIENCE (R) - very low
Score: 0.47 • Rank: 53/63



MULTI-HAZARD EXPOSURE - high
Score: 0.595 • Rank: 22/63



VULNERABILITY (V) - low
Score: 0.405 • Rank: 40/63



COPING CAPACITY (CC) - very low
Score: 0.344 • Rank: 63/63



Population (2017)
1,203,304



Population in Poverty
3.5%



Illiterate population
5.2%



Access to improved water
99.9%



Average life expectancy
74.20 years

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



MULTI-HAZARD EXPOSURE

RANK: 22 / 63 PROVINCES
SCORE: 0.595

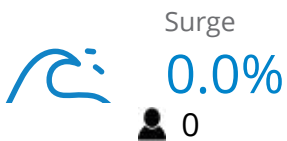
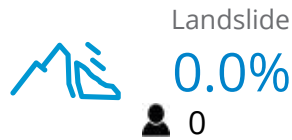
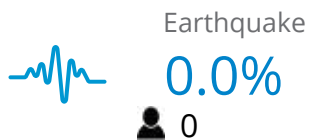
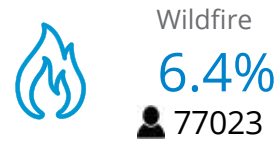
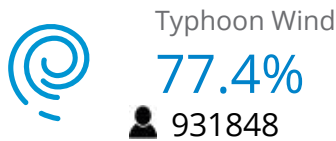


MHE
0.595

Raw MHE
0.575

Relative MHE
0.704

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

RANK: 40 / 63 PROVINCES
SCORE: 0.405

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



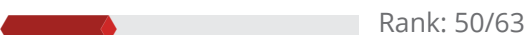
Environmental Stress



0.0% Forest Change
187.94 Livestock Density (per sq km)



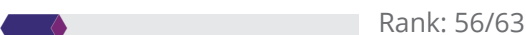
Vulnerable Health Status



74.2 Life Expectancy (years)
12.2 Infant Mortality Rate (per 1,000 live births)
6.5% Acute Malnutrition (Children <5)
34.9 Tuberculosis Incidence (per 100,000 persons)
0.26 Malaria Prevalance (per 100,000 persons)
93.3 HIV Prevalance (per 100,000 persons)



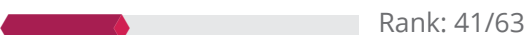
Clean Water Vulnerability



99.9% Households with Safe Water Access
78.6% Households with Hygienic Toilet Access



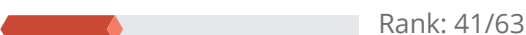
Information Access Vulnerability



5.2% Adult Illiteracy Rate
98.5% School Attendance Rate
87.0% Households without Internet
5.0% Housholds without TV



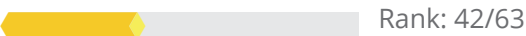
Economic Constraints



46.5 Economic Dependency Ratio
3.5% Poverty



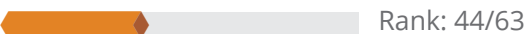
Gender Inequality



0.12 Income Inequality*
0.21 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.5% Average Annual Population Change
2.4% Average Annual Urban Population Change
3.3% Net Migration Rate



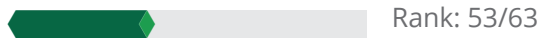
COPING CAPACITY (CC)

RANK: 63 / 63 PROVINCES
SCORE: 0.344

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



Economic Capacity

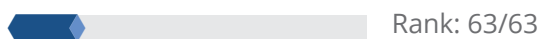


5.25	4,349	18.03	6.38	7.35
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



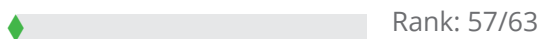
Governance



5.37	4.21	5.62
Law and Order*	Informal Charges*	Transparency*



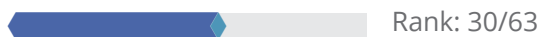
Environmental Capacity



0.0%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 21/63

97.8%	28.62	6.08	13.12	4.74
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 45/63

1,238	23.41
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 43/63

81.3%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 53 / 63 PROVINCES
SCORE: 0.47

Hung Yen's score and ranking are due to low Vulnerability combined with very low Coping Capacity scores.

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



Environmental Stress



Population Pressures



Governance



Economic Capacity



MULTI-HAZARD RISK

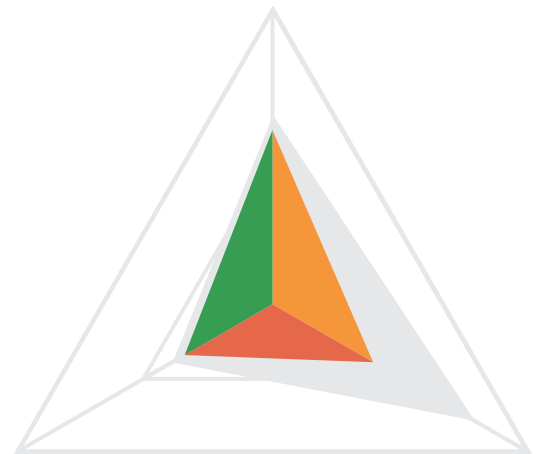
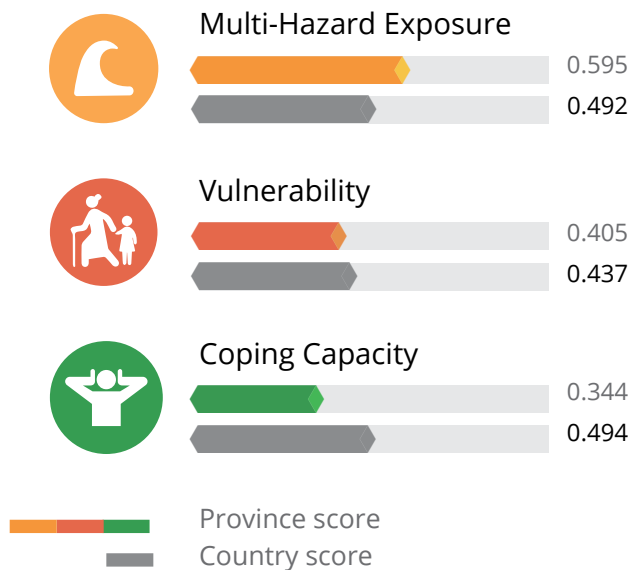
9 / 63

Rank within provinces
Score: 0.552



Hung Yen's score and ranking are due to high Multi-hazard exposure combined with low Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

KHANH HOA

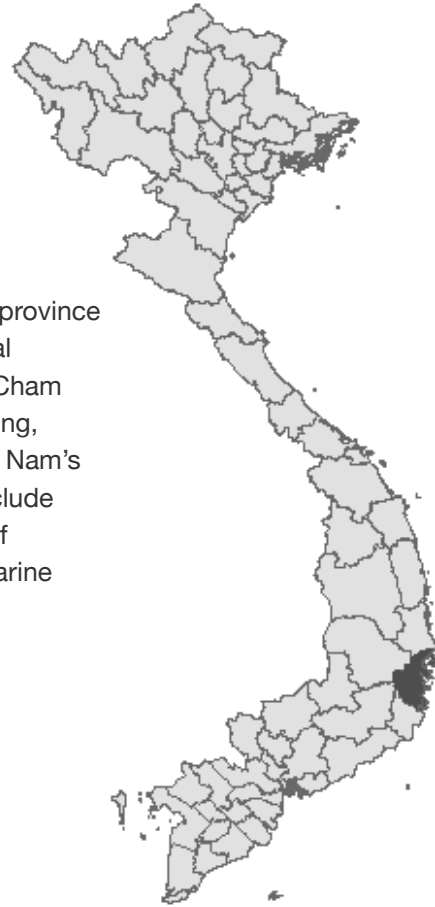
NDPBA PROVINCE PROFILE

VIỆT NAM KHANH HOA

CAPITAL: NHA TRANG

Area: 4,851 km²

Lying along the coastline of South Central Viet Nam, Khanh Hoa province is well-known for its tourism attractions including beautiful natural landscapes and sand beaches, along with historical sites of the Cham ancient culture. The most famous places are Nha Trang, Van Phong, and Cam Ranh bays, of which Van Phong is one of the three Viet Nam's Exclusive Economic Zones. Khanh Hoa's economic activities include agriculture, industry, and services. Tourism is an important part of the province's economy and Khanh Hoa also has a number of marine protection areas.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.425 • Rank: 49/63



RESILIENCE (R) - high
Score: 0.575 • Rank: 18/63



MULTI-HAZARD EXPOSURE - low
Score: 0.424 • Rank: 44/63



VULNERABILITY (V) - low
Score: 0.395 • Rank: 46/63



COPING CAPACITY (CC) - high
Score: 0.546 • Rank: 15/63



Population (2017)
1,263,412



Population in Poverty
5.0%



Illiterate population
8.7%



Access to improved water
91.8%



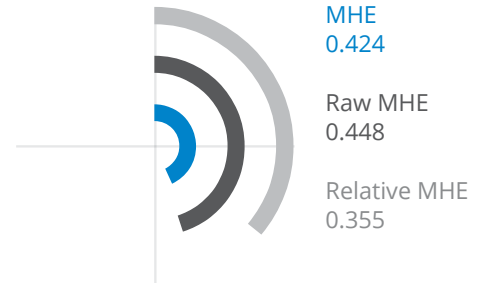
Average life expectancy
73.50 years

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

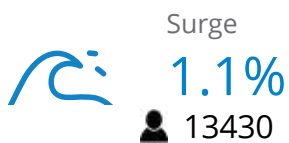
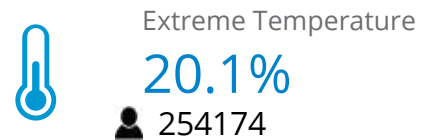
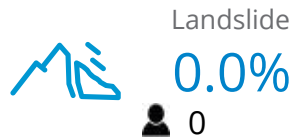
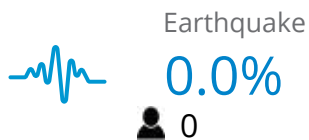
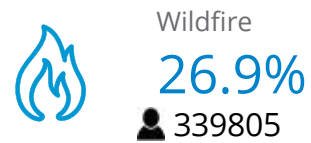


MULTI-HAZARD EXPOSURE

RANK: 44 / 63 PROVINCES
SCORE: 0.424



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





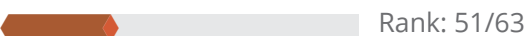
VULNERABILITY (V)

RANK: 46 / 63 PROVINCES
SCORE: 0.395

Vulnerability in Khanh Hoa is primarily driven by Gender Inequality and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



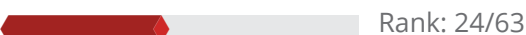
Environmental Stress



1.1% Forest Change
16.33 Livestock Density (per sq km)



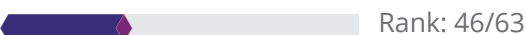
Vulnerable Health Status



73.5 Life Expectancy (years)
14 Infant Mortality Rate (per 1,000 live births)
7.0% Acute Malnutrition (Children <5)
66.7 Tuberculosis Incidence (per 100,000 persons)
101.43 Malaria Prevalance (per 100,000 persons)
191.7 HIV Prevalance (per 100,000 persons)



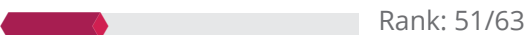
Clean Water Vulnerability



91.8% Households with Safe Water Access
87.8% Households with Hygienic Toilet Access



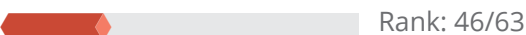
Information Access Vulnerability



8.7% Adult Illiteracy Rate
93.9% School Attendance Rate
75.0% Households without Internet
3.0% Housholds without TV



Economic Constraints



42.6 Economic Dependency Ratio
5.0% Poverty



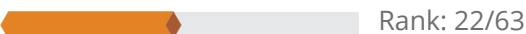
Gender Inequality



0.17 Income Inequality*
0.43 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.8% Average Annual Population Change
2.7% Average Annual Urban Population Change
7.9% Net Migration Rate



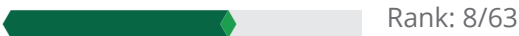
COPING CAPACITY (CC)

RANK: 15 / 63 PROVINCES
SCORE: 0.546

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



Economic Capacity

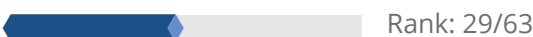


6.23	4,144	51.38	6.9	8.05
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



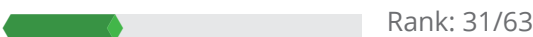
Governance



5.46	5.6	6.66
Law and Order*	Informal Charges*	Transparency*



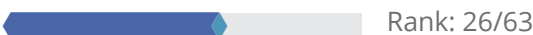
Environmental Capacity



7.2%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 42/63

97.4%	27.43	5.16	14.21	21.21
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 20/63

3,749	29.58
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 26/63

85.9%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 18 / 63 PROVINCES
SCORE: 0.575

Khanh Hoa's score and ranking are due to low Vulnerability combined with high Coping Capacity scores.

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



Gender Inequality



Population Pressures



Governance



Health Care Capacity



MULTI-HAZARD RISK

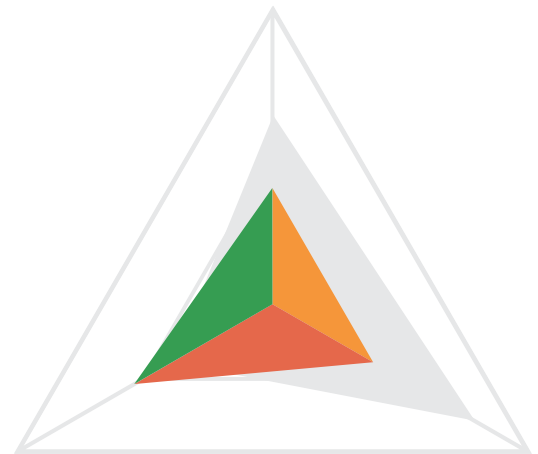
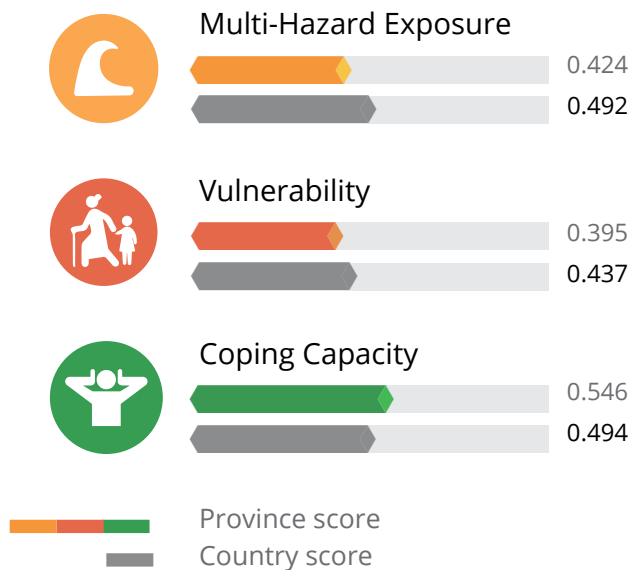
49 / 63

Rank within provinces
Score: 0.425



Khanh Hoa's score and ranking are due to low Multi-hazard exposure combined with low Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

KIEN GIANG

NDPBA PROVINCE PROFILE

VIỆT NAM KIEN GIANG

CAPITAL: RẠCH GIÁ

Area: 6,524 km²

Kien Giang is a coastal province located in the west of the Mekong Delta sharing a border with Cambodia to the northwest and facing the Gulf of Thailand in the southwest. Covered mostly by agricultural land and long coastline, fishing, aquaculture, and rice production are leading economic activities of Kien Giang. Among all the province's attractive landscapes, Phu Quoc island is particularly famous for tourism and the traditional high-quality fish sauce. Recently, Phu Quoc became one of the three Viet Nam's Exclusive Economic Zones.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.42 • Rank: 51/63



RESILIENCE (R) - high
Score: 0.588 • Rank: 14/63



MULTI-HAZARD EXPOSURE - low
Score: 0.435 • Rank: 42/63



VULNERABILITY (V) - high
Score: 0.466 • Rank: 17/63



COPING CAPACITY (CC) - very high
Score: 0.641 • Rank: 5/63



Population (2017)
1,819,127



Population in Poverty
3.6%



Illiterate population
12.1%



Access to improved water
91.9%



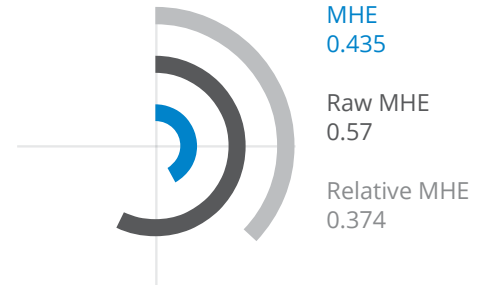
Average life expectancy
74.20 years

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

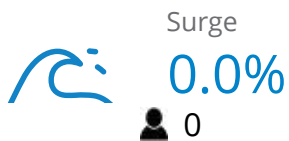
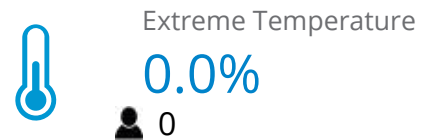
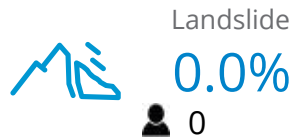
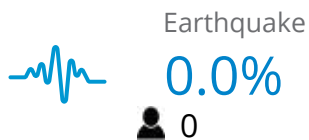
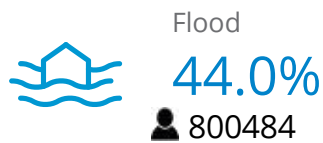


MULTI-HAZARD EXPOSURE

RANK: 42 / 63 PROVINCES
SCORE: 0.435



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

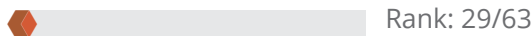
RANK: 17 / 63 PROVINCES

SCORE: 0.466

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



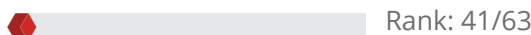
Environmental Stress



-5.9% Forest Change
15.07 Livestock Density (per sq km)



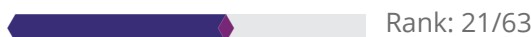
Vulnerable Health Status



74.2 Life Expectancy (years)
12.6 Infant Mortality Rate (per 1,000 live births)
6.7% Acute Malnutrition (Children <5)
94.1 Tuberculosis Incidence (per 100,000 persons)
0.63 Malaria Prevalance (per 100,000 persons)
196.9 HIV Prevalance (per 100,000 persons)



Clean Water Vulnerability



91.9% Households with Safe Water Access
48.4% Households with Hygienic Toilet Access



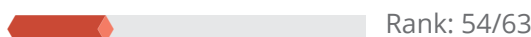
Information Access Vulnerability



12.1% Adult Illiteracy Rate
77.4% School Attendance Rate
90.0% Households without Internet
8.0% Housholds without TV



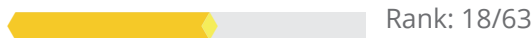
Economic Constraints



43.3 Economic Dependency Ratio
3.6% Poverty



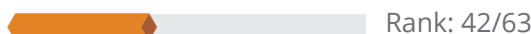
Gender Inequality



0.24 Income Inequality*
0.2 F M School Enrollment Rate*
 *Values closer to 1 represent greater gender parity.



Population Pressures



0.9% Average Annual Population Change
2.1% Average Annual Urban Population Change
2.0% Net Migration Rate



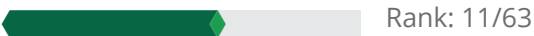
COPING CAPACITY (CC)

RANK: 5 / 63 PROVINCES
SCORE: 0.641

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



Economic Capacity

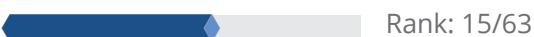


7.56	4,130	35.97	7.1	8.39
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance



6.15	6.85	5.78
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity



49.8%
Protected Area



Infrastructure Capacity



Health Care Capacity Rank: 26/63

97.6%	28.37	5.76	13.69	11.07
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 10/63

4,749	21.05
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 13/63

88.4%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 14 / 63 PROVINCES
SCORE: 0.588

Kien Giang's score and ranking are due to high Vulnerability combined with very high Coping Capacity scores.

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



Information Access Vulnerability



Clean Water Access Vulnerability



Health Care Capacity



Governance



MULTI-HAZARD RISK

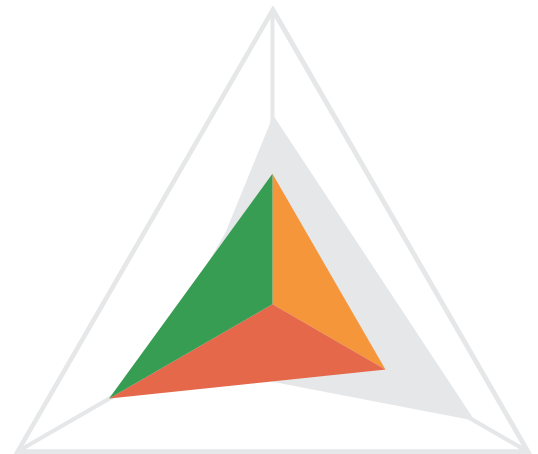
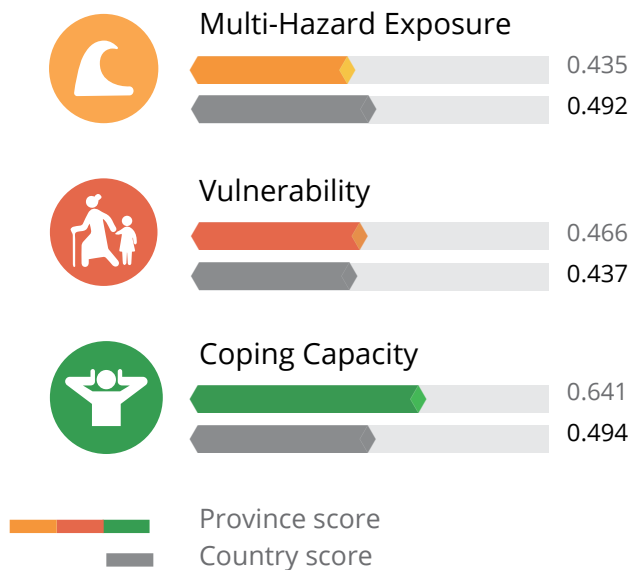
51 / 63

Rank within provinces
Score: 0.42



Kien Giang's score and ranking are due to low Multi-hazard exposure combined with high Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

KON TUM

NDPBA PROVINCE PROFILE

VIỆT NAM KON TUM

CAPITAL: KON TUM

Area: 8,718 km²

As the northern-most province of the Viet Nam's Central Highland, Kon Tum shares borders with Laos and Cambodia. With more than 50% forest cover and interleaved terrain of mountains and plateau, the province's economy is based on forest products and agriculture. Kon Tum is known for its diversified indigenous culture of Ba Na, Brau, Gie Trieng, Jarai, Ro Mam and, Xo Dang ethnic groups, valuable plants (e.g., Ngoc Linh ginseng) and plentiful birds species.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.592 • Rank: 4/63



RESILIENCE (R) - very low
Score: 0.391 • Rank: 61/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.559 • Rank: 28/63



VULNERABILITY (V) - very high
Score: 0.633 • Rank: 4/63



COPING CAPACITY (CC) - very low
Score: 0.414 • Rank: 56/63



Population (2017)
525,874



Population in Poverty
16.5%



Illiterate population
40.8%



Access to improved water
69.7%



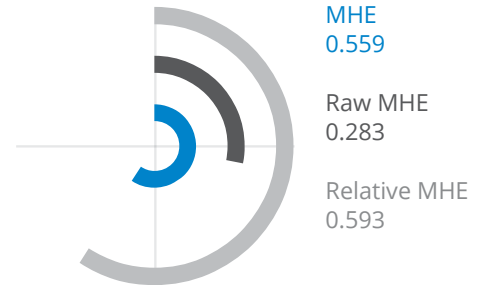
Average life expectancy
66.00 years

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

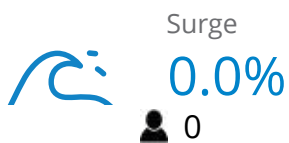
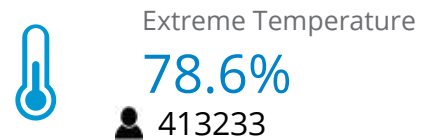
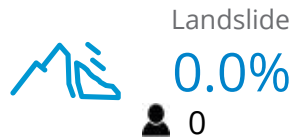
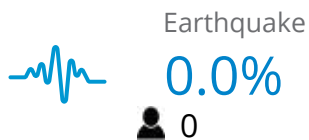
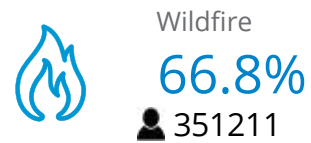
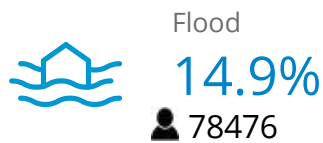


MULTI-HAZARD EXPOSURE

RANK: 28 / 63 PROVINCES
SCORE: 0.559



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





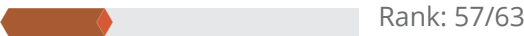
VULNERABILITY (V)

RANK: 4 / 63 PROVINCES
SCORE: 0.633

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



Environmental Stress



-1.0% Forest Change
8.96 Livestock Density (per sq km)



Vulnerable Health Status



66 Life Expectancy (years)
38.1 Infant Mortality Rate (per 1,000 live births)
7.6% Acute Malnutrition (Children <5)
44.7 Tuberculosis Incidence (per 100,000 persons)
148.03 Malaria Prevalance (per 100,000 persons)
51.5 HIV Prevalance (per 100,000 persons)



Clean Water Vulnerability



69.7% Households with Safe Water Access
53.2% Households with Hygienic Toilet Access



Information Access Vulnerability



40.8% Adult Illiteracy Rate
85.5% School Attendance Rate
86.0% Households without Internet
12.0% Housholds without TV



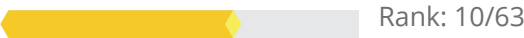
Economic Constraints



58.5 Economic Dependency Ratio
16.5% Poverty



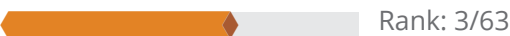
Gender Inequality



0.1 Income Inequality*
0.52 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



2.9% Average Annual Population Change
3.8% Average Annual Urban Population Change
15.1% Net Migration Rate



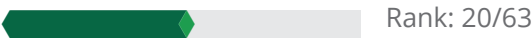
COPING CAPACITY (CC)

RANK: 56 / 63 PROVINCES
SCORE: 0.414

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



Economic Capacity



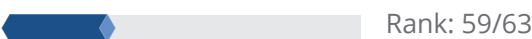
Rank: 20/63

5.55	5,076	23.92	6.32	7.79
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

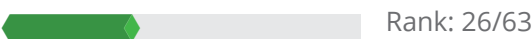


Rank: 59/63

5.05	4.46	6.33
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

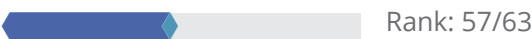


Rank: 26/63

9.9%
Protected Area



Infrastructure Capacity



Rank: 57/63



Health Care Capacity Rank: 14/63

95.9%	37.9	9.38	20.4	23.25
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 60/63

2,613	142.43
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 61/63

68.4%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 61 / 63 PROVINCES
SCORE: 0.391

Kon Tum's score and ranking are due to very high Vulnerability combined with very low Coping Capacity scores.

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



Vulnerable Health Status



Clean Water Access Vulnerability



Transportation Capacity



Governance



MULTI-HAZARD RISK

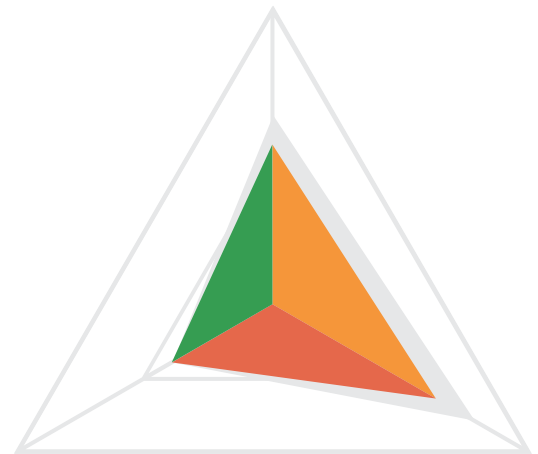
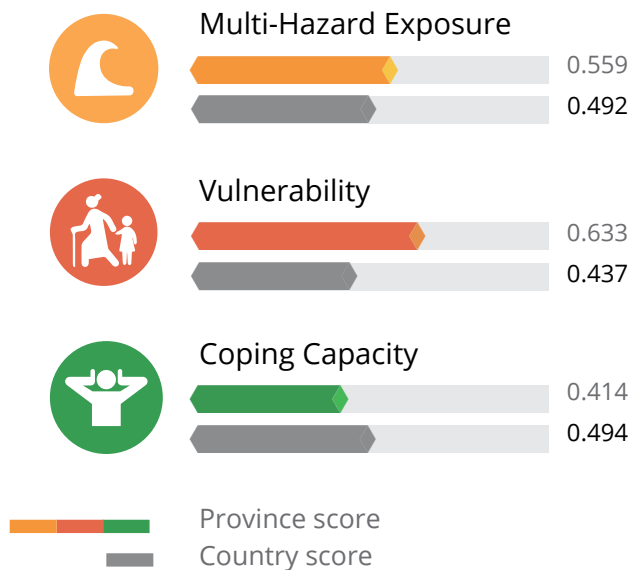
4 / 63

Rank within provinces
Score: 0.592



Kon Tum's score and ranking are due to moderate Multi-hazard exposure combined with very high Vulnerability and very low Coping Capacity scores.

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





ni / Shutterstock

VIỆT NAM

LAI CHAU

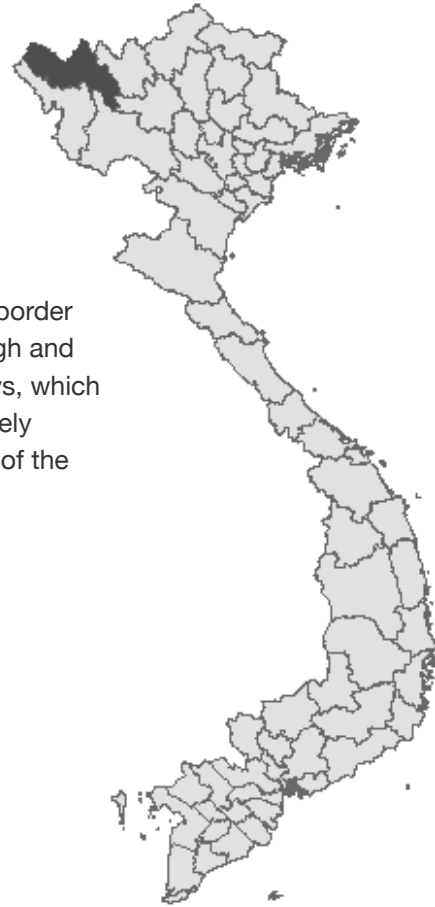
NDPBA PROVINCE PROFILE

VIỆT NAM LAI CHAU

CAPITAL: LAI CHÂU

Area: 10,636 km²

Located in the Northwest region of Viet Nam, Lai Chau shares a border with China to the north. The province's terrain is comprised of high and steep mountains and hills alternated with deep and narrow valleys, which are prone to frequent flash flood and landslide. Lai Chau is sparsely populated with Tai, Hmong, Kinh, Giay, and Dao people and one of the poorest provinces of the country.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.567 • Rank: 6/63



RESILIENCE (R) - very low
Score: 0.348 • Rank: 63/63



MULTI-HAZARD EXPOSURE - low
Score: 0.396 • Rank: 46/63



VULNERABILITY (V) - very high
Score: 0.667 • Rank: 1/63



COPING CAPACITY (CC) - very low
Score: 0.362 • Rank: 61/63



Population (2017)
426,354



Population in Poverty
31.5%



Illiterate population
7.4%



Access to improved water
22.6%



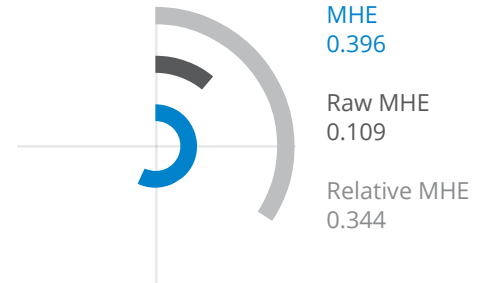
Average life expectancy
65.10 years

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

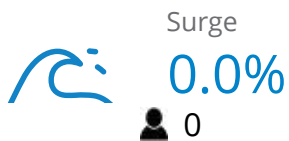
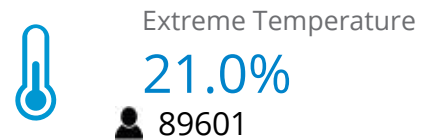
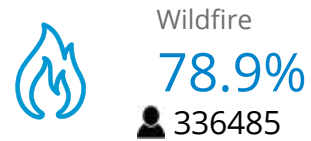
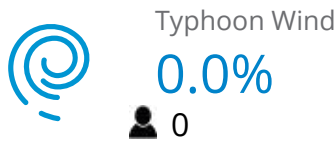


MULTI-HAZARD EXPOSURE

RANK: 46 / 63 PROVINCES
SCORE: 0.396



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





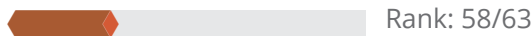
VULNERABILITY (V)

RANK: 1 / 63 PROVINCES
SCORE: 0.667

Vulnerability in Lai Chau is primarily driven by Economic Constraints and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress



1.3% Forest Change
13.44 Livestock Density (per sq km)



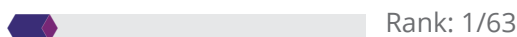
Vulnerable Health Status



65.1 Life Expectancy (years)
41.9 Infant Mortality Rate (per 1,000 live births)
6.9% Acute Malnutrition (Children <5)
21.2 Tuberculosis Incidence (per 100,000 persons)
174.81 Malaria Prevalance (per 100,000 persons)
512.4 HIV Prevalance (per 100,000 persons)



Clean Water Vulnerability



22.6% Households with Safe Water Access
30.0% Households with Hygienic Toilet Access



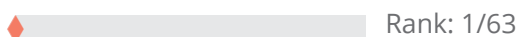
Information Access Vulnerability



7.4% Adult Illiteracy Rate
74.1% School Attendance Rate
91.0% Households without Internet
29.0% Housholds without TV



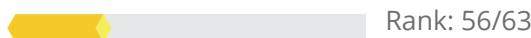
Economic Constraints



65.7 Economic Dependency Ratio
31.5% Poverty



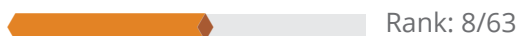
Gender Inequality



0.07 Income Inequality*
0.17 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.9% Average Annual Population Change
5.8% Average Annual Urban Population Change
1.4% Net Migration Rate



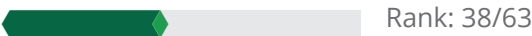
COPING CAPACITY (CC)

RANK: 61 / 63 PROVINCES
SCORE: 0.362

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



Economic Capacity

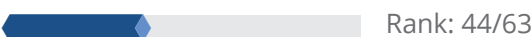


5.71	4,860	8.08	6.28	8.04
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



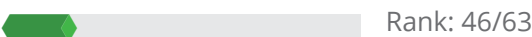
Governance



6.82	4.12	6.16
Law and Order*	Informal Charges*	Transparency*



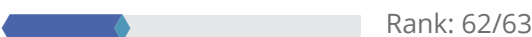
Environmental Capacity



2.3%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 23/63

93.3%	36.99	7.85	23.74	18.75
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 63/63

949	167.14
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 62/63

62.8%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 63 / 63 PROVINCES
SCORE: 0.348

Lai Chau's score and ranking are due to very high Vulnerability combined with very low Coping Capacity scores.

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



Economic Constraints



Clean Water Access Vulnerability



Transportation Capacity



Communications Capacity



MULTI-HAZARD RISK

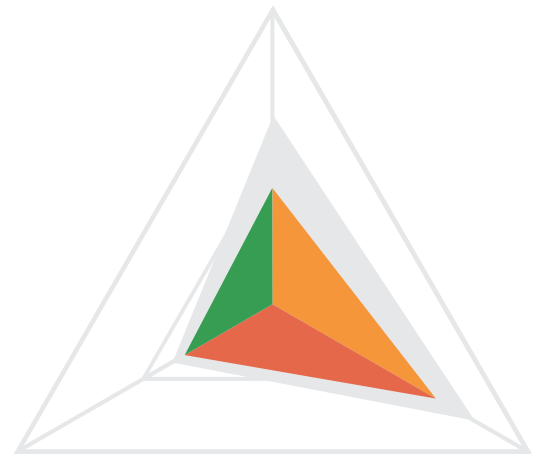
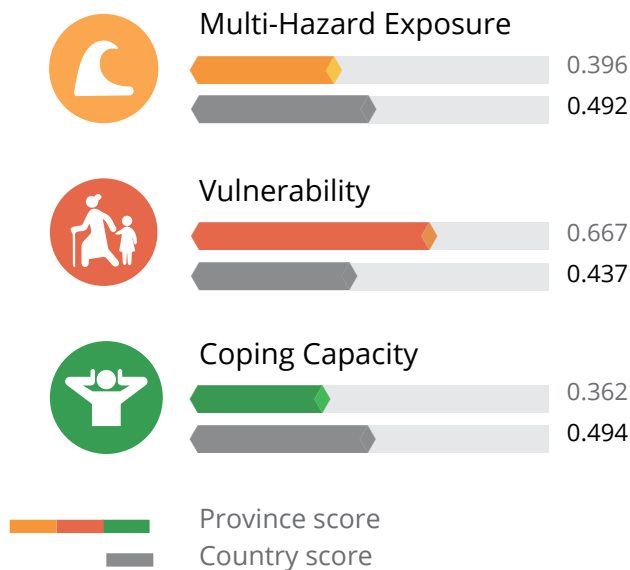
6 / 63

Rank within provinces
Score: 0.567



Lai Chau's score and ranking are due to low Multi-hazard exposure combined with very high Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

LAM DONG

NDPBA PROVINCE PROFILE

VIỆT NAM LAM DONG

CAPITAL: ĐÀ LẠT

Area: 10,279 km²

As the southern-most province of the Viet Nam's Central Highland, Lam Dong is a popular tourism destination for its abundant natural landscapes and cool weather all year round. The province also has deeply-rooted culture of indigenous people such as Co Ho, Ma, and Chu Ru ethnic groups. Da Lat, the capital city of the province, is attracting more than three million tourists each year. Besides tourism, the provincial economy is also based on hydropower generation and agriculture plantation. Main products include tea, coffee, and vegetables. Lam Dong is well known for high-tech agriculture.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.384 • Rank: 59/63



RESILIENCE (R) - very high
Score: 0.588 • Rank: 13/63



MULTI-HAZARD EXPOSURE - low
Score: 0.328 • Rank: 50/63



VULNERABILITY (V) - low
Score: 0.379 • Rank: 49/63



COPING CAPACITY (CC) - very high
Score: 0.555 • Rank: 12/63



Population (2017)
1,363,189



Population in Poverty
6.0%



Illiterate population
3.3%



Access to improved water
84.1%



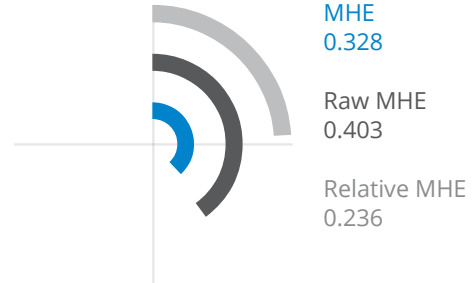
Average life expectancy
72.60 years

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

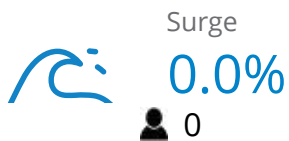
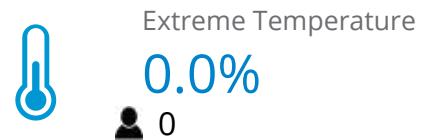
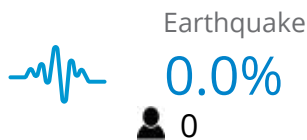
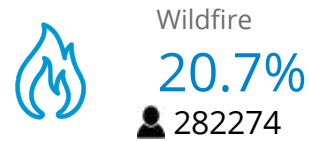
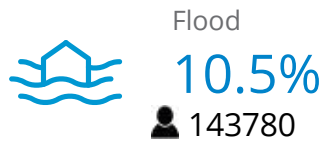


MULTI-HAZARD EXPOSURE

RANK: 50 / 63 PROVINCES
SCORE: 0.328



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





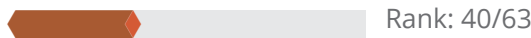
VULNERABILITY (V)

RANK: 49 / 63 PROVINCES
SCORE: 0.379

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



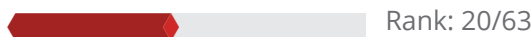
Environmental Stress



-2.3% Forest Change
15.53 Livestock Density (per sq km)



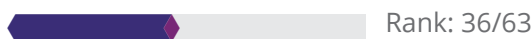
Vulnerable Health Status



72.6 Life Expectancy (years)
16.3 Infant Mortality Rate (per 1,000 live births)
7.7% Acute Malnutrition (Children <5)
22.7 Tuberculosis Incidence (per 100,000 persons)
38.07 Malaria Prevalance (per 100,000 persons)
111.6 HIV Prevalance (per 100,000 persons)



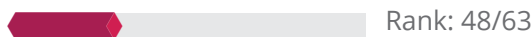
Clean Water Vulnerability



84.1% Households with Safe Water Access
80.8% Households with Hygienic Toilet Access



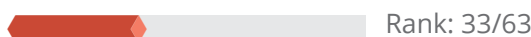
Information Access Vulnerability



3.3% Adult Illiteracy Rate
90.2% School Attendance Rate
76.0% Households without Internet
5.0% Housholds without TV



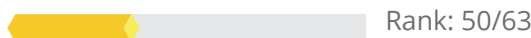
Economic Constraints



46.9 Economic Dependency Ratio
6.0% Poverty



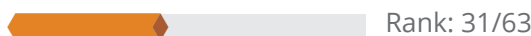
Gender Inequality



0.02 Income Inequality*
0.34 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.3% Average Annual Population Change
1.6% Average Annual Urban Population Change
2.9% Net Migration Rate



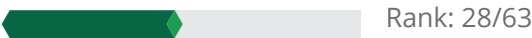
COPING CAPACITY (CC)

RANK: 12 / 63 PROVINCES
SCORE: 0.555

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



Economic Capacity

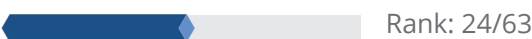


6.56	4,611	25.96	6.62	7.51
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



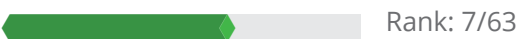
Governance



6.03	5.16	6.65
Law and Order*	Informal Charges*	Transparency*



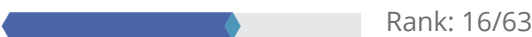
Environmental Capacity



31.4%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 37/63

98.7%	23.98	6.09	13.17	23.08
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 8/63

6,630	33.91
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 22/63

86.9%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 13 / 63 PROVINCES
SCORE: 0.588

Lam Dong's score and ranking are due to low Vulnerability combined with very high Coping Capacity scores.

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



Clean Water Access Vulnerability



Vulnerable Health Status



Economic Capacity



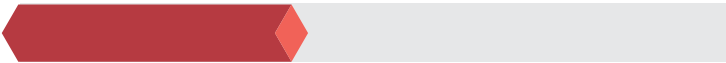
Health Care Capacity



MULTI-HAZARD RISK

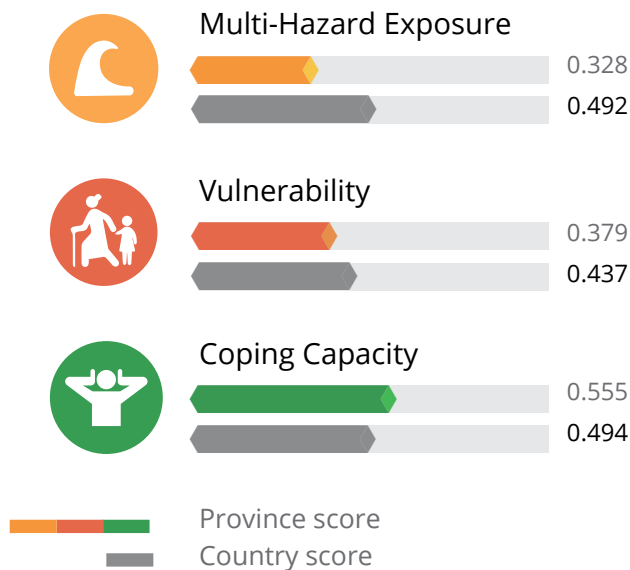
59 / 63

Rank within provinces
Score: 0.384



Lam Dong's score and ranking are due to low Multi-hazard exposure combined with low Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

LANG SON

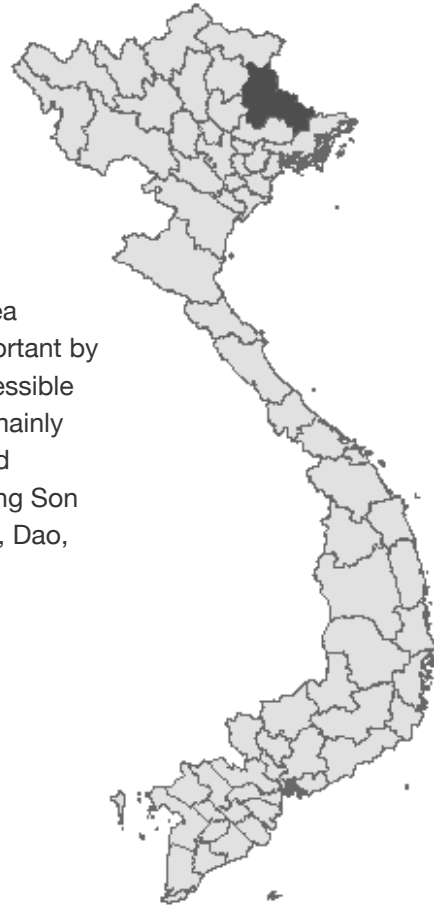
NDPBA PROVINCE PROFILE

VIỆT NAM LANG SON

CAPITAL: LẠNG SƠN

Area: 9,723 km²

Located in the Northeast region of Viet Nam and 80% of total area covered by mountains and forests, Lang Son is strategically important by sharing two international border gates with China and being accessible by highway and rail to Hanoi capital. The provincial economy is mainly based on international trade (with China), service, agriculture, and forestry, and in recent years is mineral resources exploitation. Lang Son is the home to seven main ethnic groups namely Nung, Tay, Kinh, Dao, Hoa, San Chay, and Hmong people.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.44 • Rank: 45/63



RESILIENCE (R) - very low
Score: 0.458 • Rank: 54/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.235 • Rank: 59/63



VULNERABILITY (V) - very high
Score: 0.486 • Rank: 13/63



COPING CAPACITY (CC) - very low
Score: 0.403 • Rank: 59/63



Population (2017)
785,291



Population in Poverty
16.2%



Illiterate population
16.7%



Access to improved water
55.8%



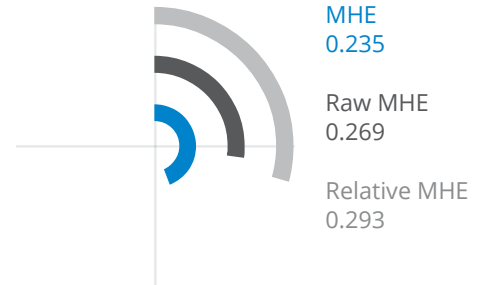
Average life expectancy
71.90 years

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

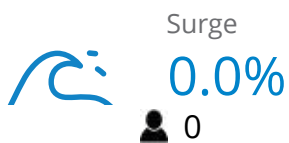
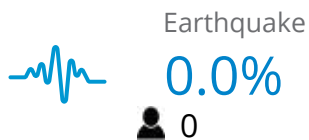
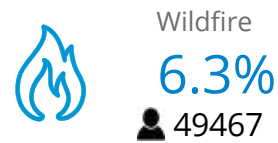


MULTI-HAZARD EXPOSURE

RANK: 59 / 63 PROVINCES
SCORE: 0.235



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

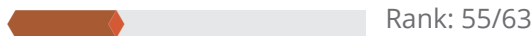
RANK: 13 / 63 PROVINCES

SCORE: 0.486

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



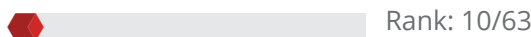
Environmental Stress



3.5% Forest Change
22.65 Livestock Density (per sq km)



Vulnerable Health Status



71.9 Life Expectancy (years)
18.3 Infant Mortality Rate (per 1,000 live births)
10.4% Acute Malnutrition (Children <5)
47.5 Tuberculosis Incidence (per 100,000 persons)
20.98 Malaria Prevalance (per 100,000 persons)
220.4 HIV Prevalance (per 100,000 persons)



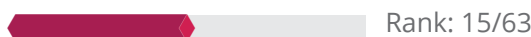
Clean Water Vulnerability



55.8% Households with Safe Water Access
34.8% Households with Hygienic Toilet Access



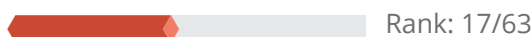
Information Access Vulnerability



16.7% Adult Illiteracy Rate
96.4% School Attendance Rate
88.0% Households without Internet
8.0% Housholds without TV



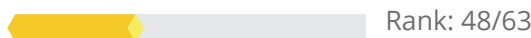
Economic Constraints



41.6 Economic Dependency Ratio
16.2% Poverty



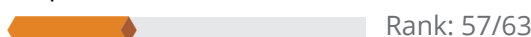
Gender Inequality



0.03 Income Inequality*
0.34 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.5% Average Annual Population Change
0.9% Average Annual Urban Population Change
2.9% Net Migration Rate



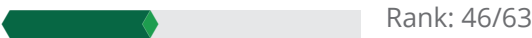
COPING CAPACITY (CC)

RANK: 59 / 63 PROVINCES
SCORE: 0.403

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



Economic Capacity



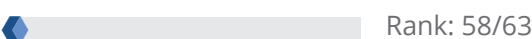
Rank: 46/63

5.96	4,703	19.29	6.72	6.92
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

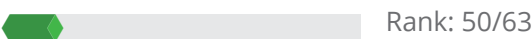


Rank: 58/63

5.36	4.48	6.13
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

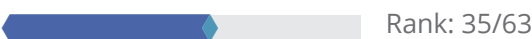


Rank: 50/63

1.4%
Protected Area



Infrastructure Capacity



Rank: 35/63



Health Care Capacity Rank: 8/63

98.4%	34.01	8.72	16.78	14.65
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 55/63

1,727	85.42
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 48/63

79.5%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 54 / 63 PROVINCES
SCORE: 0.458

Lang Son's score and ranking are due to very high Vulnerability combined with very low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Vulnerable Health
Status



Governance



Transportation
Capacity



MULTI-HAZARD RISK

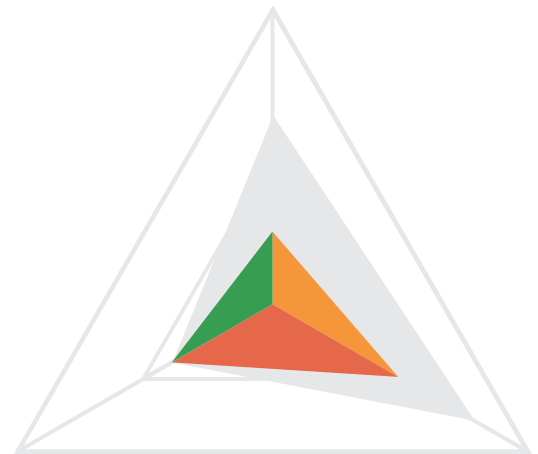
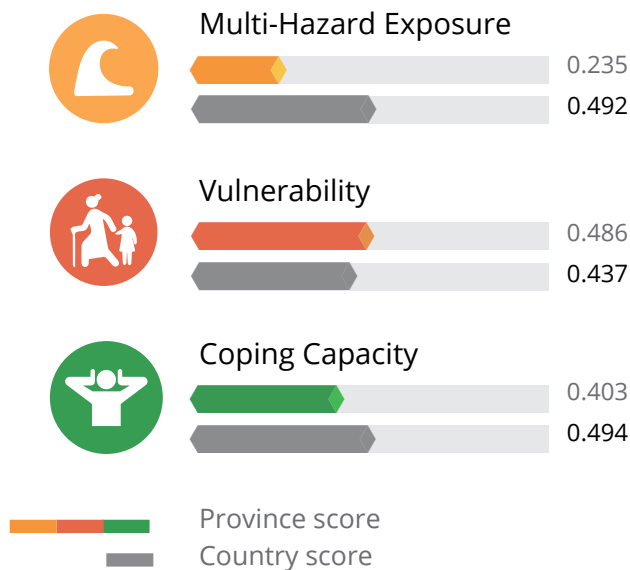
45 / 63

Rank within provinces
Score: 0.44



Lang Son's score and ranking are due to very low Multi-hazard exposure combined with very high Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

LAO CAI

NDPBA PROVINCE PROFILE

VIỆT NAM LAO CAI

CAPITAL: LÀO CAI

Area: 7,464 km²

Lao Cai province is located in the Northwest mountainous region of Viet Nam, sharing a border with China to the north. The province is home to 25 ethnic groups including the minority people of Hmong, Tay, Dao, Giay, and Nùng. Lao Cai possesses diverse natural environment including Fansipan peak (highest in the country) and Hoang Lien national park. The province's economy is based on international trade (with China), agriculture, forestry, mining, and tourism. Sa Pa town is a famous tourist destination in Viet Nam.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.346 • Rank: 61/63



RESILIENCE (R) - low
Score: 0.495 • Rank: 46/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.028 • Rank: 63/63



VULNERABILITY (V) - very high
Score: 0.507 • Rank: 11/63



COPING CAPACITY (CC) - high
Score: 0.497 • Rank: 23/63



Population (2017)
725,854



Population in Poverty
21.4%



Illiterate population
4.8%



Access to improved water
41.2%



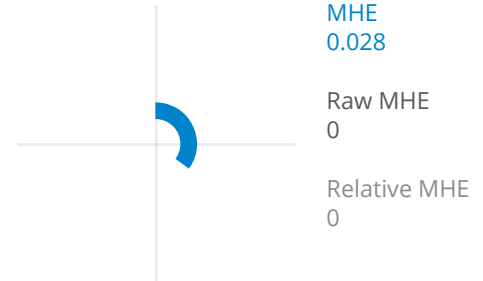
Average life expectancy
68.60 years

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

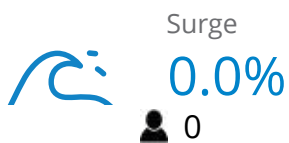
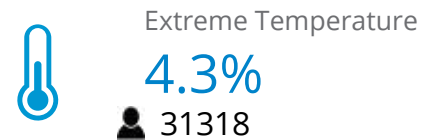
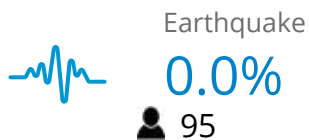
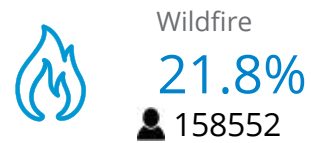
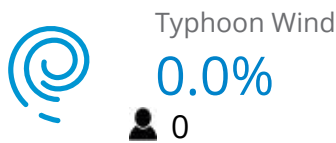


MULTI-HAZARD EXPOSURE

RANK: 63 / 63 PROVINCES
SCORE: 0.028



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





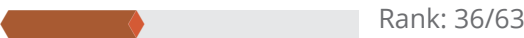
VULNERABILITY (V)

RANK: 11 / 63 PROVINCES
SCORE: 0.507

Vulnerability in Lao Cai is primarily driven by Clean Water Access Vulnerability and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress



1.2% Forest Change
32.9 Livestock Density (per sq km)



Vulnerable Health Status



68.6 Life Expectancy (years)
28.8 Infant Mortality Rate (per 1,000 live births)
5.8% Acute Malnutrition (Children <5)
21.6 Tuberculosis Incidence (per 100,000 persons)
27.36 Malaria Prevalance (per 100,000 persons)
316.1 HIV Prevalance (per 100,000 persons)



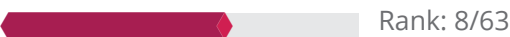
Clean Water Vulnerability



41.2% Households with Safe Water Access
53.1% Households with Hygienic Toilet Access



Information Access Vulnerability



4.8% Adult Illiteracy Rate
87.6% School Attendance Rate
98.0% Households without Internet
12.0% Housholds without TV



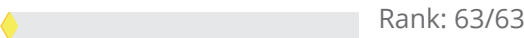
Economic Constraints



51.5 Economic Dependency Ratio
21.4% Poverty



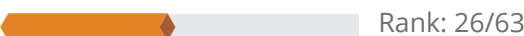
Gender Inequality



0 Income Inequality*
0.04 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.6% Average Annual Population Change
2.9% Average Annual Urban Population Change
2.0% Net Migration Rate



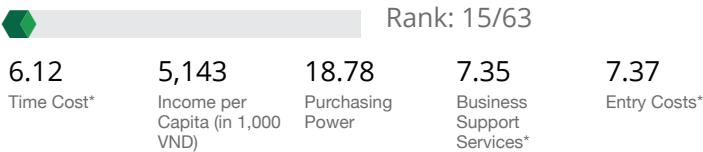
COPING CAPACITY (CC)

RANK: 23 / 63 PROVINCES
SCORE: 0.497

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



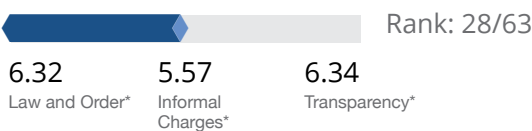
Economic Capacity



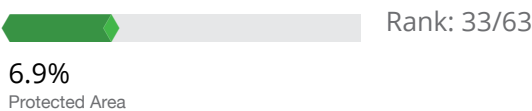
*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



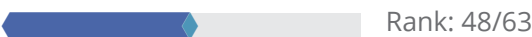
Governance



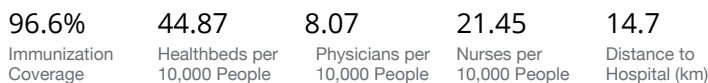
Environmental Capacity



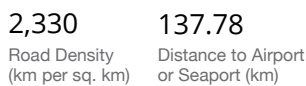
Infrastructure Capacity



Health Care Capacity Rank: 5/63



Transportation Capacity Rank: 61/63



Communications Capacity Rank: 60/63





RESILIENCE (R)

RANK: 46 / 63 PROVINCES
SCORE: 0.495

Lao Cai's score and ranking are due to very high Vulnerability combined with high Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Economic
Constraints



Transportation
Capacity



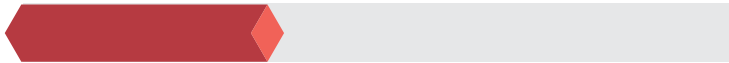
Communications
Capacity



MULTI-HAZARD RISK

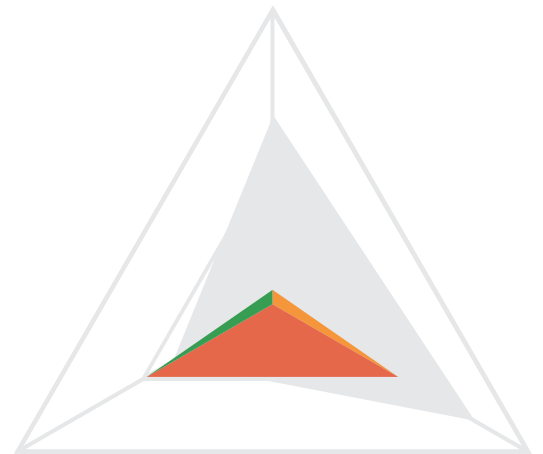
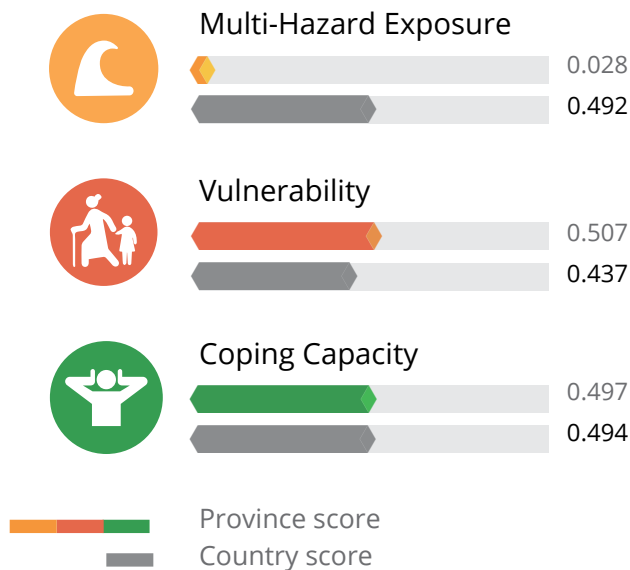
61 / 63

Rank within provinces
Score: 0.346



Lao Cai's score and ranking are due to very low Multi-hazard exposure combined with very high Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

LONG AN

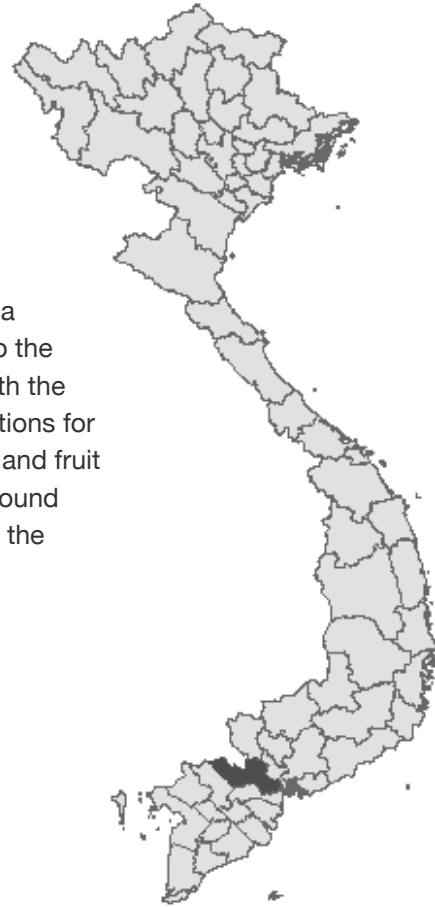
NDPBA PROVINCE PROFILE

VIỆT NAM LONG AN

CAPITAL: TÂN AN

Area: 4,683 km²

Neighboring Ho Chi Minh City to the south and west, Long An is a province in the Mekong Delta, sharing a border with Cambodia to the west and facing East Sea to the east. The relatively flat terrain with the complex river and canal system of Long An provides good conditions for agriculture and aquaculture. The province is one of the main rice and fruit producers in Viet Nam. Long An has rapidly industrialized with around 35 industrial parks in operation. Being a low-lying coastal region, the province is susceptible to floods and rises in sea level.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.481 • Rank: 29/63



RESILIENCE (R) - very high
Score: 0.608 • Rank: 8/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.658 • Rank: 10/63



VULNERABILITY (V) - low
Score: 0.389 • Rank: 47/63



COPING CAPACITY (CC) - very high
Score: 0.604 • Rank: 7/63



Population (2017)
1,572,531



Population in Poverty
5.0%



Illiterate population
2.0%



Access to improved water
96.5%



Average life expectancy
75.40 years

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



MULTI-HAZARD EXPOSURE

RANK: 10 / 63 PROVINCES
SCORE: 0.658

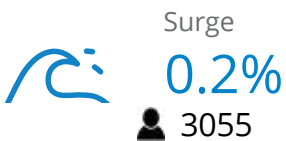
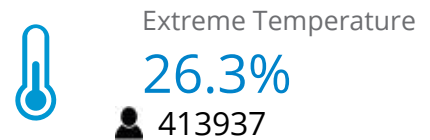
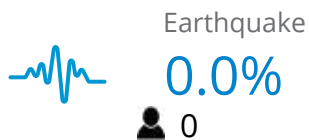
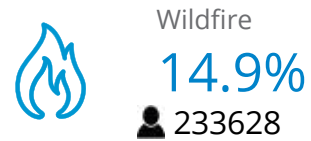


MHE
0.658

Raw MHE
0.655

Relative MHE
0.698

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





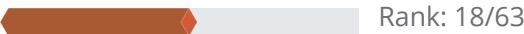
VULNERABILITY (V)

RANK: 47 / 63 PROVINCES
SCORE: 0.389

Vulnerability in Long An is primarily driven by Gender Inequality and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



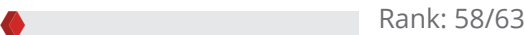
Environmental Stress



-10.5% Forest Change
28.84 Livestock Density (per sq km)



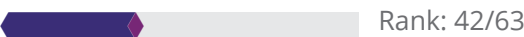
Vulnerable Health Status



75.4 Life Expectancy (years)
9.5 Infant Mortality Rate (per 1,000 live births)
5.6% Acute Malnutrition (Children <5)
73.9 Tuberculosis Incidence (per 100,000 persons)
0.68 Malaria Prevalance (per 100,000 persons)
146.9 HIV Prevalance (per 100,000 persons)



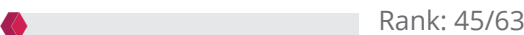
Clean Water Vulnerability



96.5% Households with Safe Water Access
71.1% Households with Hygienic Toilet Access



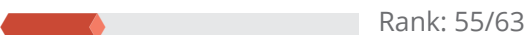
Information Access Vulnerability



2.0% Adult Illiteracy Rate
91.0% School Attendance Rate
89.0% Households without Internet
3.0% Housholds without TV



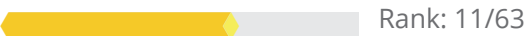
Economic Constraints



41.5 Economic Dependency Ratio
5.0% Poverty



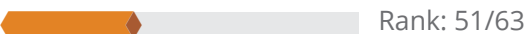
Gender Inequality



0.15 Income Inequality*
0.43 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.7% Average Annual Population Change
1.3% Average Annual Urban Population Change
3.0% Net Migration Rate



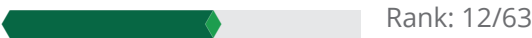
COPING CAPACITY (CC)

RANK: 7 / 63 PROVINCES
SCORE: 0.604

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



Economic Capacity



Rank: 12/63

7.6	4,407	32.23	6.49	8.71
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

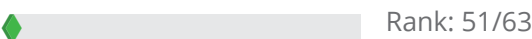


Rank: 3/63

7.2	6.83	6.52
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

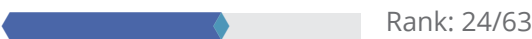


Rank: 51/63

1.1%
Protected Area



Infrastructure Capacity



Rank: 24/63



Health Care Capacity Rank: 45/63

97.4%	25.53	5.66	11.95	19.29
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 6/63

6,714	27.12
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 40/63

82.6%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 8 / 63 PROVINCES
SCORE: 0.608

Long An's score and ranking are due to low Vulnerability combined with very high Coping Capacity scores.

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



Gender Inequality



Environmental Stress



Health Care Capacity



Environmental Capacity



MULTI-HAZARD RISK

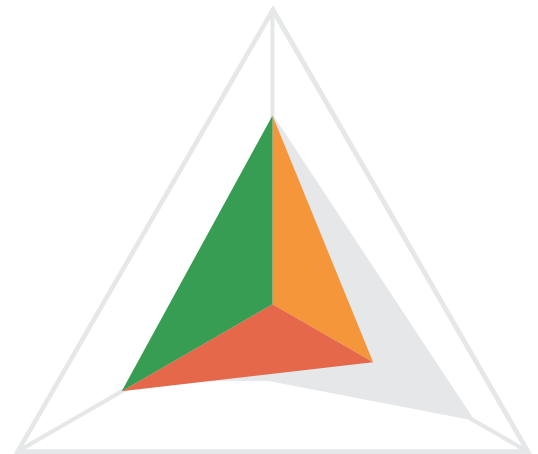
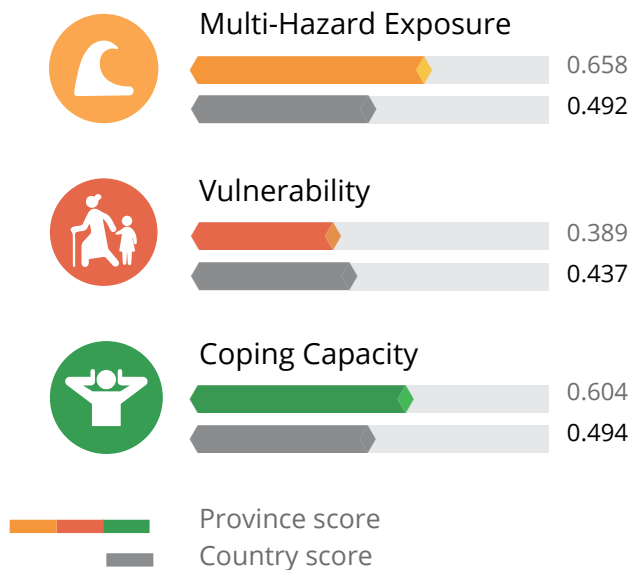
29 / 63

Rank within provinces
Score: 0.481



Long An's score and ranking are due to very high Multi-hazard exposure combined with low Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

NAM DINH

NDPBA PROVINCE PROFILE

VIỆT NAM NAM DINH

CAPITAL: NAM ĐỊNH

Area: 1,845 km²

Located in the southeastern part of the Red River Delta, Nam Dinh is a province with rich historical and cultural heritages. The province's terrain is comprised of hollow delta, coastal delta, and sand banks, with three big river systems and five river mouths along the sea coast. Xuan Thuy national park is a RAMSA biosphere reserve. The provincial economy is based on agriculture, forestry, service, and industrial manufacturing (in six industrial zones and 17 industrial clusters).



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.561 • Rank: 7/63



RESILIENCE (R) - high
Score: 0.553 • Rank: 21/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.789 • Rank: 2/63



VULNERABILITY (V) - very low
Score: 0.349 • Rank: 55/63



COPING CAPACITY (CC) - low
Score: 0.454 • Rank: 41/63



Population (2017)
1,897,975



Population in Poverty
3.8%



Illiterate population
3.0%



Access to improved water
99.9%



Average life expectancy
74.10 years

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



MULTI-HAZARD EXPOSURE

RANK: 2 / 63 PROVINCES
SCORE: 0.789



MHE
0.789

Raw MHE
0.777

Relative MHE
0.919

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:



Typhoon Wind
100.0%
1898613



Flood
68.4%
1298140



Wildfire
0.0%
0



Earthquake
0.0%
0



Landslide
0.0%
0



Extreme Temperature
100.0%
1897975



Surge
0.6%
11832



VULNERABILITY (V)

RANK: 55 / 63 PROVINCES
SCORE: 0.349

Vulnerability in Nam Dinh is primarily driven by Environmental Stress and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



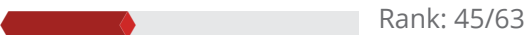
Environmental Stress



-1.8% Forest Change
134.69 Livestock Density (per sq km)



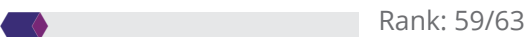
Vulnerable Health Status



74.1 Life Expectancy (years)
12.6 Infant Mortality Rate (per 1,000 live births)
5.4% Acute Malnutrition (Children <5)
51 Tuberculosis Incidence (per 100,000 persons)
27.74 Malaria Prevalance (per 100,000 persons)
212.8 HIV Prevalance (per 100,000 persons)



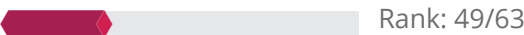
Clean Water Vulnerability



99.9% Households with Safe Water Access
86.5% Households with Hygienic Toilet Access



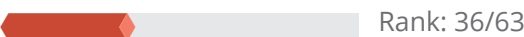
Information Access Vulnerability



3.0% Adult Illiteracy Rate
99.7% School Attendance Rate
87.0% Households without Internet
5.0% Housholds without TV



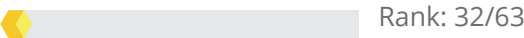
Economic Constraints



48.5 Economic Dependency Ratio
3.8% Poverty



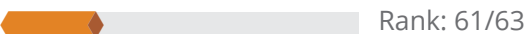
Gender Inequality



0.16 Income Inequality*
0.22 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.0% Average Annual Population Change
1.9% Average Annual Urban Population Change
4.7% Net Migration Rate



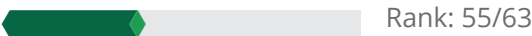
COPING CAPACITY (CC)

RANK: 41 / 63 PROVINCES
SCORE: 0.454

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



Economic Capacity



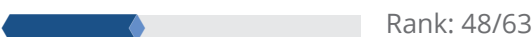
Rank: 55/63

6.69	4,176	14.61	6.35	7.62
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

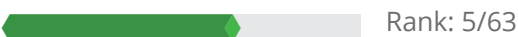


Rank: 48/63

6.73	4.62	5.33
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

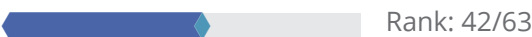


Rank: 5/63

33.0%
Protected Area



Infrastructure Capacity



Rank: 42/63



Health Care Capacity

Rank: 40/63

97.0%	27.73	4.62	10.02	6.19
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 34/63

1,784	15.85
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 41/63

82.2%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 21 / 63 PROVINCES
SCORE: 0.553

Nam Dinh's score and ranking are due to very low Vulnerability combined with low Coping Capacity scores.

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



Environmental Stress



Gender Inequality



Governance



Economic Capacity



MULTI-HAZARD RISK

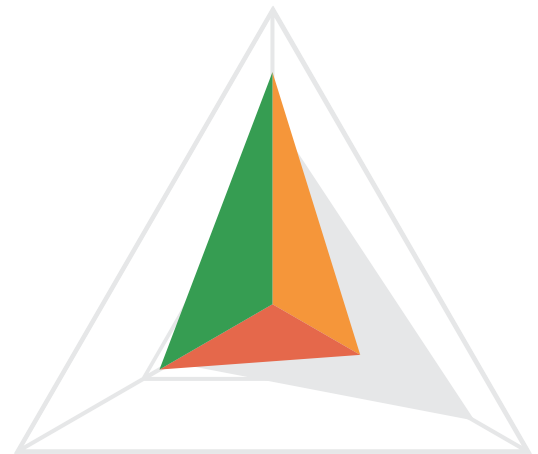
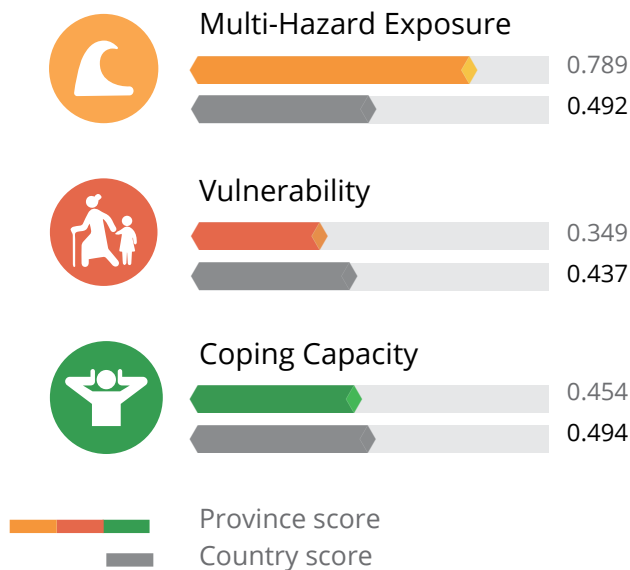
7 / 63

Rank within provinces
Score: 0.561



Nam Dinh's score and ranking are due to very high Multi-hazard exposure combined with very low Vulnerability and low Coping Capacity scores.

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





VIỆT NAM

NGHE AN

NDPBA PROVINCE PROFILE

VIỆT NAM NGHE AN

CAPITAL: VINH

Area: 18,637 km²

Nghe An is the largest province located in the North Central Coastal region of Viet Nam, sharing a border with Laos to the west. The province is two thirds natural forested area and has a large reserve of minerals, especially limestone. Nghe An is rich in natural resources, scenery, and beaches with a long history and deep-rooted culture in Vi Dam folk music. The province's economy is based on agriculture, forestry, mining, and an industrial focus with 13 large industrial zones, producing cement, white stone, sugar, and milk.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.568 • Rank: 5/63



RESILIENCE (R) - moderate
Score: 0.539 • Rank: 25/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.781 • Rank: 3/63



VULNERABILITY (V) - moderate
Score: 0.432 • Rank: 29/63



COPING CAPACITY (CC) - high
Score: 0.51 • Rank: 21/63



Population (2017)
3,123,992



Population in Poverty
12.3%



Illiterate population
2.2%



Access to improved water
86.5%



Average life expectancy
72.50 years

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



MULTI-HAZARD EXPOSURE

RANK: 3 / 63 PROVINCES
SCORE: 0.781

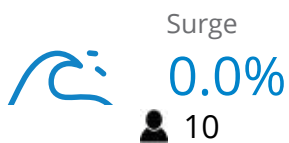
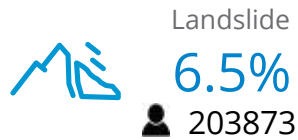
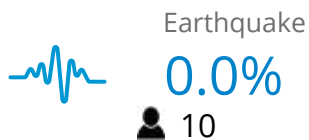
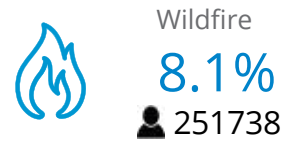
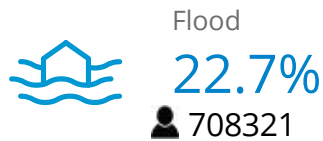


MHE
0.781

Raw MHE
0.88

Relative MHE
0.745

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





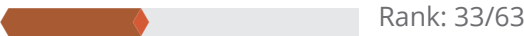
VULNERABILITY (V)

RANK: 29 / 63 PROVINCES
SCORE: 0.432

Vulnerability in Nghe An is primarily driven by Clean Water Access Vulnerability and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



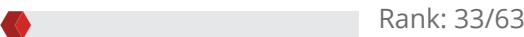
Environmental Stress



2.9% Forest Change
43.35 Livestock Density (per sq km)



Vulnerable Health Status



72.5 Life Expectancy (years)
16.8 Infant Mortality Rate (per 1,000 live births)
5.8% Acute Malnutrition (Children <5)
33.5 Tuberculosis Incidence (per 100,000 persons)
19.89 Malaria Prevalance (per 100,000 persons)
214.7 HIV Prevalance (per 100,000 persons)



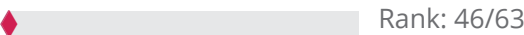
Clean Water Vulnerability



86.5% Households with Safe Water Access
41.3% Households with Hygienic Toilet Access



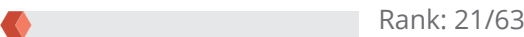
Information Access Vulnerability



2.2% Adult Illiteracy Rate
97.7% School Attendance Rate
86.0% Households without Internet
7.0% Housholds without TV



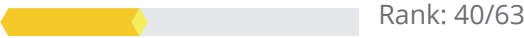
Economic Constraints



44.5 Economic Dependency Ratio
12.3% Poverty



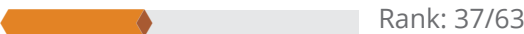
Gender Inequality



0.11 Income Inequality*
0.23 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.6% Average Annual Population Change
3.9% Average Annual Urban Population Change
1.1% Net Migration Rate



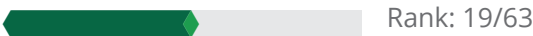
COPING CAPACITY (CC)

RANK: 21 / 63 PROVINCES
SCORE: 0.51

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



Economic Capacity

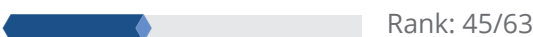


6.72	4,576	15.48	7.45	7.85
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



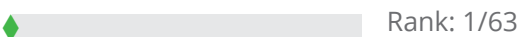
Governance



5.13	4.68	6.38
Law and Order*	Informal Charges*	Transparency*



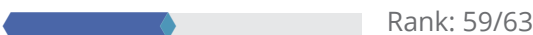
Environmental Capacity



78.6%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 53/63

94.3%	30.3	5.31	12.9	18.14
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 58/63

5,719	167.31
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 32/63

83.9%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 25 / 63 PROVINCES
SCORE: 0.539

Nghe An's score and ranking are due to moderate Vulnerability combined with high Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Economic
Constraints



Transportation
Capacity



Governance



MULTI-HAZARD RISK

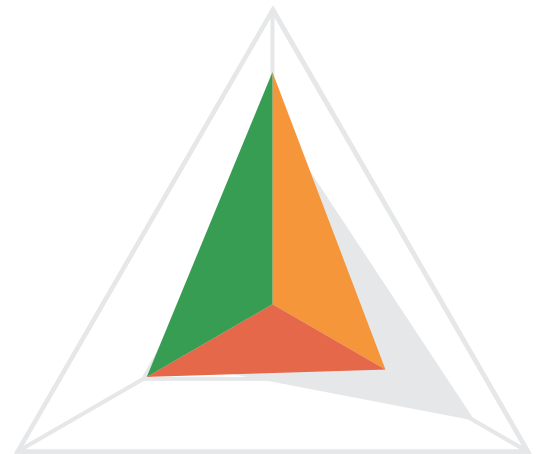
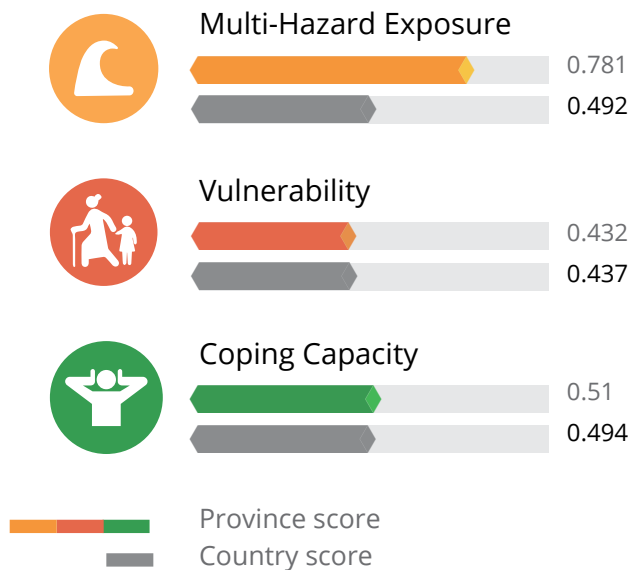
5 / 63

Rank within provinces
Score: 0.568



Nghe An's score and ranking are due to very high Multi-hazard exposure combined with moderate Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

NINH BINH

NDPBA PROVINCE PROFILE

VIỆT NAM

NINH BINH

CAPITAL: NINH BÌNH

Area: 1,558 km²

Located in the southern Red River Delta, Ninh Binh province is famous for a high density of natural and cultural attractions, including Trang An landscape complex (UNESCO World Heritage site), Cuc Phuong National Park, historic monuments in the Hoa Lu ancient capital. Ninh Binh is also known for having a large catholic population. The province's economic activities include tourism, industrial manufacturing (mostly construction materials in seven large industrial zones), mining, service, and agriculture.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.53 • Rank: 15/63



RESILIENCE (R) - moderate
Score: 0.523 • Rank: 32/63



MULTI-HAZARD EXPOSURE - high
Score: 0.636 • Rank: 16/63



VULNERABILITY (V) - high
Score: 0.438 • Rank: 26/63



COPING CAPACITY (CC) - moderate
Score: 0.484 • Rank: 29/63



Population (2017)
929,776



Population in Poverty
5.5%



Illiterate population
12.5%



Access to improved water
97.4%



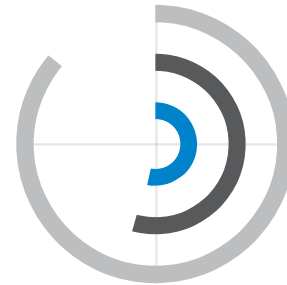
Average life expectancy
73.40 years

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



MULTI-HAZARD EXPOSURE

RANK: 16 / 63 PROVINCES
SCORE: 0.636

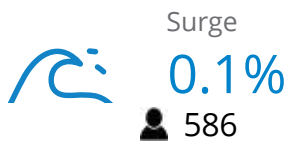
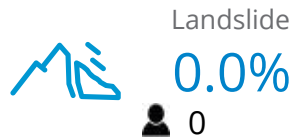
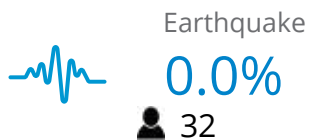


MHE
0.636

Raw MHE
0.542

Relative MHE
0.858

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





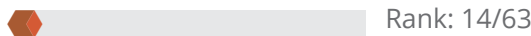
VULNERABILITY (V)

RANK: 26 / 63 PROVINCES
SCORE: 0.438

Vulnerability in Ninh Binh is primarily driven by Gender Inequality and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



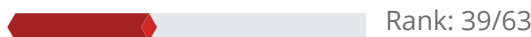
Environmental Stress



-0.2% Forest Change
85.9 Livestock Density (per sq km)



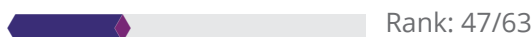
Vulnerable Health Status



73.4 Life Expectancy (years)	14.3 Infant Mortality Rate (per 1,000 live births)	5.5% Acute Malnutrition (Children <5)	37.9 Tuberculosis Incidence (per 100,000 persons)	53.75 Malaria Prevalance (per 100,000 persons)	287.1 HIV Prevalance (per 100,000 persons)
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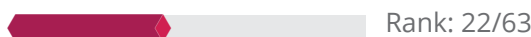
Clean Water Vulnerability



97.4% Households with Safe Water Access
75.6% Households with Hygienic Toilet Access



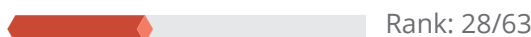
Information Access Vulnerability



12.5% Adult Illiteracy Rate	96.6% School Attendance Rate	87.0% Households without Internet	5.0% Housholds without TV
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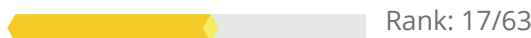
Economic Constraints



48.6 Economic Dependency Ratio
5.5% Poverty



Gender Inequality

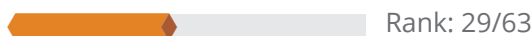


0.12 Income Inequality*
0.4 F M School Enrollment Rate*

*Values closer to 1 represent greater gender parity.



Population Pressures



0.6% Average Annual Population Change	3.8% Average Annual Urban Population Change	3.5% Net Migration Rate
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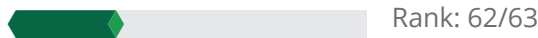
COPING CAPACITY (CC)

RANK: 29 / 63 PROVINCES
SCORE: 0.484

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



Economic Capacity



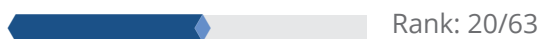
Rank: 62/63

7.03	3,960	24.65	4.94	7.7
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

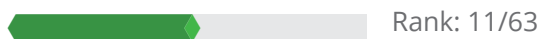


Rank: 20/63

6.13	6.1	6.09
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

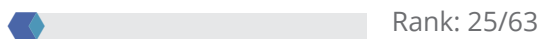


Rank: 11/63

20.6%
Protected Area



Infrastructure Capacity



Rank: 25/63



Health Care Capacity

Rank: 22/63

97.4%	30.72	6.79	12.82	9.2
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 33/63

2,356	31.36
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 44/63

81.1%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 32 / 63 PROVINCES
SCORE: 0.523

Ninh Binh's score and ranking are due to high Vulnerability combined with moderate Coping Capacity scores.

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



Gender Inequality



Environmental Stress



Economic Capacity



Governance



MULTI-HAZARD RISK

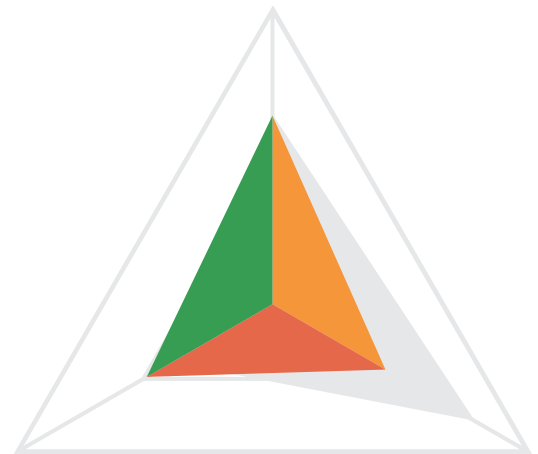
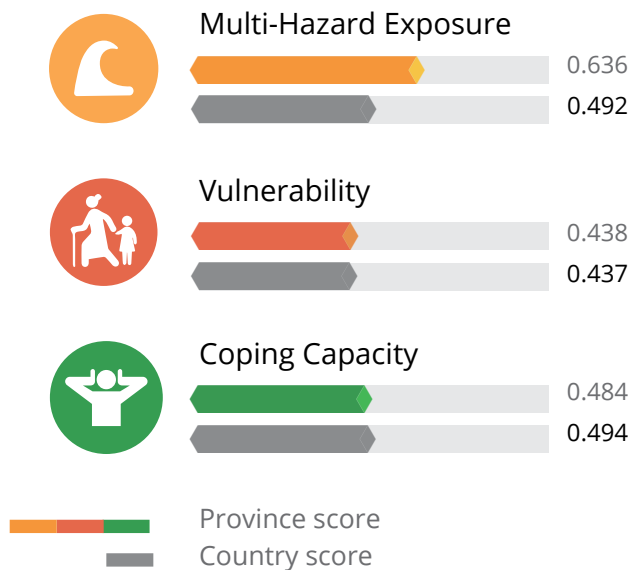
15 / 63

Rank within provinces
Score: 0.53



Ninh Binh's score and ranking are due to high Multi-hazard exposure combined with high Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

NINH THUAN

NDPBA PROVINCE PROFILE

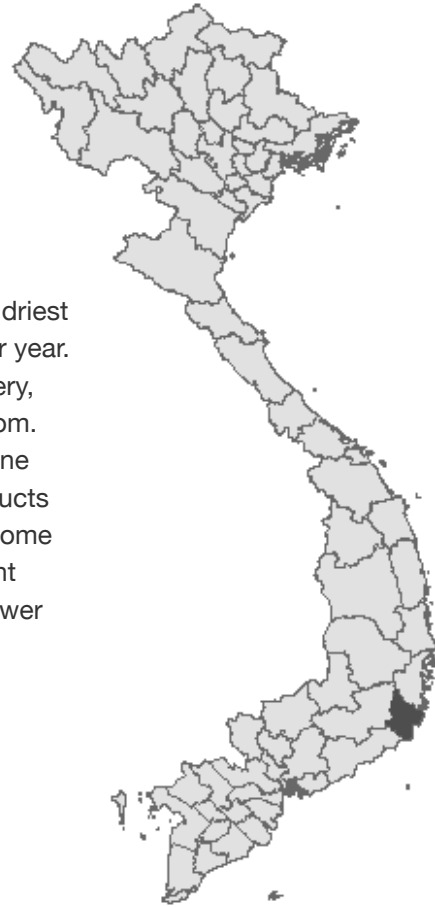
VIỆT NAM

NINH THUAN

CAPITAL: PHAN RANG-THÁP CHÀM

Area: 3,531 km²

Located in the South Central Coast, Ninh Thuan is known as the driest province in Viet Nam with average rainfall of only 700-800mm per year. The province is a well-know tourist destination with natural scenery, beautiful beaches, and historical relics of Champa ancient kingdom. Ninh Thuan is the home of Cham and Raglay ethnic culture. As one of the poorest and least industrialized provinces, prominent products of Ninh Thuan include grape fruits, salt production, fishing, and some manufacturing. The province's agriculture is vulnerable to frequent drought, but Ninh Thuan has high potential for solar and wind power generation.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.41 • Rank: 52/63



RESILIENCE (R) - low
Score: 0.51 • Rank: 42/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.249 • Rank: 58/63



VULNERABILITY (V) - high
Score: 0.454 • Rank: 21/63



COPING CAPACITY (CC) - moderate
Score: 0.474 • Rank: 37/63



Population (2017)
602,115



Population in Poverty
8.2%



Illiterate population
2.2%



Access to improved water
92.4%



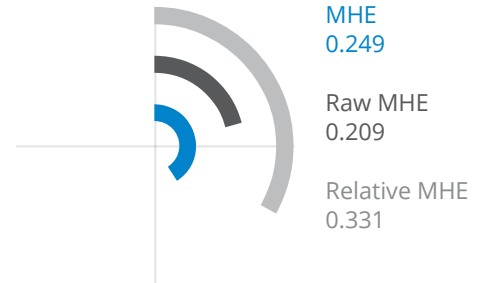
Average life expectancy
72.60 years

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

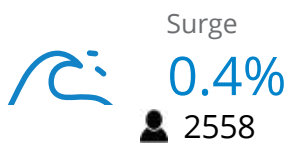
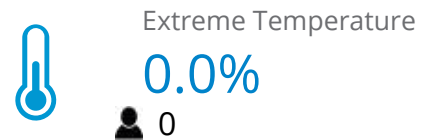
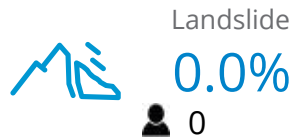
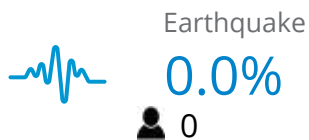


MULTI-HAZARD EXPOSURE

RANK: 58 / 63 PROVINCES
SCORE: 0.249



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





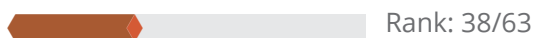
VULNERABILITY (V)

RANK: 21 / 63 PROVINCES
SCORE: 0.454

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



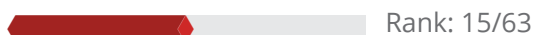
Environmental Stress



-0.2% Forest Change
22.49 Livestock Density (per sq km)



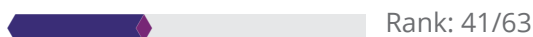
Vulnerable Health Status



72.6 Life Expectancy (years)
16.4 Infant Mortality Rate (per 1,000 live births)
6.6% Acute Malnutrition (Children <5)
1193.2 Tuberculosis Incidence (per 100,000 persons)
182.88 Malaria Prevalance (per 100,000 persons)
57.3 HIV Prevalance (per 100,000 persons)



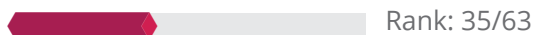
Clean Water Vulnerability



92.4% Households with Safe Water Access
81.2% Households with Hygienic Toilet Access



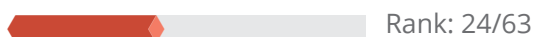
Information Access Vulnerability



2.2% Adult Illiteracy Rate
82.6% School Attendance Rate
86.0% Households without Internet
4.0% Housholds without TV



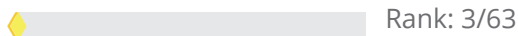
Economic Constraints



47.7 Economic Dependency Ratio
8.2% Poverty



Gender Inequality

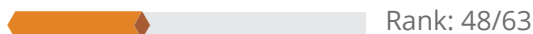


0.18 Income Inequality*
0.54 F M School Enrollment Rate*

*Values closer to 1 represent greater gender parity.



Population Pressures



0.9% Average Annual Population Change
2.9% Average Annual Urban Population Change
0.8% Net Migration Rate



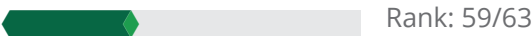
COPING CAPACITY (CC)

RANK: 37 / 63 PROVINCES
SCORE: 0.474

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



Economic Capacity



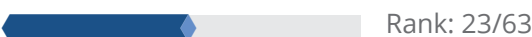
Rank: 59/63

7.1	3,635	22.84	6	7.84
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

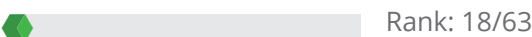


Rank: 23/63

6.01	5.16	6.44
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

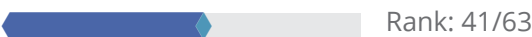


Rank: 18/63

15.2%
Protected Area



Infrastructure Capacity



Rank: 41/63



Health Care Capacity

Rank: 28/63

97.1%	29.56	6.61	13.53	15.15
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 37/63

1,615	24.54
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 49/63

79.3%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 42 / 63 PROVINCES
SCORE: 0.51

Ninh Thuan's score and ranking are due to high Vulnerability combined with moderate Coping Capacity scores.

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



Gender Inequality



Vulnerable Health Status



Economic Capacity



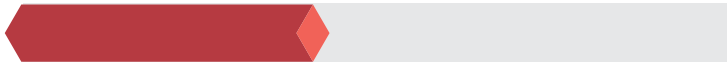
Governance



MULTI-HAZARD RISK

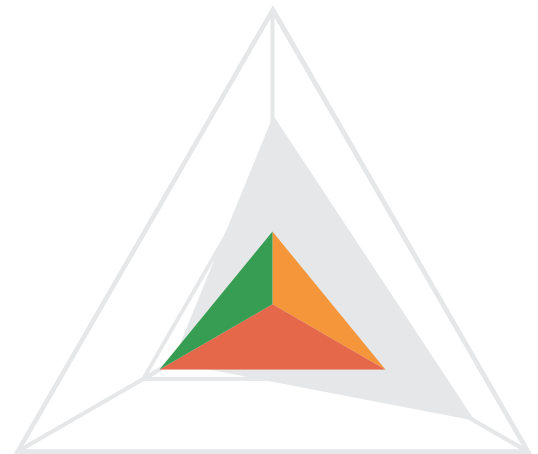
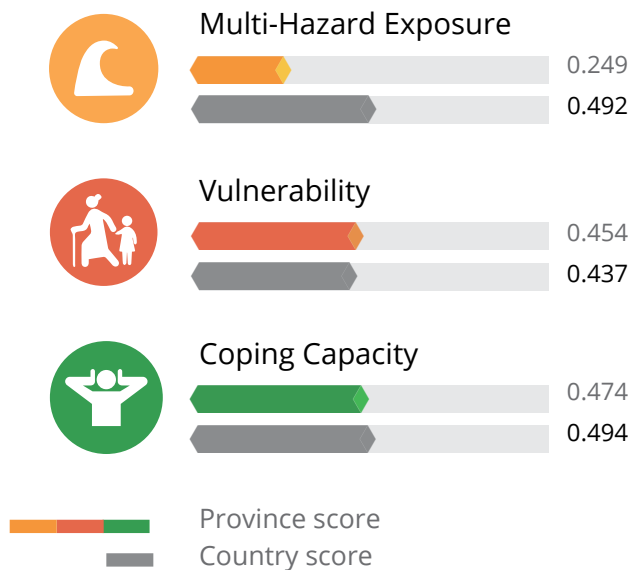
52 / 63

Rank within provinces
Score: 0.41



Ninh Thuan's score and ranking are due to very low Multi-hazard exposure combined with high Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

PHU THO

NDPBA PROVINCE PROFILE

VIỆT NAM PHU THO

CAPITAL: VIỆT TRÌ

Area: 4,091 km²

Neighboring Hanoi Capital to the northwest, Phu Tho is a midlands province linking the Red River Delta with Viet Nam's northern mountainous provinces. Lying at the confluence of the Red and Da river, the province is known as the capital of the ancient Van Lang kingdom of Viet people with Hung Kings temple complex now a national historical location. Phu Tho's economic activities include agroforestry, agriculture (with tea as main product) and certain mining and industrial manufacturing.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.463 • Rank: 38/63



RESILIENCE (R) - moderate
Score: 0.519 • Rank: 33/63



MULTI-HAZARD EXPOSURE - low
Score: 0.428 • Rank: 43/63



VULNERABILITY (V) - moderate
Score: 0.436 • Rank: 28/63



COPING CAPACITY (CC) - moderate
Score: 0.474 • Rank: 38/63



Population (2017)
1,408,176



Population in Poverty
8.0%



Illiterate population
6.8%



Access to improved water
90.2%



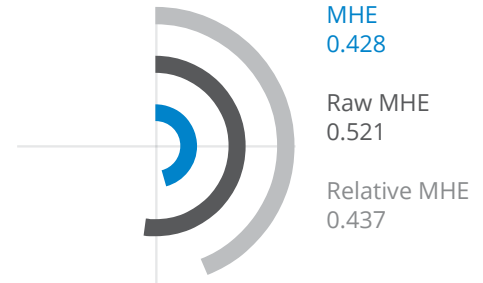
Average life expectancy
73.10 years

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

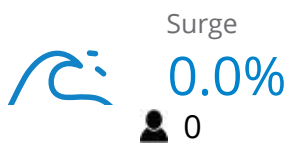
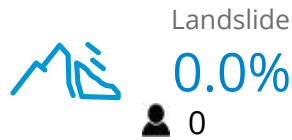
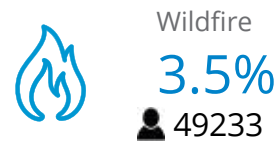
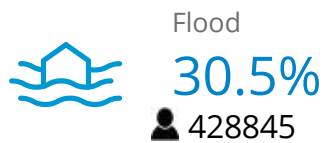
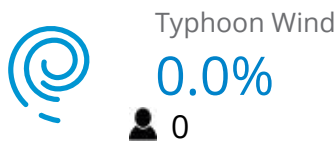


MULTI-HAZARD EXPOSURE

RANK: 43 / 63 PROVINCES
SCORE: 0.428



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





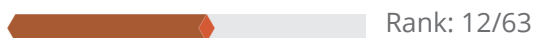
VULNERABILITY (V)

RANK: 28 / 63 PROVINCES
SCORE: 0.436

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



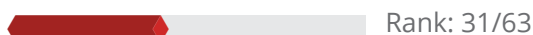
Environmental Stress



0.0% Forest Change
89.27 Livestock Density (per sq km)



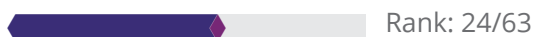
Vulnerable Health Status



73.1 Life Expectancy (years)
15.1 Infant Mortality Rate (per 1,000 live births)
6.4% Acute Malnutrition (Children <5)
37.3 Tuberculosis Incidence (per 100,000 persons)
51.1 Malaria Prevalance (per 100,000 persons)
226.5 HIV Prevalance (per 100,000 persons)



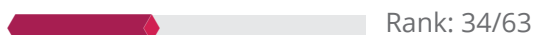
Clean Water Vulnerability



90.2% Households with Safe Water Access
54.7% Households with Hygienic Toilet Access



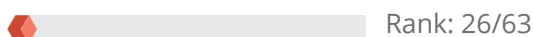
Information Access Vulnerability



6.8% Adult Illiteracy Rate
95.3% School Attendance Rate
87.0% Households without Internet
5.0% Housholds without TV



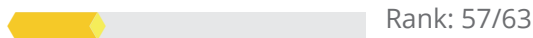
Economic Constraints



46.7 Economic Dependency Ratio
8.0% Poverty



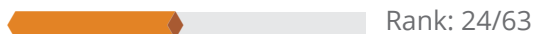
Gender Inequality



0.04 Income Inequality*
0.21 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.6% Average Annual Population Change
3.0% Average Annual Urban Population Change
7.9% Net Migration Rate



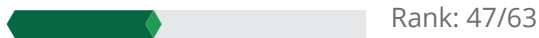
COPING CAPACITY (CC)

RANK: 38 / 63 PROVINCES
SCORE: 0.474

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



Economic Capacity



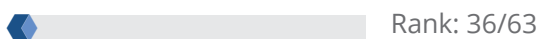
Rank: 47/63

6.14	3,858	14.8	6.62	8.03
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

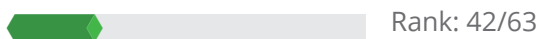


Rank: 36/63

6.28	5.22	5.95
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

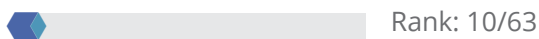


Rank: 42/63

4.2%
Protected Area



Infrastructure Capacity



Rank: 10/63



Health Care Capacity Rank: 6/63

99.5%	40.61	8.3	11.67	7.39
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 40/63

2,280	49.07
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 31/63

84.0%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 33 / 63 PROVINCES
SCORE: 0.519

Phu Tho's score and ranking are due to moderate Vulnerability combined with moderate Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Environmental
Stress



Economic Capacity



Governance



MULTI-HAZARD RISK

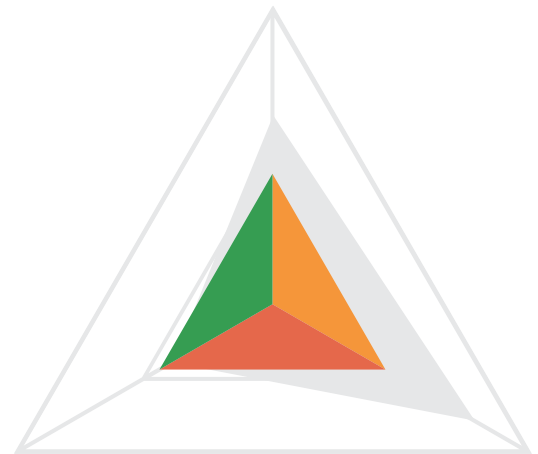
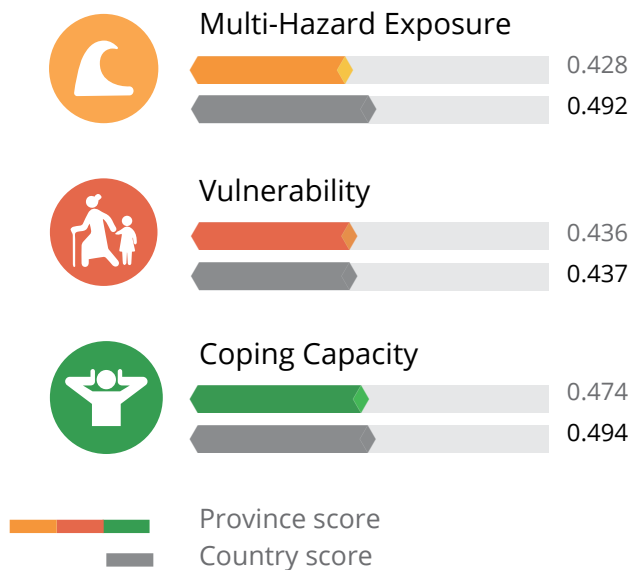
38 / 63

Rank within provinces
Score: 0.463



Phu Tho's score and ranking are due to low Multi-hazard exposure combined with moderate Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

PHU YEN

NDPBA PROVINCE PROFILE

VIỆT NAM PHU YEN

CAPITAL: TUY HÒA

Area: 5,298 km²

Phu Yen is the eastern-most province of Viet Nam's mainland. Characterized by mixed topography, mostly covered by mountains or hills in the west and a delta near coastal areas, the province has limited land for cultivation. Phu Yen is home to 30 ethnic groups including Cham, E De, Ba Na, Hre, Hoa, M'Nông, and Raglai people. Provincial economic activities are forestry, agriculture, fishing, and small industrial sector. The province is also known for having high tourism potential with many beautiful landscapes.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.537 • Rank: 12/63



RESILIENCE (R) - low
Score: 0.513 • Rank: 39/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.638 • Rank: 13/63



VULNERABILITY (V) - moderate
Score: 0.408 • Rank: 38/63



COPING CAPACITY (CC) - low
Score: 0.434 • Rank: 48/63



Population (2017)
918,332



Population in Poverty
9.3%



Illiterate population
2.9%



Access to improved water
93.0%



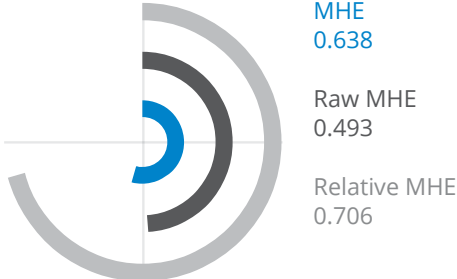
Average life expectancy
73.10 years

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



MULTI-HAZARD EXPOSURE

RANK: 13 / 63 PROVINCES
SCORE: 0.638



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:



Typhoon Wind
100.0%
916705



Flood
19.7%
181245



Wildfire
36.7%
336865



Earthquake
0.0%
0



Landslide
0.0%
0



Extreme Temperature
100.0%
918332



Surge
0.1%
742



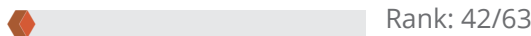
VULNERABILITY (V)

RANK: 38 / 63 PROVINCES
SCORE: 0.408

Vulnerability in Phu Yen is primarily driven by Population Pressures and Clean Water Access Vulnerability. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



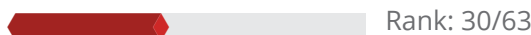
Environmental Stress



2.2% Forest Change
28.67 Livestock Density (per sq km)



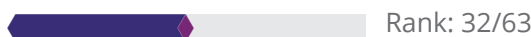
Vulnerable Health Status



73.1 Life Expectancy (years)
15.2 Infant Mortality Rate (per 1,000 live births)
7.6% Acute Malnutrition (Children <5)
47.9 Tuberculosis Incidence (per 100,000 persons)
135.22 Malaria Prevalance (per 100,000 persons)
22.6 HIV Prevalance (per 100,000 persons)



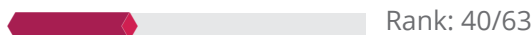
Clean Water Vulnerability



93.0% Households with Safe Water Access
62.9% Households with Hygienic Toilet Access



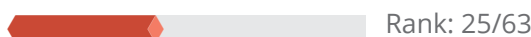
Information Access Vulnerability



2.9% Adult Illiteracy Rate
93.4% School Attendance Rate
85.0% Households without Internet
5.0% Housholds without TV



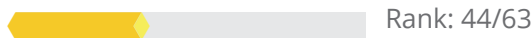
Economic Constraints



46.4 Economic Dependency Ratio
9.3% Poverty



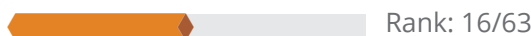
Gender Inequality



0.03 Income Inequality*
0.36 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.7% Average Annual Population Change
4.9% Average Annual Urban Population Change
3.4% Net Migration Rate



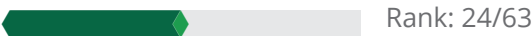
COPING CAPACITY (CC)

RANK: 48 / 63 PROVINCES
SCORE: 0.434

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



Economic Capacity

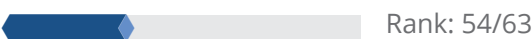


6.3	4,295	25.41	6.61	8.05
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



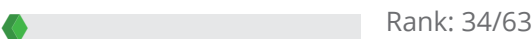
Governance



5.15	5.31	5.89
Law and Order*	Informal Charges*	Transparency*



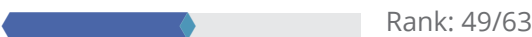
Environmental Capacity



6.6%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 44/63

98.1%	23.79	5.14	11.75	17.01
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 48/63

2,238	72.18
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 36/63

83.3%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 39 / 63 PROVINCES
SCORE: 0.513

Phu Yen's score and ranking are due to moderate Vulnerability combined with low Coping Capacity scores.

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



Population Pressures



Clean Water Access Vulnerability



Governance



Transportation Capacity



MULTI-HAZARD RISK

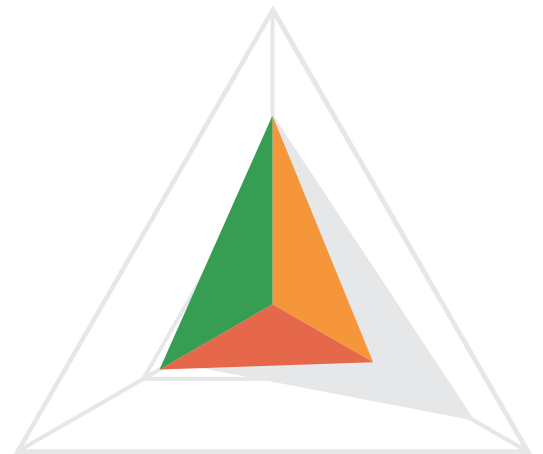
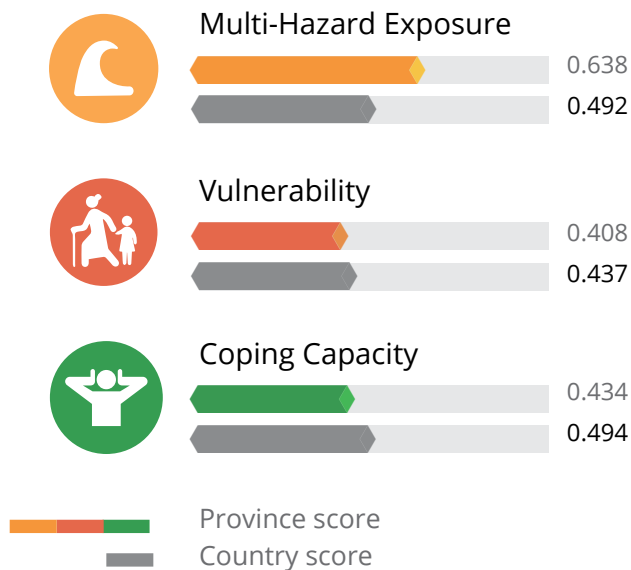
12 / 63

Rank within provinces
Score: 0.537



Phu Yen's score and ranking are due to very high Multi-hazard exposure combined with moderate Vulnerability and low Coping Capacity scores.

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





VIỆT NAM

QUANG BINH

NDPBA PROVINCE PROFILE

VIỆT NAM

QUANG BINH

CAPITAL: ĐỒNG HỚI

Area: 8,813 km²

Quang Binh is a coastal province located in the upper middle portion of Viet Nam, sharing a border with Laos to the west. The province's topography is quite narrow, steep and mainly mountainous making Quang Binh one of the poorest provinces in Viet Nam. Quang Binh's economy is based on agriculture, fishery, and small sector business. Endowed with many natural landscapes and biodiversity, the province's tourism sector is growing fast with Phong Nha Ke Bang National Park a newly recognized UNESCO world heritage site.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.534 • Rank: 13/63



RESILIENCE (R) - very low
Score: 0.481 • Rank: 50/63



MULTI-HAZARD EXPOSURE - high
Score: 0.565 • Rank: 26/63



VULNERABILITY (V) - high
Score: 0.453 • Rank: 22/63



COPING CAPACITY (CC) - very low
Score: 0.414 • Rank: 57/63



Population (2017)
893,753



Population in Poverty
12.5%



Illiterate population
5.2%



Access to improved water
89.1%



Average life expectancy
72.40 years

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



MULTI-HAZARD EXPOSURE

RANK: 26 / 63 PROVINCES
SCORE: 0.565

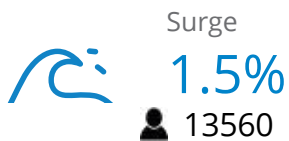
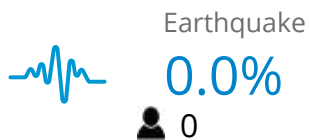
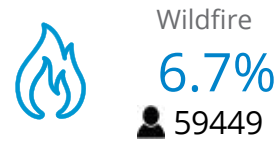
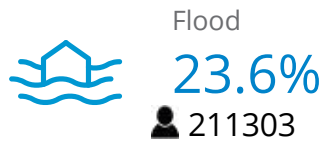


MHE
0.565

Raw MHE
0.492

Relative MHE
0.729

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





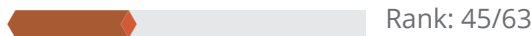
VULNERABILITY (V)

RANK: 22 / 63 PROVINCES
SCORE: 0.453

Vulnerability in Quang Binh is primarily driven by Clean Water Access Vulnerability and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



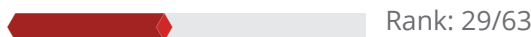
Environmental Stress



0.9% Forest Change
21.88 Livestock Density (per sq km)



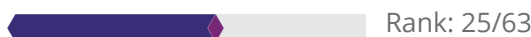
Vulnerable Health Status



72.4 Life Expectancy (years)
17 Infant Mortality Rate (per 1,000 live births)
6.5% Acute Malnutrition (Children <5)
50.1 Tuberculosis Incidence (per 100,000 persons)
107.22 Malaria Prevalance (per 100,000 persons)
35.3 HIV Prevalance (per 100,000 persons)



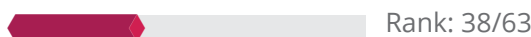
Clean Water Vulnerability



89.1% Households with Safe Water Access
57.1% Households with Hygienic Toilet Access



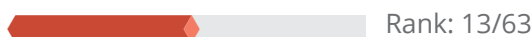
Information Access Vulnerability



5.2% Adult Illiteracy Rate
97.2% School Attendance Rate
86.0% Households without Internet
6.0% Housholds without TV



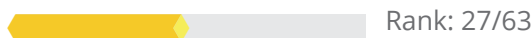
Economic Constraints



49.6 Economic Dependency Ratio
12.5% Poverty



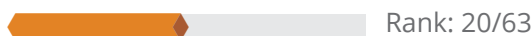
Gender Inequality



0.17 Income Inequality*
0.24 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.5% Average Annual Population Change
4.9% Average Annual Urban Population Change
3.8% Net Migration Rate



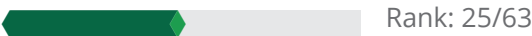
COPING CAPACITY (CC)

RANK: 57 / 63 PROVINCES
SCORE: 0.414

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



Economic Capacity

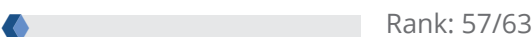


6.18	4,477	20.79	6.45	8.17
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



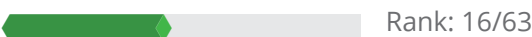
Governance



5.63	5.16	5.67
Law and Order*	Informal Charges*	Transparency*



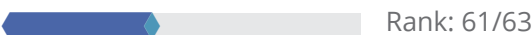
Environmental Capacity



15.7%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 62/63

86.3%	22.93	5.22	10.87	25.21
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 39/63

2,404	52.04
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 47/63

79.7%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 50 / 63 PROVINCES
SCORE: 0.481

Quang Binh's score and ranking are due to high Vulnerability combined with very low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Economic
Constraints



Health Care Capacity



Governance



MULTI-HAZARD RISK

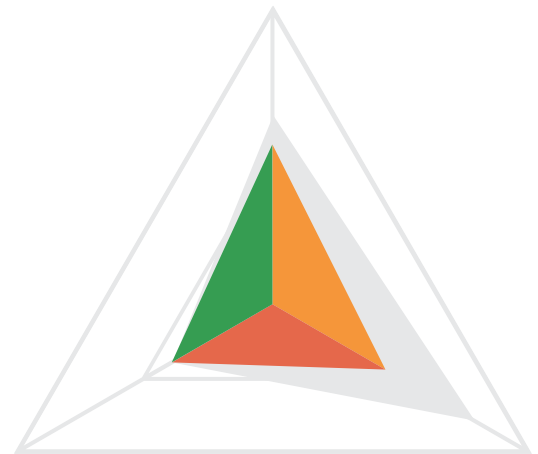
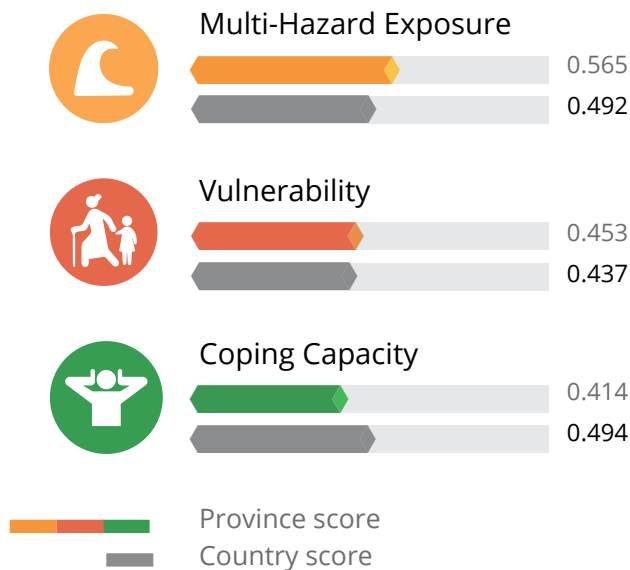
13 / 63

Rank within provinces
Score: 0.534



Quang Binh's score and ranking are due to high Multi-hazard exposure combined with high Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

QUANG NAM

NDPBA PROVINCE PROFILE

VIỆT NAM

QUANG NAM

CAPITAL: TAM KỲ

Area: 11,391 km²

Quang Nam is located in the middle of Central Viet Nam, bordering Laos to the west and facing the East Sea in the East. The province has forested mountains and hills covering 72 percent of its surface along with rivers running from the Truong Son Range to the sea. Quang Nam known for natural scenery, beaches and historical and cultural sites including two UNESCO World Heritage Sites: the ancient town of Hoi An and the My Son temple. Besides the tourism, province's economy is growing rapidly with a focus on hydropower and industry sectors, especially the Chu Lai Economic Zone.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.511 • Rank: 22/63



RESILIENCE (R) - high
Score: 0.551 • Rank: 23/63



MULTI-HAZARD EXPOSURE - high
Score: 0.636 • Rank: 15/63



VULNERABILITY (V) - moderate
Score: 0.428 • Rank: 31/63



COPING CAPACITY (CC) - high
Score: 0.53 • Rank: 18/63



Population (2017)
1,501,998



Population in Poverty
10.6%



Illiterate population
6.3%



Access to improved water
86.1%



Average life expectancy
72.50 years

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



MULTI-HAZARD EXPOSURE

RANK: 15 / 63 PROVINCES
SCORE: 0.636

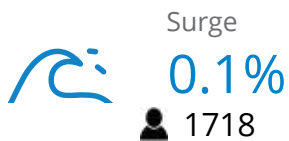
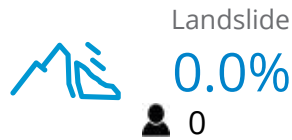
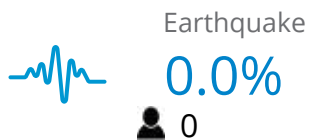
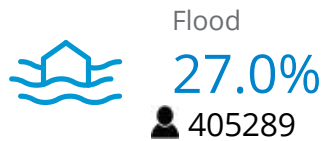


MHE
0.636

Raw MHE
0.653

Relative MHE
0.736

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





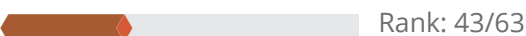
VULNERABILITY (V)

RANK: 31 / 63 PROVINCES
SCORE: 0.428

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



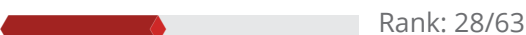
Environmental Stress



1.6% Forest Change
26.04 Livestock Density (per sq km)



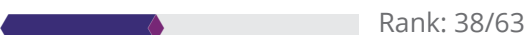
Vulnerable Health Status



72.5 Life Expectancy (years)
16.6 Infant Mortality Rate (per 1,000 live births)
6.8% Acute Malnutrition (Children <5)
63.5 Tuberculosis Incidence (per 100,000 persons)
20.65 Malaria Prevalance (per 100,000 persons)
47.1 HIV Prevalance (per 100,000 persons)



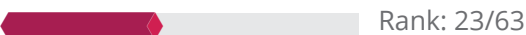
Clean Water Vulnerability



86.1% Households with Safe Water Access
82.5% Households with Hygienic Toilet Access



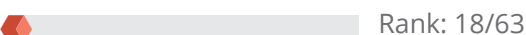
Information Access Vulnerability



6.3% Adult Illiteracy Rate
98.7% School Attendance Rate
88.0% Households without Internet
10.0% Housholds without TV



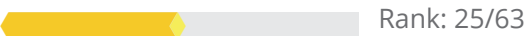
Economic Constraints



47.7 Economic Dependency Ratio
10.6% Poverty



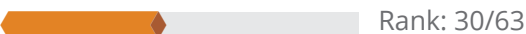
Gender Inequality



0.14 Income Inequality*
0.3 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.5% Average Annual Population Change
4.9% Average Annual Urban Population Change
1.6% Net Migration Rate



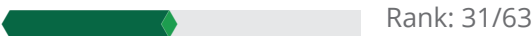
COPING CAPACITY (CC)

RANK: 18 / 63 PROVINCES
SCORE: 0.53

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



Economic Capacity

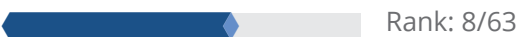


6.71	4,156	21.33	6.44	8.2
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



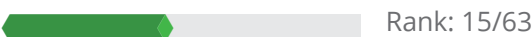
Governance



6.99	5.53	6.8
Law and Order*	Informal Charges*	Transparency*



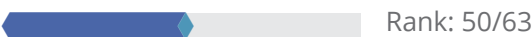
Environmental Capacity



16.1%
Protected Area



Infrastructure Capacity



Health Care Capacity Rank: 58/63

98.0%	29.37	5.12	10.78	39.12
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 13/63

8,683	66.39
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 51/63

77.1%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 23 / 63 PROVINCES
SCORE: 0.551

Quang Nam's score and ranking are due to moderate Vulnerability combined with high Coping Capacity scores.

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



Gender Inequality



Economic Constraints



Health Care Capacity



Economic Capacity



MULTI-HAZARD RISK

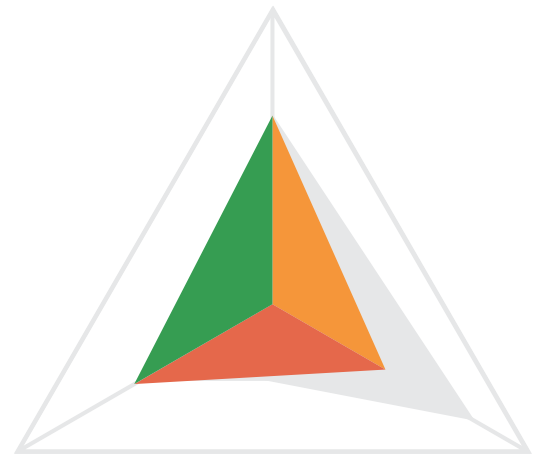
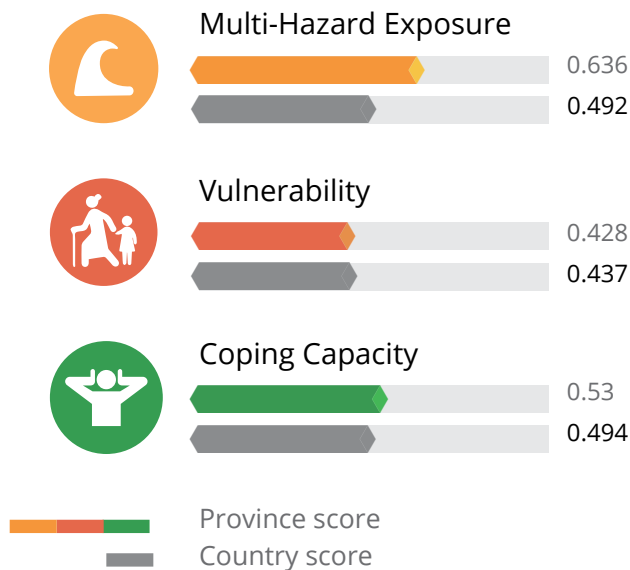
22 / 63

Rank within provinces
Score: 0.511



Quang Nam's score and ranking are due to high Multi-hazard exposure combined with moderate Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

QUANG NGAI

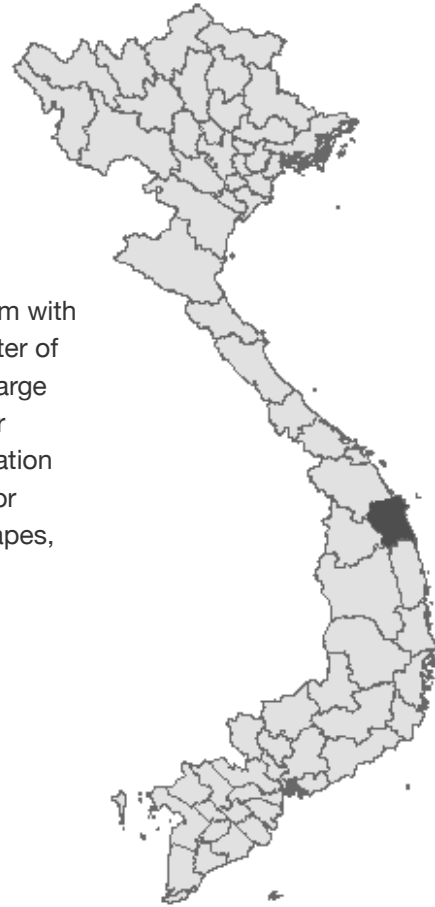
NDPBA PROVINCE PROFILE

VIỆT NAM QUANG NGAI

CAPITAL: QUẢNG NGÃI

Area: 5,540 km²

Quang Ngai is located in South Central Coastal region of Viet Nam with terrain dominated by a large plain along the coast and in the center of the province and by mountains and hills in the west. Despite its large agriculture area, Quang Ngai industry is more effective than other economic activities with the largest Viet Nam's refinery is in operation in Dung Quat Economic Zone. The province is also well-known for the vestiges from ancient Sa Huynh culture and beautiful landscapes, especially My Khe beach and Ly Son island.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.544 • Rank: 10/63



RESILIENCE (R) - low
Score: 0.498 • Rank: 45/63



MULTI-HAZARD EXPOSURE - high
Score: 0.628 • Rank: 17/63



VULNERABILITY (V) - high
Score: 0.451 • Rank: 24/63



COPING CAPACITY (CC) - low
Score: 0.446 • Rank: 45/63



Population (2017)
1,242,810



Population in Poverty
11.0%



Illiterate population
3.2%



Access to improved water
86.5%



Average life expectancy
72.00 years

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



MULTI-HAZARD EXPOSURE

RANK: 17 / 63 PROVINCES
SCORE: 0.628

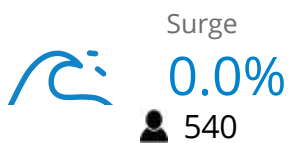
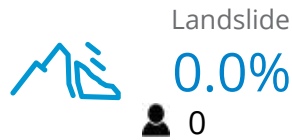
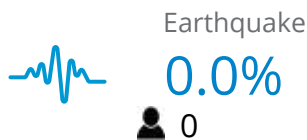


MHE
0.628

Raw MHE
0.584

Relative MHE
0.702

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





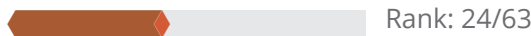
VULNERABILITY (V)

RANK: 24 / 63 PROVINCES
SCORE: 0.451

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



Environmental Stress



4.8% Forest Change
65.43 Livestock Density (per sq km)



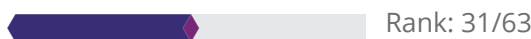
Vulnerable Health Status



72 Life Expectancy (years)
17.9 Infant Mortality Rate (per 1,000 live births)
5.8% Acute Malnutrition (Children <5)
43.4 Tuberculosis Incidence (per 100,000 persons)
7.98 Malaria Prevalance (per 100,000 persons)
54.7 HIV Prevalance (per 100,000 persons)



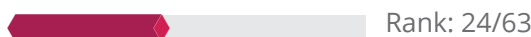
Clean Water Vulnerability



86.5% Households with Safe Water Access
70.4% Households with Hygienic Toilet Access



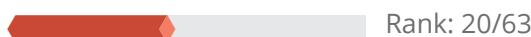
Information Access Vulnerability



3.2% Adult Illiteracy Rate
94.2% School Attendance Rate
90.0% Households without Internet
9.0% Housholds without TV



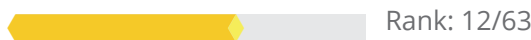
Economic Constraints



46.7 Economic Dependency Ratio
11.0% Poverty



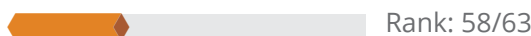
Gender Inequality



0.21 Income Inequality*
0.33 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.3% Average Annual Population Change
2.0% Average Annual Urban Population Change
2.0% Net Migration Rate



COPING CAPACITY (CC)

RANK: 45 / 63 PROVINCES
SCORE: 0.446

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



Economic Capacity

Rank: 35/63

6.19	3,910	28.62	6.74	7.67
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

Rank: 18/63

6.38	5.59	6.7
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

Rank: 54/63

0.3%
Protected Area



Infrastructure Capacity

Rank: 58/63



Health Care Capacity

Rank: 49/63

98.9%	22.42	5.06	12.07	23.88
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 46/63

5,027	107.36
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 56/63

73.8%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 45 / 63 PROVINCES
SCORE: 0.498

Quang Ngai's score and ranking are due to high Vulnerability combined with low Coping Capacity scores.

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



Gender Inequality



Clean Water Access Vulnerability



Health Care Capacity



Economic Capacity



MULTI-HAZARD RISK

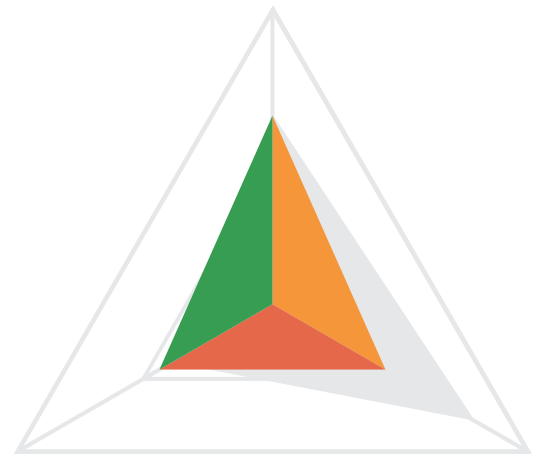
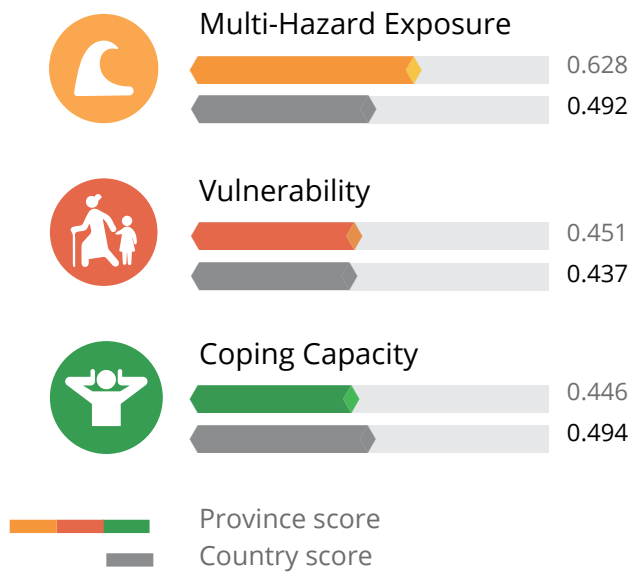
10 / 63

Rank within provinces
Score: 0.544



Quang Ngai's score and ranking are due to high Multi-hazard exposure combined with high Vulnerability and low Coping Capacity scores.

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





VIỆT NAM

QUANG NINH

NDPBA PROVINCE PROFILE

VIỆT NAM QUANG NINH

CAPITAL: HẠ LONG

Area: 6,789 km²

Quang Ninh is a mountainous province along the northeastern coast of Viet Nam, with more than 2,000 small islands and sharing a border with China to the north. The province has rich natural mineral resources and supplies 90% of coal for the country. Quang Ninh province is also known for being home to Ha Long Bay, a World Heritage Site. As a gateway to China, the province's economy benefits from international trade (Mong Cai Border Gate Economic Zone), tourism and rapid industrial development, especially in the Van Don Exclusive Economic Zone



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.396 • Rank: 56/63



RESILIENCE (R) - very high
Score: 0.647 • Rank: 3/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.482 • Rank: 35/63



VULNERABILITY (V) - very low
Score: 0.367 • Rank: 51/63



COPING CAPACITY (CC) - very high
Score: 0.66 • Rank: 3/63



Population (2017)
1,275,836



Population in Poverty
4.0%



Illiterate population
7.8%



Access to improved water
92.5%



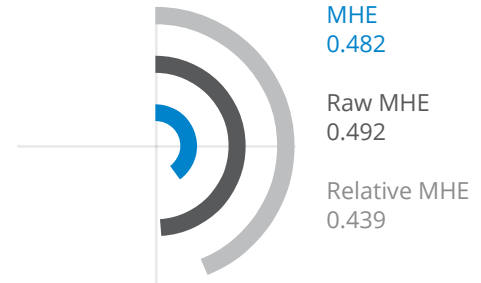
Average life expectancy
73.10 years

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

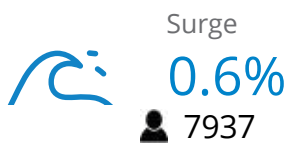
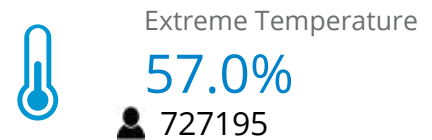
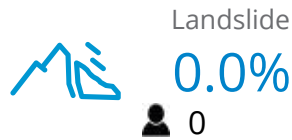
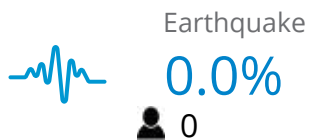
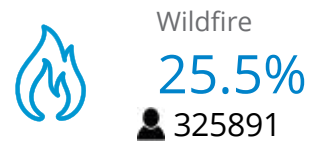
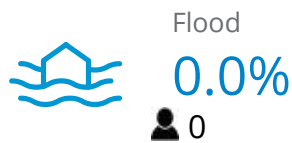


MULTI-HAZARD EXPOSURE

RANK: 35 / 63 PROVINCES
SCORE: 0.482



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





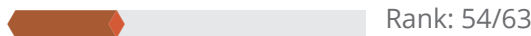
VULNERABILITY (V)

RANK: 51 / 63 PROVINCES
SCORE: 0.367

Vulnerability in Quang Ninh is primarily driven by Population Pressures and Vulnerable Health Status. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



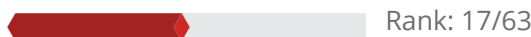
Environmental Stress



3.1% Forest Change
21.32 Livestock Density (per sq km)



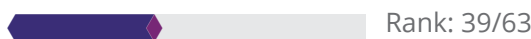
Vulnerable Health Status



73.1 Life Expectancy (years)
15.1 Infant Mortality Rate (per 1,000 live births)
8.8% Acute Malnutrition (Children <5)
42.4 Tuberculosis Incidence (per 100,000 persons)
3.75 Malaria Prevalance (per 100,000 persons)
436.1 HIV Prevalance (per 100,000 persons)



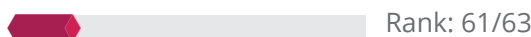
Clean Water Vulnerability



92.5% Households with Safe Water Access
76.8% Households with Hygienic Toilet Access



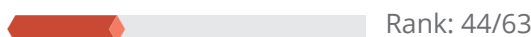
Information Access Vulnerability



7.8% Adult Illiteracy Rate
98.0% School Attendance Rate
73.0% Households without Internet
2.0% Housholds without TV



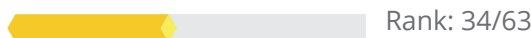
Economic Constraints



45 Economic Dependency Ratio
4.0% Poverty



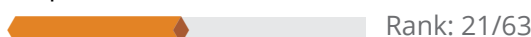
Gender Inequality



0.21 Income Inequality*
0.13 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.1% Average Annual Population Change
4.0% Average Annual Urban Population Change
2.6% Net Migration Rate



COPING CAPACITY (CC)

RANK: 3 / 63 PROVINCES
SCORE: 0.66

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



Economic Capacity



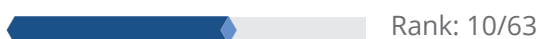
Rank: 3/63

7.73	5,144	44.08	7.52	8.93
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

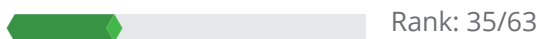


Rank: 10/63

5.63	5.79	6.8
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

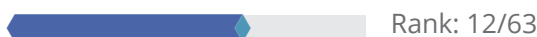


Rank: 35/63

6.6%
Protected Area



Infrastructure Capacity



Rank: 12/63



Health Care Capacity Rank: 24/63

95.6%	40.29	7.68	11.65	14.87
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 19/63

3,548	26.12
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 20/63

87.3%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 3 / 63 PROVINCES
SCORE: 0.647

Quang Ninh's score and ranking are due to very low Vulnerability combined with very high Coping Capacity scores.

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



Population Pressures



Vulnerable Health Status



Health Care Capacity



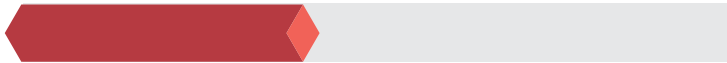
Governance



MULTI-HAZARD RISK

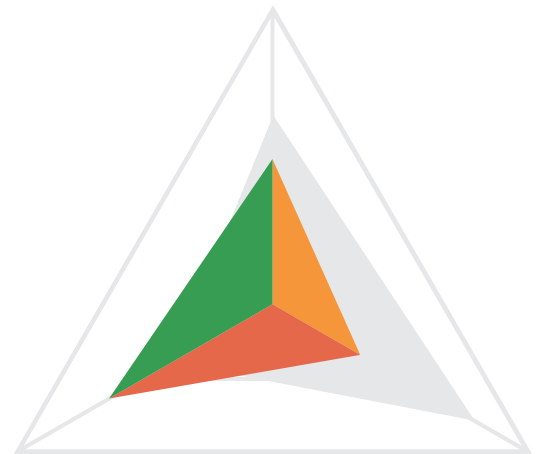
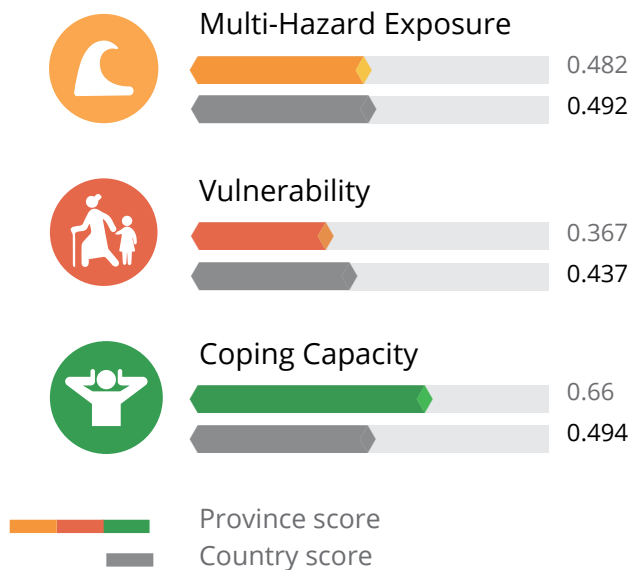
56 / 63

Rank within provinces
Score: 0.396



Quang Ninh's score and ranking are due to moderate Multi-hazard exposure combined with very low Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

QUANG TRI

NDPBA PROVINCE PROFILE

VIỆT NAM QUANG TRI

CAPITAL: ĐÔNG HÀ

Area: 5,061 km²

Quang Tri province is located in the North Central Coast region of Viet Nam, sharing a border with Laos to the west. The province's terrain is dominated by hills and mountains with a narrow coastal plain. One of the poorest provinces in Viet Nam, Quang Tri is affected by hot and dry south-west wind during the southwest monsoon season with frequent typhoons. The province was heavily impacted by the Viet Nam War and a number of the battle-field relics have become tourism attractions.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.478 • Rank: 31/63



RESILIENCE (R) - low
Score: 0.513 • Rank: 41/63



MULTI-HAZARD EXPOSURE - low
Score: 0.46 • Rank: 39/63



VULNERABILITY (V) - high
Score: 0.457 • Rank: 19/63



COPING CAPACITY (CC) - moderate
Score: 0.482 • Rank: 32/63



Population (2017)
678,597



Population in Poverty
10.7%



Illiterate population
11.5%



Access to improved water
87.6%



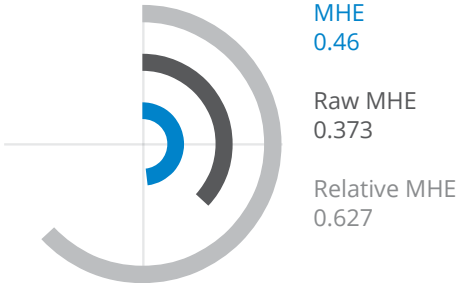
Average life expectancy
67.70 years

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



MULTI-HAZARD EXPOSURE

RANK: 39 / 63 PROVINCES
SCORE: 0.46



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:



Typhoon Wind
100.0%
678864



Flood
0.0%
0



Wildfire
9.1%
61639



Earthquake
0.0%
0



Landslide
0.0%
0



Extreme Temperature
100.0%
678597



Surge
1.4%
9459



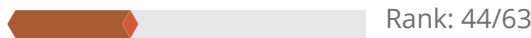
VULNERABILITY (V)

RANK: 19 / 63 PROVINCES
SCORE: 0.457

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



Environmental Stress



1.5% Forest Change
24.71 Livestock Density (per sq km)



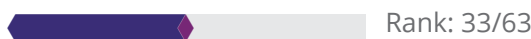
Vulnerable Health Status



67.7 Life Expectancy (years)
31.9 Infant Mortality Rate (per 1,000 live births)
7.0% Acute Malnutrition (Children <5)
43 Tuberculosis Incidence (per 100,000 persons)
81.45 Malaria Prevalance (per 100,000 persons)
29.7 HIV Prevalance (per 100,000 persons)



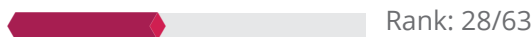
Clean Water Vulnerability



87.6% Households with Safe Water Access
71.4% Households with Hygienic Toilet Access



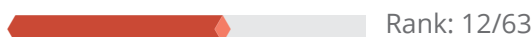
Information Access Vulnerability



11.5% Adult Illiteracy Rate
94.2% School Attendance Rate
81.0% Households without Internet
7.0% Housholds without TV



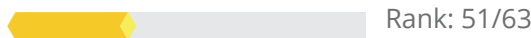
Economic Constraints



57.5 Economic Dependency Ratio
10.7% Poverty



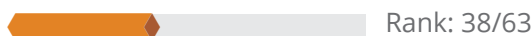
Gender Inequality



0.1 Income Inequality*
0.2 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.5% Average Annual Population Change
1.9% Average Annual Urban Population Change
5.2% Net Migration Rate



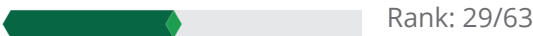
COPING CAPACITY (CC)

RANK: 32 / 63 PROVINCES
SCORE: 0.482

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



Economic Capacity

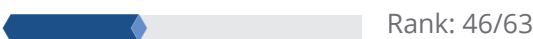


6.31	4,369	32.93	5.83	8.03
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



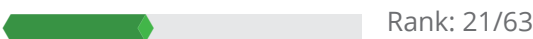
Governance



5.39	4.16	6.59
Law and Order*	Informal Charges*	Transparency*



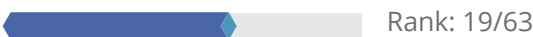
Environmental Capacity



12.1%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 20/63

95.9%	33.4	7.74	17.33	13.99
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 29/63

3,138	42.6
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 38/63

82.8%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 41 / 63 PROVINCES
SCORE: 0.513

Quang Tri's score and ranking are due to high Vulnerability combined with moderate Coping Capacity scores.

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



Vulnerable Health Status



Economic Constraints



Governance



Economic Capacity



MULTI-HAZARD RISK

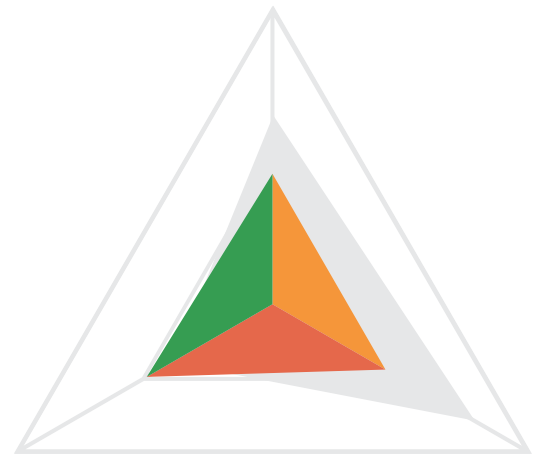
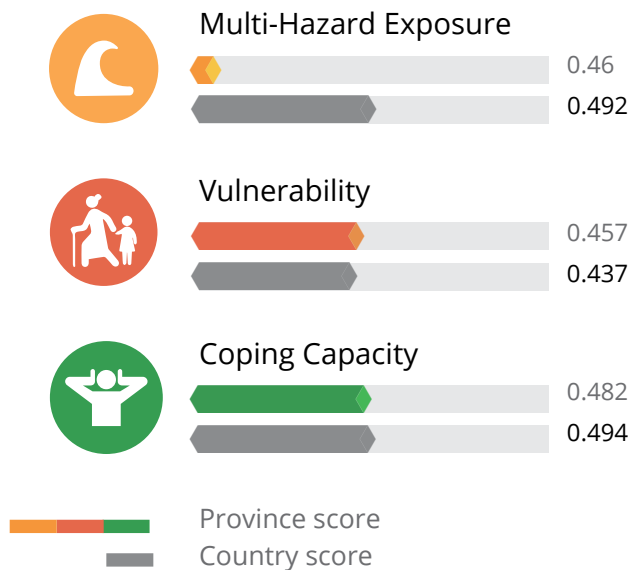
31 / 63

Rank within provinces
Score: 0.478



Quang Tri's score and ranking are due to low Multi-hazard exposure combined with high Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

SOC TRANG

NDPBA PROVINCE PROFILE

VIỆT NAM

SOC TRANG

CAPITAL: SÓC TRĂNG

Area: 3,382 km²

Soc Trang is a coastal province in the southeastern part of the Mekong Delta. The province is well-known for the Khmer culture and is the place where most of Khmer minority people live. Soc Trang's economy is based on agriculture (rice, fruit, aquaculture) resulting from its fertile soils, wide rivers network, and small industrial sector. The province still maintains some mangrove forest to reduce vulnerability to salinization and sea level rising.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.489 • Rank: 27/63



RESILIENCE (R) - low
Score: 0.506 • Rank: 43/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.477 • Rank: 36/63



VULNERABILITY (V) - high
Score: 0.473 • Rank: 15/63



COPING CAPACITY (CC) - moderate
Score: 0.484 • Rank: 30/63



Population (2017)
1,367,107



Population in Poverty
12.0%



Illiterate population
22.3%



Access to improved water
94.5%



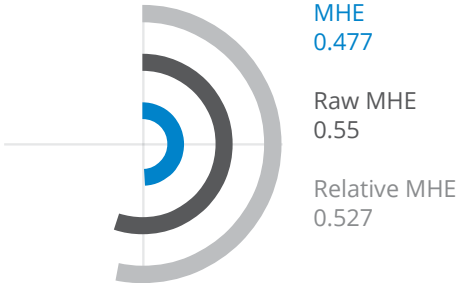
Average life expectancy
73.80 years

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



MULTI-HAZARD EXPOSURE

RANK: 36 / 63 PROVINCES
SCORE: 0.477



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:



Typhoon Wind
100.0%
1366976



Flood
54.8%
748631



Wildfire
0.0%
0



Earthquake
0.0%
0



Landslide
0.0%
0



Extreme Temperature
23.4%
319613



Surge
0.0%
0



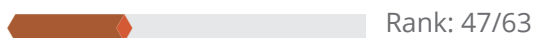
VULNERABILITY (V)

RANK: 15 / 63 PROVINCES
SCORE: 0.473

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



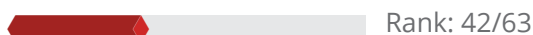
Environmental Stress



3.7% Forest Change
28.08 Livestock Density (per sq km)



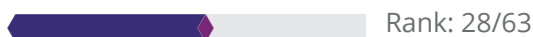
Vulnerable Health Status



73.8 Life Expectancy (years)
13.1 Infant Mortality Rate (per 1,000 live births)
6.0% Acute Malnutrition (Children <5)
82.1 Tuberculosis Incidence (per 100,000 persons)
2.06 Malaria Prevalance (per 100,000 persons)
162.7 HIV Prevalance (per 100,000 persons)



Clean Water Vulnerability



94.5% Households with Safe Water Access
51.4% Households with Hygienic Toilet Access



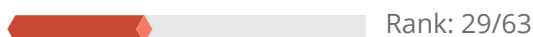
Information Access Vulnerability



22.3% Adult Illiteracy Rate
76.6% School Attendance Rate
89.0% Households without Internet
8.0% Housholds without TV



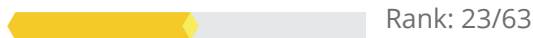
Economic Constraints



41.2 Economic Dependency Ratio
12.0% Poverty



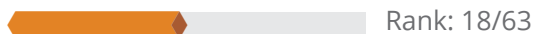
Gender Inequality



0.21 Income Inequality*
0.19 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.4% Average Annual Population Change
7.0% Average Annual Urban Population Change
1.3% Net Migration Rate



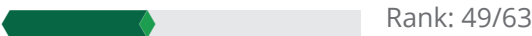
COPING CAPACITY (CC)

RANK: 30 / 63 PROVINCES
SCORE: 0.484

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



Economic Capacity



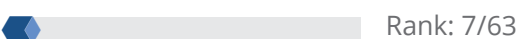
Rank: 49/63

7.83	3,447	36.06	5.54	8.25
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

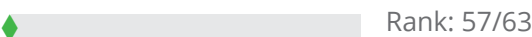


Rank: 7/63

6.03	6.84	6.28
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

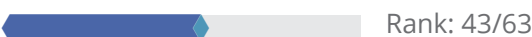


Rank: 57/63

0.0%
Protected Area



Infrastructure Capacity



Rank: 43/63



Health Care Capacity

Rank: 48/63

98.4%	20.2	4.28	10.05	8.21
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 11/63

3,886	16.54
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 52/63

76.6%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 43 / 63 PROVINCES
SCORE: 0.506

Soc Trang's score and ranking are due to high Vulnerability combined with moderate Coping Capacity scores.

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



Information Access Vulnerability



Clean Water Access Vulnerability



Economic Capacity



Health Care Capacity



MULTI-HAZARD RISK

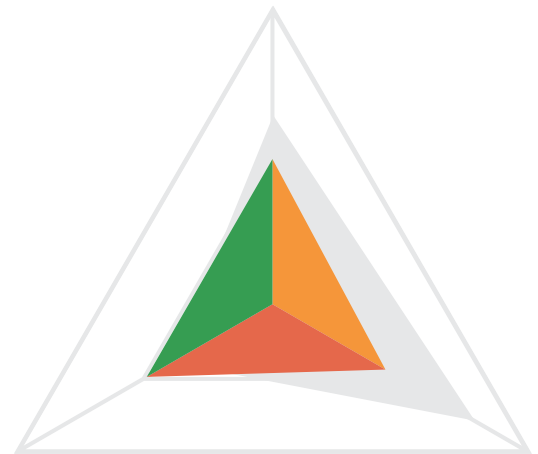
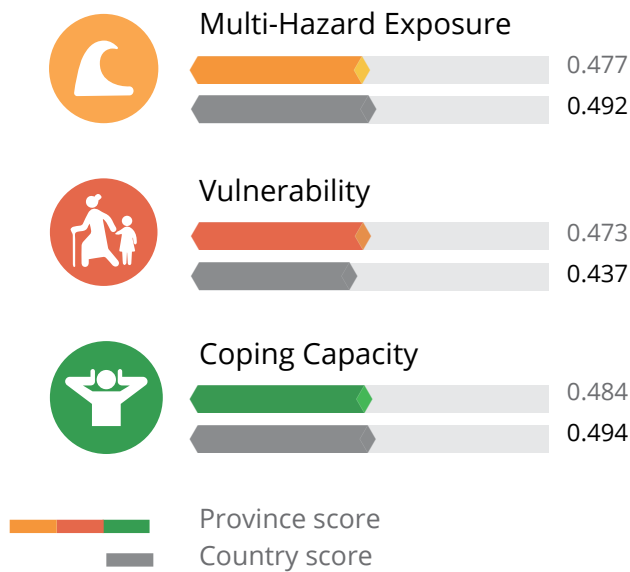
27 / 63

Rank within provinces
Score: 0.489



Soc Trang's score and ranking are due to moderate Multi-hazard exposure combined with high Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

SON LA

NDPBA PROVINCE PROFILE

VIỆT NAM SON LA

CAPITAL: SƠN LA

Area: 16,317 km²

Son La is a mountainous province in the Northwestern region of Viet Nam, sharing a border with Laos to the south. Son La is home to 12 ethnic groups dominated by the Black and White Thai ethnic minorities. Son La Highland is most famous for its imposing Moc Chau Plateau, which is an ideal place for milk-cow breeding and tea and fruit planting. The province is also known for its hydropower potential and diverse mineral resources. Son La Dam, the largest hydroelectric power station in Southeast Asia is located in this province.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.609 • Rank: 2/63



RESILIENCE (R) - very low
Score: 0.433 • Rank: 56/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.694 • Rank: 7/63



VULNERABILITY (V) - very high
Score: 0.561 • Rank: 8/63



COPING CAPACITY (CC) - very low
Score: 0.428 • Rank: 53/63



Population (2017)
1,250,846



Population in Poverty
22.6%



Illiterate population
6.6%



Access to improved water
36.3%



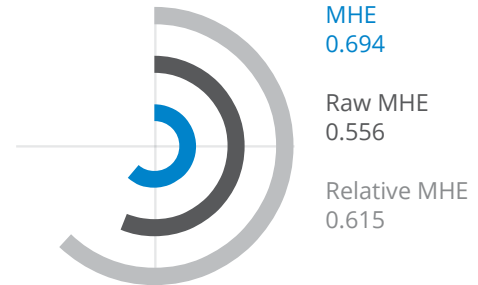
Average life expectancy
70.40 years

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

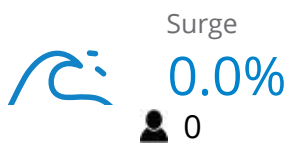
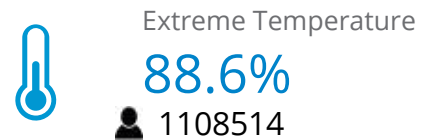
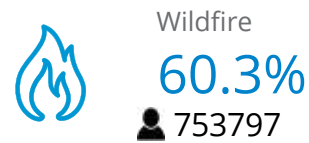
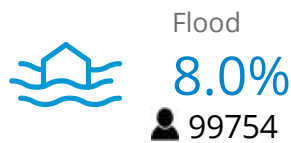
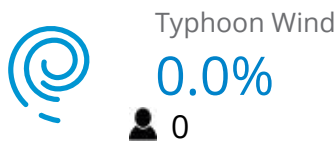


MULTI-HAZARD EXPOSURE

RANK: 7 / 63 PROVINCES
SCORE: 0.694



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





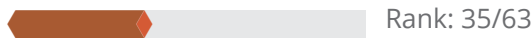
VULNERABILITY (V)

RANK: 8 / 63 PROVINCES
SCORE: 0.561

Vulnerability in Son La is primarily driven by Clean Water Access Vulnerability and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress



-0.8% Forest Change
26.47 Livestock Density (per sq km)



Vulnerable Health Status



70.4 Life Expectancy (years)
22.9 Infant Mortality Rate (per 1,000 live births)
10.3% Acute Malnutrition (Children <5)
16.4 Tuberculosis Incidence (per 100,000 persons)
6.26 Malaria Prevalance (per 100,000 persons)
627.8 HIV Prevalance (per 100,000 persons)



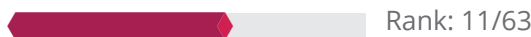
Clean Water Vulnerability



36.3% Households with Safe Water Access
35.4% Households with Hygienic Toilet Access



Information Access Vulnerability



6.6% Adult Illiteracy Rate
87.7% School Attendance Rate
91.0% Households without Internet
16.0% Housholds without TV



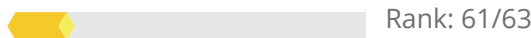
Economic Constraints



54.5 Economic Dependency Ratio
22.6% Poverty



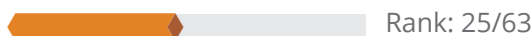
Gender Inequality



0.05 Income Inequality*
0.11 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.7% Average Annual Population Change
2.6% Average Annual Urban Population Change
2.4% Net Migration Rate



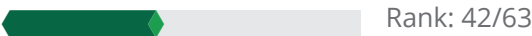
COPING CAPACITY (CC)

RANK: 53 / 63 PROVINCES
SCORE: 0.428

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



Economic Capacity

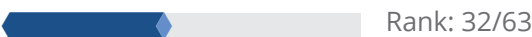


5.89	4,988	12.82	6.43	7.41
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



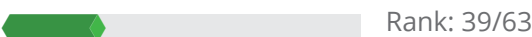
Governance



5.94	5.4	6.41
Law and Order*	Informal Charges*	Transparency*



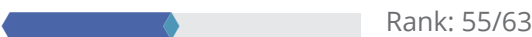
Environmental Capacity



5.1%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 41/63

96.2%	29.96	5.69	12	15.78
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 51/63

1,366	54.1
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 54/63

75.1%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 56 / 63 PROVINCES
SCORE: 0.433

Son La's score and ranking are due to very high Vulnerability combined with very low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Economic
Constraints



Economic Capacity



Transportation
Capacity



MULTI-HAZARD RISK

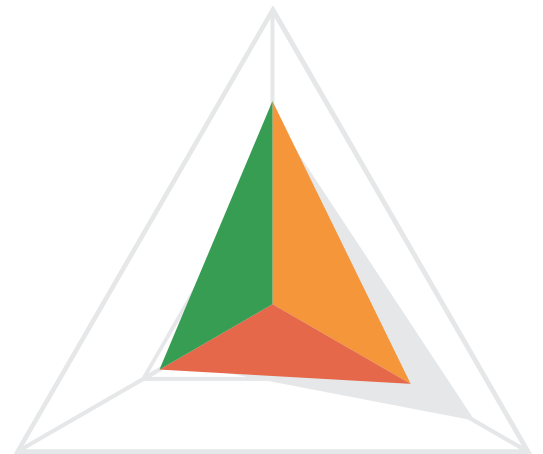
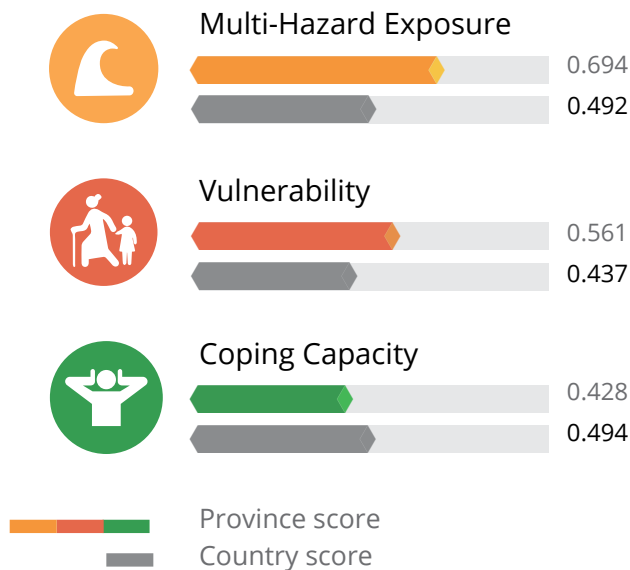
2 / 63

Rank within provinces
Score: 0.609



Son La's score and ranking are due to very high Multi-hazard exposure combined with very high Vulnerability and very low Coping Capacity scores.

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





VIỆT NAM

TAY NINH

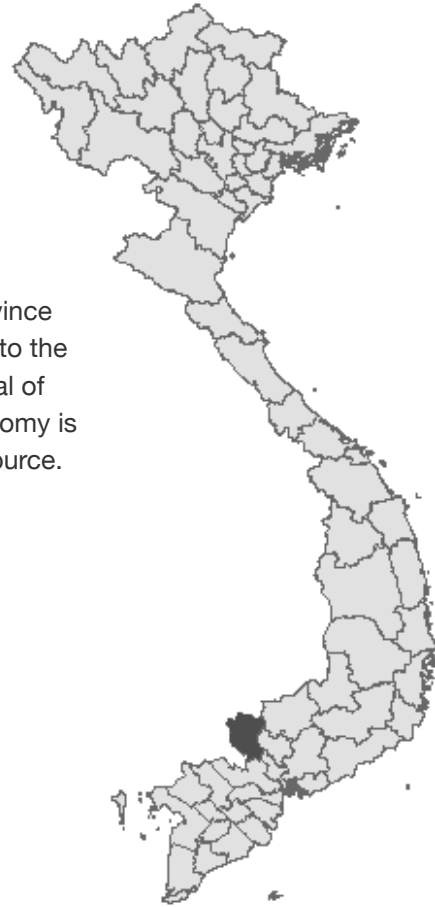
NDPBA PROVINCE PROFILE

VIỆT NAM TÂY NINH

CAPITAL: TÂY NINH

Area: 4,233 km²

Neighboring Ho Chi Minh city to the northeast, Tay Ninh is a province of Viet Nam's southeast region, sharing a border with Cambodia to the north. As a multi-ethnic province, Tay Ninh is known as the capital of the Cao Dai Sect. Beside international trade, the province's economy is based on agriculture and food processing for abundant land resource.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.511 • Rank: 23/63



RESILIENCE (R) - high
Score: 0.583 • Rank: 15/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.7 • Rank: 6/63



VULNERABILITY (V) - very low
Score: 0.347 • Rank: 56/63



COPING CAPACITY (CC) - high
Score: 0.514 • Rank: 20/63



Population (2017)
1,220,556



Population in Poverty
2.1%



Illiterate population
1.6%



Access to improved water
99.2%



Average life expectancy
74.40 years

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



MULTI-HAZARD EXPOSURE

RANK: 6 / 63 PROVINCES
SCORE: 0.7

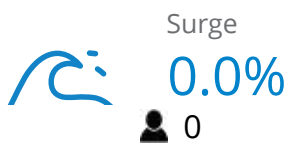
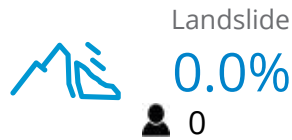
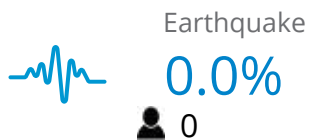
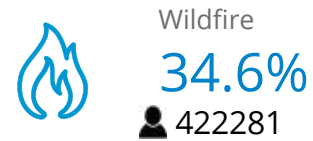
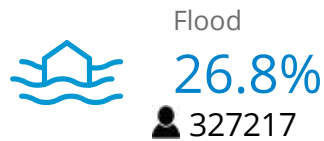


MHE
0.7

Raw MHE
0.591

Relative MHE
0.741

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





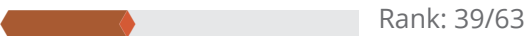
VULNERABILITY (V)

RANK: 56 / 63 PROVINCES
SCORE: 0.347

Vulnerability in Tay Ninh is primarily driven by Population Pressures and Gender Inequality. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



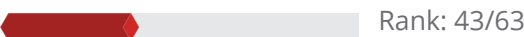
Environmental Stress



2.0% Forest Change
29.41 Livestock Density (per sq km)



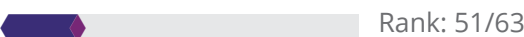
Vulnerable Health Status



74.4 Life Expectancy (years)
11.8 Infant Mortality Rate (per 1,000 live births)
5.4% Acute Malnutrition (Children <5)
102.1 Tuberculosis Incidence (per 100,000 persons)
8.88 Malaria Prevalance (per 100,000 persons)
236 HIV Prevalance (per 100,000 persons)



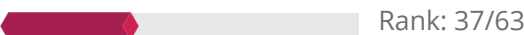
Clean Water Vulnerability



99.2% Households with Safe Water Access
79.5% Households with Hygienic Toilet Access



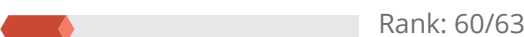
Information Access Vulnerability



1.6% Adult Illiteracy Rate
85.1% School Attendance Rate
86.0% Households without Internet
5.0% Housholds without TV



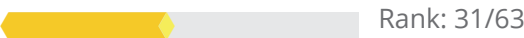
Economic Constraints



38.9 Economic Dependency Ratio
2.1% Poverty



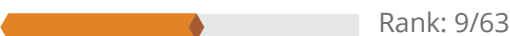
Gender Inequality



0.1 Income Inequality*
0.33 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.7% Average Annual Population Change
6.0% Average Annual Urban Population Change
4.2% Net Migration Rate



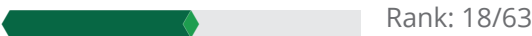
COPING CAPACITY (CC)

RANK: 20 / 63 PROVINCES
SCORE: 0.514

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



Economic Capacity



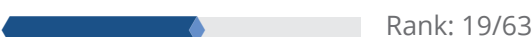
Rank: 18/63

7.48	4,024	49.06	6.61	7.42
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

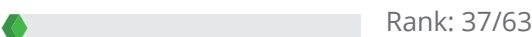


Rank: 19/63

5.43	6.13	6.29
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

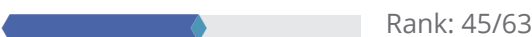


Rank: 37/63

6.2%
Protected Area



Infrastructure Capacity



Rank: 45/63



Health Care Capacity Rank: 57/63

98.0%	20.2	3.63	8.74	11.5
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 28/63

4,754	62.22
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 12/63

88.5%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 15 / 63 PROVINCES
SCORE: 0.583

Tay Ninh's score and ranking are due to very low Vulnerability combined with high Coping Capacity scores.

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



Population Pressures



Gender Inequality



Health Care Capacity



Economic Capacity



MULTI-HAZARD RISK

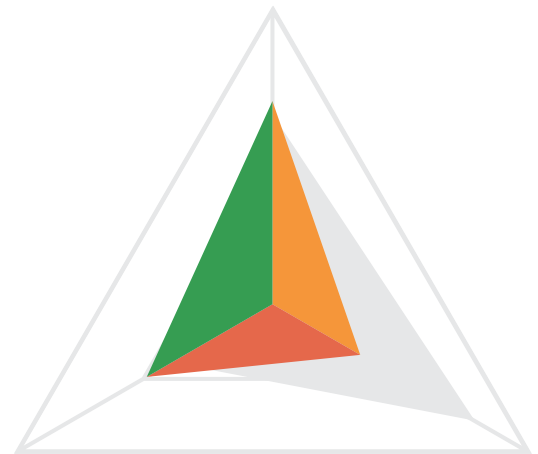
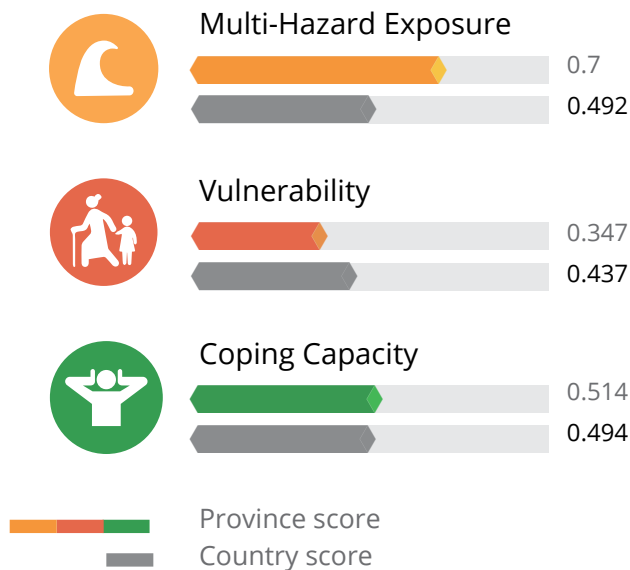
23 / 63

Rank within provinces
Score: 0.511



Tay Ninh's score and ranking are due to very high Multi-hazard exposure combined with very low Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

THAI BINH

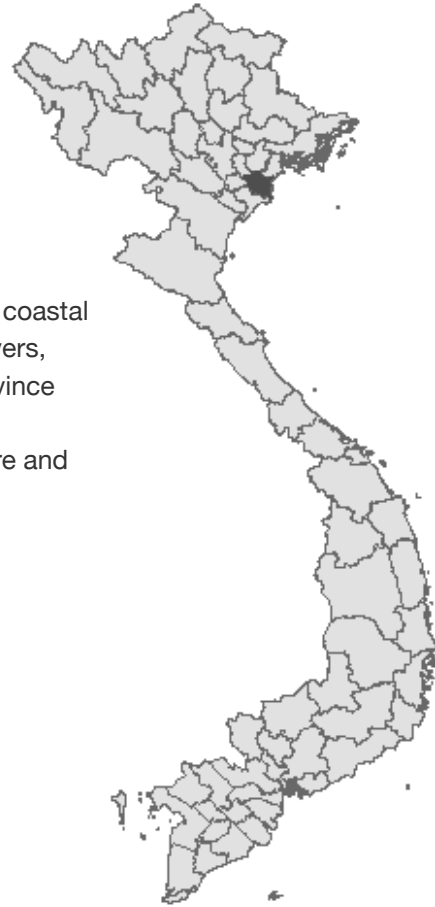
NDPBA PROVINCE PROFILE

VIỆT NAM THAI BINH

CAPITAL: THÁI BÌNH

Area: 1,830 km²

Located in the eastern part of the Red River Delta, Thai Binh is a coastal province. With three faces surrounded by Red, Luoc, and Hoa rivers, fertile soil and other natural advantages for growing rice, the province has become the main rice granary of the country. The province's economic activities also include traditional handicraft, aquaculture and manufacturing in eight industrial parks.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.503 • Rank: 25/63



RESILIENCE (R) - high
Score: 0.576 • Rank: 17/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.66 • Rank: 9/63



VULNERABILITY (V) - very low
Score: 0.326 • Rank: 59/63



COPING CAPACITY (CC) - moderate
Score: 0.478 • Rank: 33/63



Population (2017)
1,787,411



Population in Poverty
4.6%



Illiterate population
1.6%



Access to improved water
99.7%



Average life expectancy
75.10 years

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



MULTI-HAZARD EXPOSURE

RANK: 9 / 63 PROVINCES
SCORE: 0.66

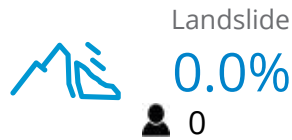
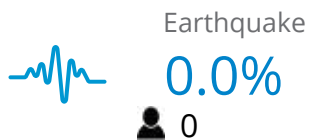


MHE
0.66

Raw MHE
0.706

Relative MHE
0.734

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

RANK: 59 / 63 PROVINCES
SCORE: 0.326

Vulnerability in Thai Binh is primarily driven by Environmental Stress and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



Environmental Stress



3.7% Forest Change
182.37 Livestock Density (per sq km)



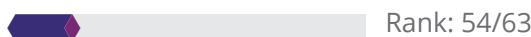
Vulnerable Health Status



75.1 Life Expectancy (years)
10.3 Infant Mortality Rate (per 1,000 live births)
6.6% Acute Malnutrition (Children <5)
41.2 Tuberculosis Incidence (per 100,000 persons)
1.12 Malaria Prevalance (per 100,000 persons)
213.4 HIV Prevalance (per 100,000 persons)



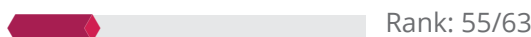
Clean Water Vulnerability



99.7% Households with Safe Water Access
78.9% Households with Hygienic Toilet Access



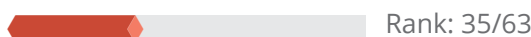
Information Access Vulnerability



1.6% Adult Illiteracy Rate
98.5% School Attendance Rate
91.0% Households without Internet
3.0% Housholds without TV



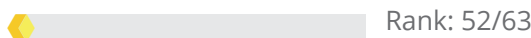
Economic Constraints



47.8 Economic Dependency Ratio
4.6% Poverty



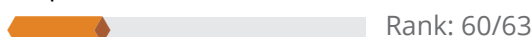
Gender Inequality



0.12 Income Inequality*
0.16 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.0% Average Annual Population Change
3.9% Average Annual Urban Population Change
1.4% Net Migration Rate



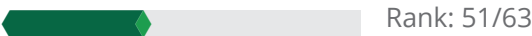
COPING CAPACITY (CC)

RANK: 33 / 63 PROVINCES
SCORE: 0.478

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



Economic Capacity

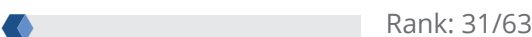


6.49	3,934	15.78	6.52	7.84
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



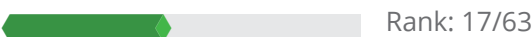
Governance



5.51	5.1	6.54
Law and Order*	Informal Charges*	Transparency*



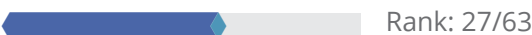
Environmental Capacity



15.6%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 17/63

99.0%	30.2	7.37	9.22	5.3
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 41/63

1,180	15.32
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 39/63

82.7%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 17 / 63 PROVINCES
SCORE: 0.576

Thai Binh's score and ranking are due to very low Vulnerability combined with moderate Coping Capacity scores.

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



Environmental Stress



Economic Constraints



Economic Capacity



Governance



MULTI-HAZARD RISK

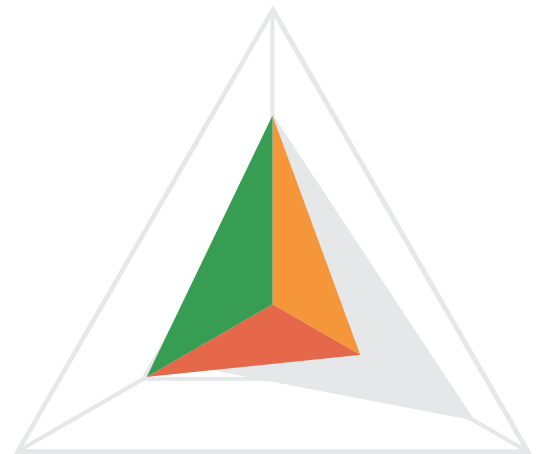
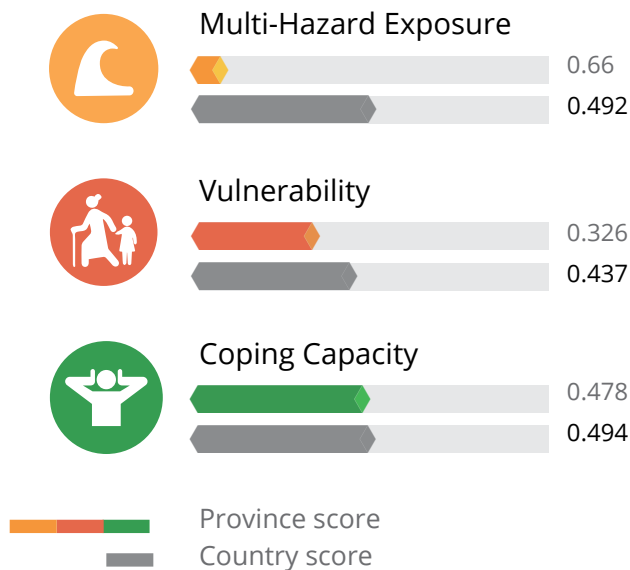
25 / 63

Rank within provinces
Score: 0.503



Thai Binh's score and ranking are due to very high Multi-hazard exposure combined with very low Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

THAI NGUYEN

NDPBA PROVINCE PROFILE

VIỆT NAM THAI NGUYEN

CAPITAL: THÁI NGUYÊN

Area: 4,101 km²

Neighboring Hanoi Capital to the north, Thai Nguyen is considered the gateway and center for the Northeastern region of Viet Nam. Thai Nguyên is home to the eight main ethnic groups, including Kinh, Tay, Nung, San Diu, H'Mong, San Chay, Dao, and Hoa people. With mountainous, midland terrain, the province has rich mineral resources and favorable natural conditions for industrial plants. Green tea is the province's most famous product in Viet Nam. Thai Nguyen is known as a former iron and steel industry center with seven industrial zones in operation attracting large manufacturing investors such as Samsung Electronics.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.433 • Rank: 47/63



RESILIENCE (R) - low
Score: 0.487 • Rank: 48/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.275 • Rank: 55/63



VULNERABILITY (V) - very high
Score: 0.509 • Rank: 10/63



COPING CAPACITY (CC) - moderate
Score: 0.483 • Rank: 31/63



Population (2017)
1,211,523



Population in Poverty
9.1%



Illiterate population
4.0%



Access to improved water
86.9%



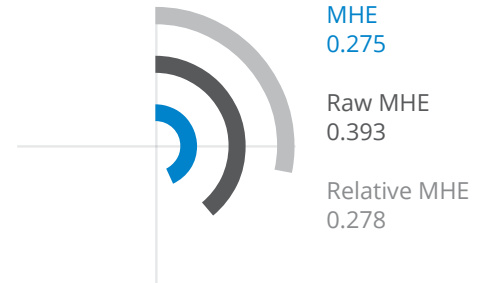
Average life expectancy
73.20 years

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

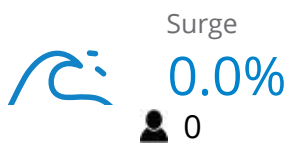
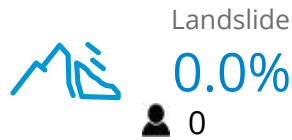
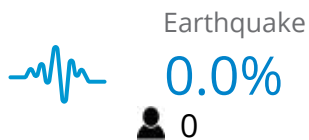
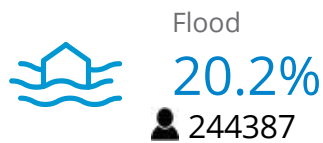
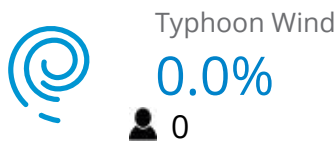


MULTI-HAZARD EXPOSURE

RANK: 55 / 63 PROVINCES
SCORE: 0.275



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

RANK: 10 / 63 PROVINCES
SCORE: 0.509

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



Environmental Stress



-17.4% Forest Change
60.98 Livestock Density (per sq km)



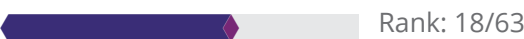
Vulnerable Health Status



73.2 Life Expectancy (years)
14.7 Infant Mortality Rate (per 1,000 live births)
9.1% Acute Malnutrition (Children <5)
34.6 Tuberculosis Incidence (per 100,000 persons)
58.78 Malaria Prevalance (per 100,000 persons)
640 HIV Prevalance (per 100,000 persons)



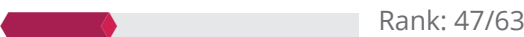
Clean Water Vulnerability



86.9% Households with Safe Water Access
50.7% Households with Hygienic Toilet Access



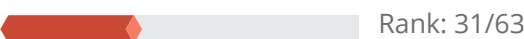
Information Access Vulnerability



4.0% Adult Illiteracy Rate
97.9% School Attendance Rate
80.0% Households without Internet
7.0% Housholds without TV



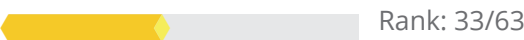
Economic Constraints



43.8 Economic Dependency Ratio
9.1% Poverty



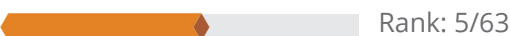
Gender Inequality



0.08 Income Inequality*
0.35 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.1% Average Annual Population Change
5.7% Average Annual Urban Population Change
3.7% Net Migration Rate



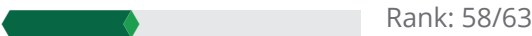
COPING CAPACITY (CC)

RANK: 31 / 63 PROVINCES
SCORE: 0.483

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



Economic Capacity

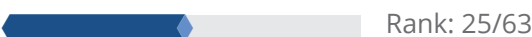


6.17	4,550	16.35	6	7.27
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



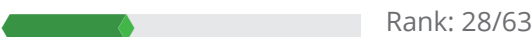
Governance



6.42	5.66	6.31
Law and Order*	Informal Charges*	Transparency*



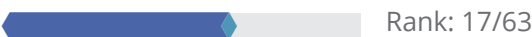
Environmental Capacity



9.0%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 11/63

97.1%	35.38	7.73	16.42	8.78
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 50/63

1,411	54.89
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 16/63

87.8%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 48 / 63 PROVINCES
SCORE: 0.487

Thai Nguyen's score and ranking are due to very high Vulnerability combined with moderate Coping Capacity scores.

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



Environmental Stress



Clean Water Access Vulnerability



Economic Capacity



Transportation Capacity



MULTI-HAZARD RISK

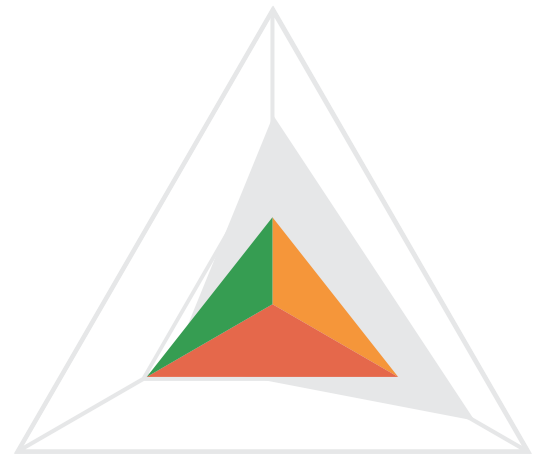
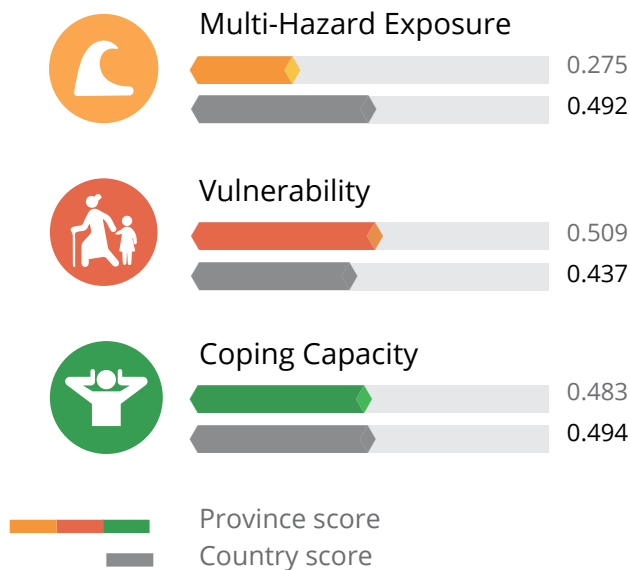
47 / 63

Rank within provinces
Score: 0.433



Thai Nguyen's score and ranking are due to very low Multi-hazard exposure combined with very high Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

THANH HOA

NDPBA PROVINCE PROFILE

VIỆT NAM THANH HOA

CAPITAL: THANH HÓA

Area: 12,642 km²

Thanh Hoa province is located in the transition between the North and North Central Coast regions of Viet Nam, sharing a border with Laos to the west and a long coastline to the east. Thanh Hoa is a relatively large province with a large population. The province is known as home to three ancient Viet Kingdoms. With abundant natural resources including mineral resources, plain area for agriculture and beautiful beaches, Thanh Hoa is vulnerable to floods and has not yet reached its economic potential.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very high
Score: 0.606 • Rank: 3/63



RESILIENCE (R) - moderate
Score: 0.515 • Rank: 38/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.849 • Rank: 1/63



VULNERABILITY (V) - high
Score: 0.439 • Rank: 25/63



COPING CAPACITY (CC) - low
Score: 0.469 • Rank: 39/63



Population (2017)
3,475,194



Population in Poverty
12.0%



Illiterate population
7.4%



Access to improved water
88.5%



Average life expectancy
73.00 years

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



MULTI-HAZARD EXPOSURE

RANK: 1 / 63 PROVINCES
SCORE: 0.849

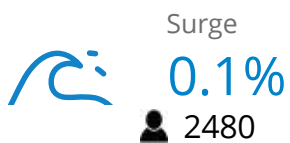
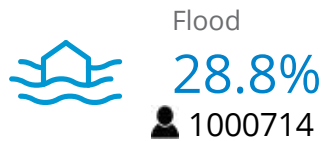


MHE
0.849

Raw MHE
0.942

Relative MHE
0.842

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





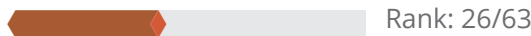
VULNERABILITY (V)

RANK: 25 / 63 PROVINCES
SCORE: 0.439

Vulnerability in Thanh Hoa is primarily driven by Clean Water Access Vulnerability and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



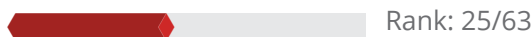
Environmental Stress



1.2% Forest Change
44.94 Livestock Density (per sq km)



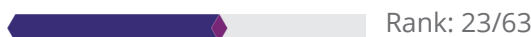
Vulnerable Health Status



73 Life Expectancy (years)
15.5 Infant Mortality Rate (per 1,000 live births)
7.1% Acute Malnutrition (Children <5)
43.4 Tuberculosis Incidence (per 100,000 persons)
27.37 Malaria Prevalance (per 100,000 persons)
157.1 HIV Prevalance (per 100,000 persons)



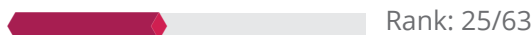
Clean Water Vulnerability



88.5% Households with Safe Water Access
56.4% Households with Hygienic Toilet Access



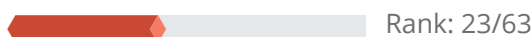
Information Access Vulnerability



7.4% Adult Illiteracy Rate
96.2% School Attendance Rate
91.0% Households without Internet
5.0% Housholds without TV



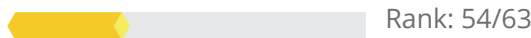
Economic Constraints



43.8 Economic Dependency Ratio
12.0% Poverty



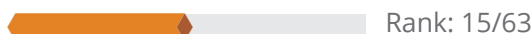
Gender Inequality



0.06 Income Inequality*
0.25 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.2% Average Annual Population Change
6.4% Average Annual Urban Population Change
5.4% Net Migration Rate



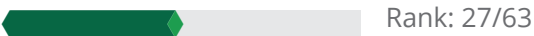
COPING CAPACITY (CC)

RANK: 39 / 63 PROVINCES
SCORE: 0.469

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



Economic Capacity

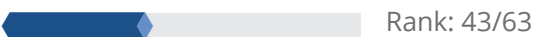


6.23	4,200	17.52	6.72	8.3
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



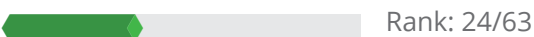
Governance



5.74	4.57	6.36
Law and Order*	Informal Charges*	Transparency*



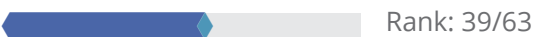
Environmental Capacity



10.4%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 25/63

99.1%	30.3	6.48	9.62	12.6
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 31/63

6,035	82.49
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 53/63

75.3%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 38 / 63 PROVINCES
SCORE: 0.515

Thanh Hoa's score and ranking are due to high Vulnerability combined with low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Population
Pressures



Governance



Economic Capacity



MULTI-HAZARD RISK

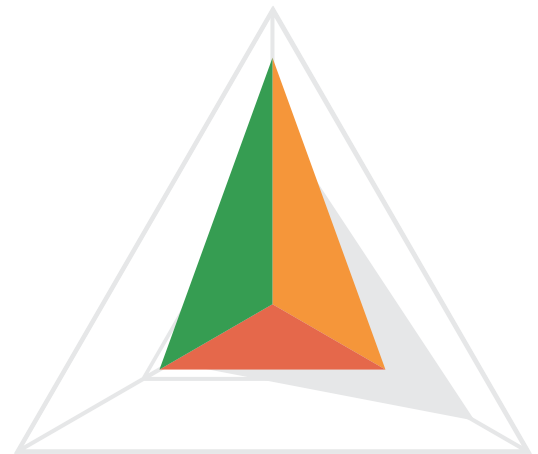
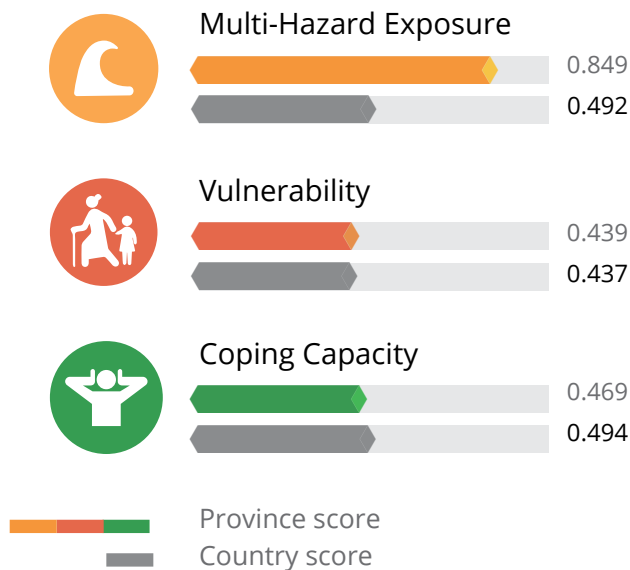
3 / 63

Rank within provinces
Score: 0.606



Thanh Hoa's score and ranking are due to very high Multi-hazard exposure combined with high Vulnerability and low Coping Capacity scores.

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





VIỆT NAM

THUA THIEN HUE

NDPBA PROVINCE PROFILE

VIỆT NAM

THUA THIEN HUE

CAPITAL: HUẾ

Area: 5,234 km²

Thua Thien Hue is a province in the North Central Coast region of Viet Nam, sharing a border with Laos to the west and having a 128km-long coastline. The province's capital, Hue, is well-known as the former imperial city of the Nguyen dynasty (an UNESCO world heritage site). The province is rich in both historical cultures, beautiful natural landscapes and biodiversity. Thua Thien Hue's economic activities include forestry, agriculture, fishery, mining, tourism, hydropower, and industrial manufacturing in 11 industrial and economic zones.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - high
Score: 0.503 • Rank: 24/63



RESILIENCE (R) - high
Score: 0.567 • Rank: 19/63



MULTI-HAZARD EXPOSURE - very high
Score: 0.643 • Rank: 11/63



VULNERABILITY (V) - very low
Score: 0.363 • Rank: 52/63



COPING CAPACITY (CC) - high
Score: 0.497 • Rank: 24/63



Population (2017)
1,159,319



Population in Poverty
4.7%



Illiterate population
5.1%



Access to improved water
97.3%



Average life expectancy
71.30 years

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



MULTI-HAZARD EXPOSURE

RANK: 11 / 63 PROVINCES
SCORE: 0.643



MHE
0.643

Raw MHE
0.596

Relative MHE
0.81

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:



Typhoon Wind
100.0%
1151608



Flood
42.9%
496840



Wildfire
0.6%
7162



Earthquake
0.0%
0



Landslide
0.0%
0



Extreme Temperature
100.0%
1159319



Surge
1.7%
20213



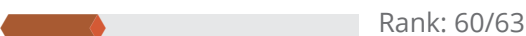
VULNERABILITY (V)

RANK: 52 / 63 PROVINCES
SCORE: 0.363

Vulnerability in Thua Thien Hue is primarily driven by Gender Inequality and Population Pressures. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



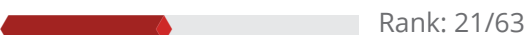
Environmental Stress



3.6% Forest Change
16.18 Livestock Density (per sq km)



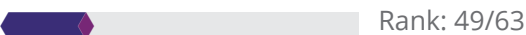
Vulnerable Health Status



71.3 Life Expectancy (years)
20 Infant Mortality Rate (per 1,000 live births)
5.8% Acute Malnutrition (Children <5)
56.1 Tuberculosis Incidence (per 100,000 persons)
9.1 Malaria Prevalance (per 100,000 persons)
64.2 HIV Prevalance (per 100,000 persons)



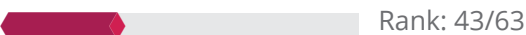
Clean Water Vulnerability



97.3% Households with Safe Water Access
88.2% Households with Hygienic Toilet Access



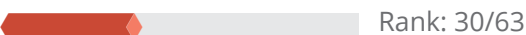
Information Access Vulnerability



5.1% Adult Illiteracy Rate
93.4% School Attendance Rate
75.0% Households without Internet
8.0% Housholds without TV



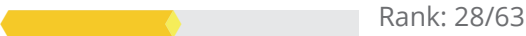
Economic Constraints



48.8 Economic Dependency Ratio
4.7% Poverty



Gender Inequality

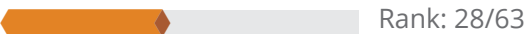


0.11 Income Inequality*
0.34 F M School Enrollment Rate*

*Values closer to 1 represent greater gender parity.



Population Pressures



0.6% Average Annual Population Change
5.6% Average Annual Urban Population Change
1.0% Net Migration Rate



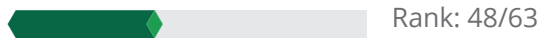
COPING CAPACITY (CC)

RANK: 24 / 63 PROVINCES
SCORE: 0.497

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



Economic Capacity

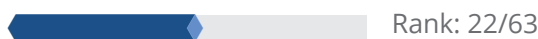


6.41	4,233	25.32	5.69	7.93
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



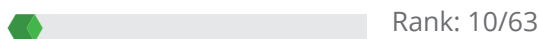
Governance



6	5.68	6.53
Law and Order*	Informal Charges*	Transparency*



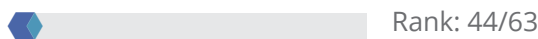
Environmental Capacity



23.8%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 52/63

98.6%	20.02	5.55	9.93	19.19
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 35/63

3,752	62.33
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 27/63

85.8%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 19 / 63 PROVINCES
SCORE: 0.567

Thua Thien Hue's score and ranking are due to very low Vulnerability combined with high Coping Capacity scores.

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



Gender Inequality



Population Pressures



Economic Capacity



Health Care Capacity



MULTI-HAZARD RISK

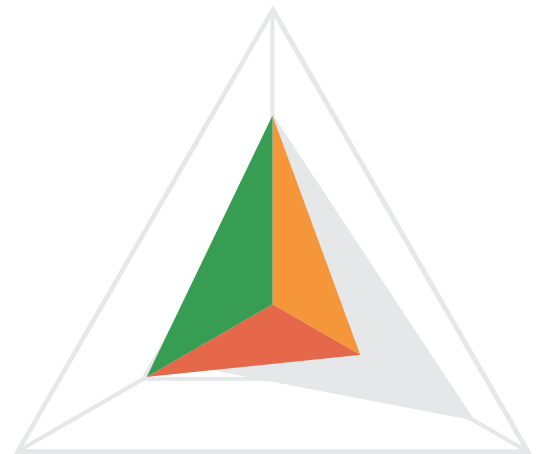
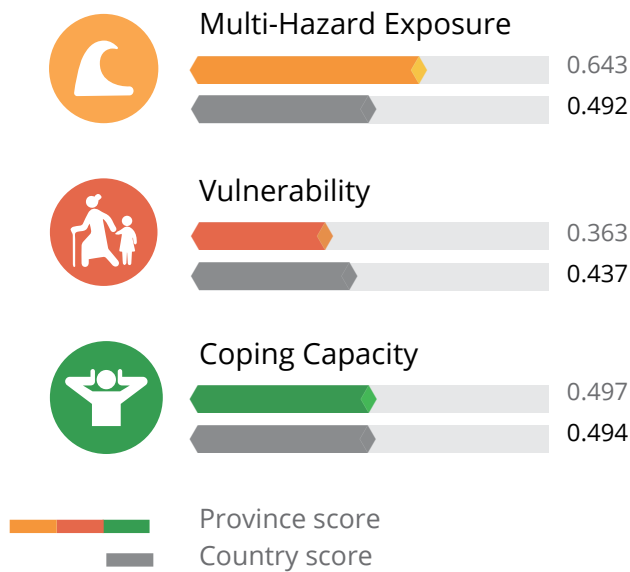
24 / 63

Rank within provinces
Score: 0.503



Thua Thien Hue's score and ranking are due to very high Multi-hazard exposure combined with very low Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

TIEN GIANG

NDPBA PROVINCE PROFILE

VIỆT NAM TIEN GIANG

CAPITAL: MỸ THO

Area: 2,488 km²

Tien Giang is a coastal province in the Mekong Delta region along the lower part of the Tien river. The province is considered a granary with the largest fruit producing area in the country. Tien Giang also has rich aquatic supply including freshwater fish, brackish fish, and saltwater fish. The service and industrial sector (in five large industrial parks) is growing in proportion in the province's economy.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.473 • Rank: 33/63



RESILIENCE (R) - moderate
Score: 0.516 • Rank: 36/63



MULTI-HAZARD EXPOSURE - low
Score: 0.453 • Rank: 40/63



VULNERABILITY (V) - low
Score: 0.402 • Rank: 42/63



COPING CAPACITY (CC) - low
Score: 0.434 • Rank: 49/63



Population (2017)
1,766,357



Population in Poverty
6.3%



Illiterate population
1.7%



Access to improved water
97.5%



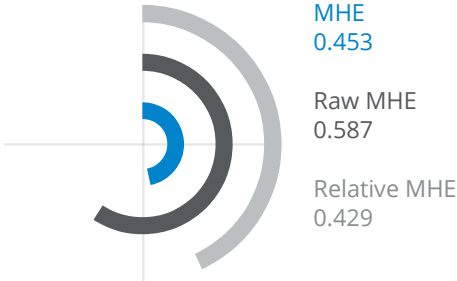
Average life expectancy
75.60 years

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



MULTI-HAZARD EXPOSURE

RANK: 40 / 63 PROVINCES
SCORE: 0.453



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:



Typhoon Wind
100.0%
1766330



Flood
55.3%
976018



Wildfire
1.6%
28118



Earthquake
0.0%
0



Landslide
0.0%
0



Extreme Temperature
0.0%
0



Surge
0.0%
134



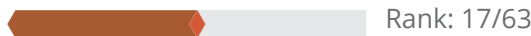
VULNERABILITY (V)

RANK: 42 / 63 PROVINCES
SCORE: 0.402

Vulnerability in Tien Giang is primarily driven by Gender Inequality and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



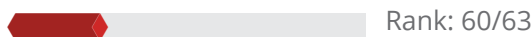
Environmental Stress



0.5% Forest Change
80.78 Livestock Density (per sq km)



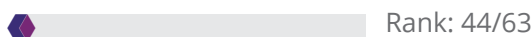
Vulnerable Health Status



75.6 Life Expectancy (years)
9.1 Infant Mortality Rate (per 1,000 live births)
6.6% Acute Malnutrition (Children <5)
62.3 Tuberculosis Incidence (per 100,000 persons)
0.58 Malaria Prevalance (per 100,000 persons)
83.3 HIV Prevalance (per 100,000 persons)



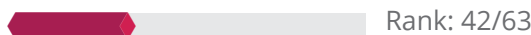
Clean Water Vulnerability



97.5% Households with Safe Water Access
71.0% Households with Hygienic Toilet Access



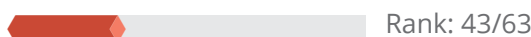
Information Access Vulnerability



1.7% Adult Illiteracy Rate
91.0% School Attendance Rate
89.0% Households without Internet
5.0% Housholds without TV



Economic Constraints



42.6 Economic Dependency Ratio
6.3% Poverty



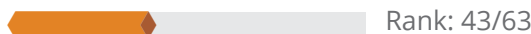
Gender Inequality



0.13 Income Inequality*
0.52 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.5% Average Annual Population Change
2.0% Average Annual Urban Population Change
4.6% Net Migration Rate



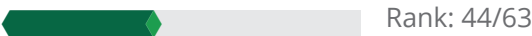
COPING CAPACITY (CC)

RANK: 49 / 63 PROVINCES
SCORE: 0.434

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



Economic Capacity



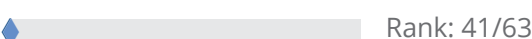
Rank: 44/63

7.15	4,002	26.56	6.57	7.48
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

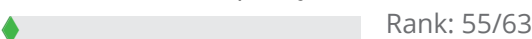


Rank: 41/63

4.84	5.28	6.14
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

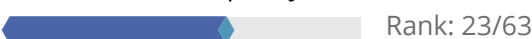


Rank: 55/63

0.0%
Protected Area



Infrastructure Capacity



Rank: 23/63



Health Care Capacity

Rank: 43/63

98.3%	21.06	4.99	10.33	8.49
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 12/63

3,469	11.23
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 18/63

87.6%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 36 / 63 PROVINCES
SCORE: 0.516

Tien Giang's score and ranking are due to low Vulnerability combined with low Coping Capacity scores.

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



Gender Inequality



Environmental Stress



Governance



Economic Capacity



MULTI-HAZARD RISK

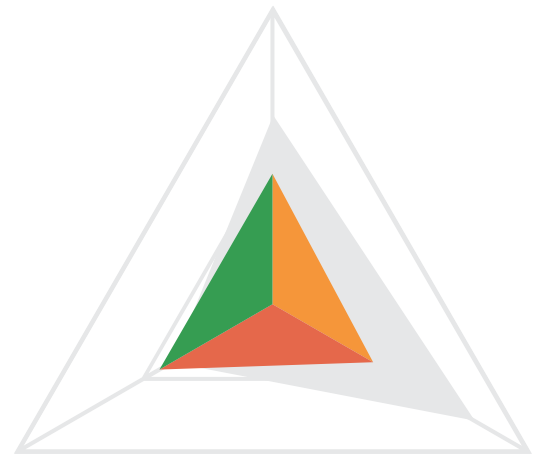
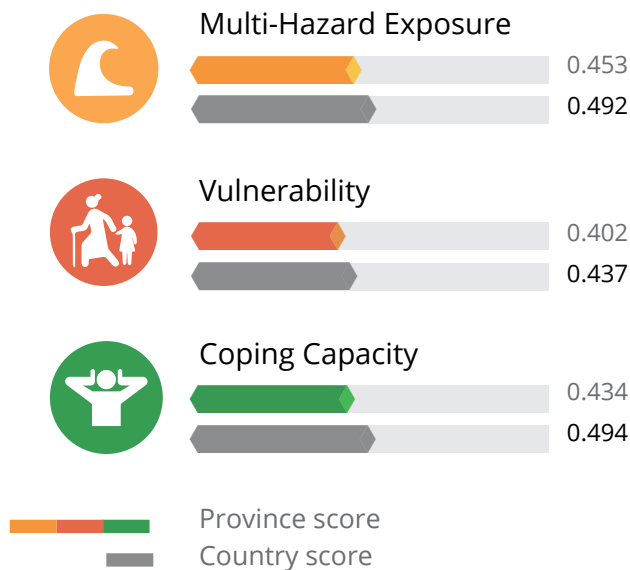


33 / 63

Rank within provinces
Score: 0.473

Tien Giang's score and ranking are due to low Multi-hazard exposure combined with low Vulnerability and low Coping Capacity scores.

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





VIỆT NAM

TRA VINH

NDPBA PROVINCE PROFILE

VIỆT NAM TRA VINH

CAPITAL: TRÀ VINH

Area: 2,287 km²

Tra Vinh is a coastal province situated in the southeastern part of the Mekong Delta at the mouth of Hau and Co Chien rivers. The province is known for being the home of Khmer culture - about 29% of total population is Khmer Krom people. Moderate climate and fertile soil make Tra Vinh favorable for agriculture, aquaculture, fish and shrimp breeding.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.466 • Rank: 36/63



RESILIENCE (R) - very low
Score: 0.457 • Rank: 55/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.31 • Rank: 51/63



VULNERABILITY (V) - very high
Score: 0.561 • Rank: 7/63



COPING CAPACITY (CC) - moderate
Score: 0.474 • Rank: 36/63



Population (2017)
1,033,840



Population in Poverty
12.0%



Illiterate population
11.7%



Access to improved water
97.3%



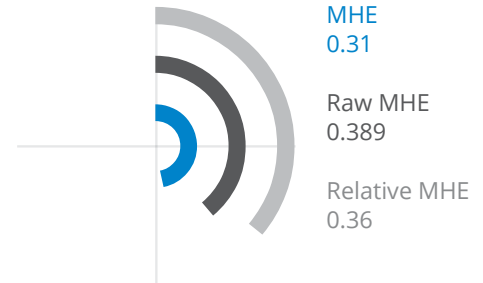
Average life expectancy
74.20 years

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

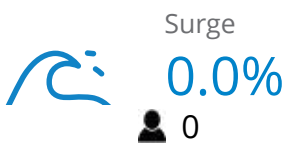
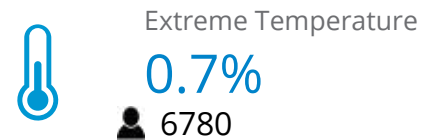
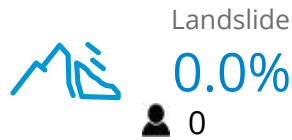
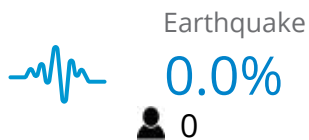


MULTI-HAZARD EXPOSURE

RANK: 51 / 63 PROVINCES
SCORE: 0.31



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





VULNERABILITY (V)

RANK: 7 / 63 PROVINCES
SCORE: 0.561

Vulnerability in Tra Vinh is primarily driven by Gender Inequality and Environmental Stress. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



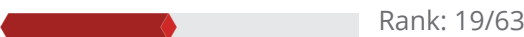
Environmental Stress



-14.7% Forest Change
75.12 Livestock Density (per sq km)



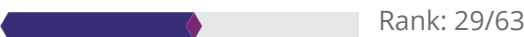
Vulnerable Health Status



74.2 Life Expectancy (years)
12.3 Infant Mortality Rate (per 1,000 live births)
11.2% Acute Malnutrition (Children <5)
68.6 Tuberculosis Incidence (per 100,000 persons)
0.78 Malaria Prevalance (per 100,000 persons)
94.7 HIV Prevalance (per 100,000 persons)



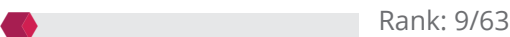
Clean Water Vulnerability



97.3% Households with Safe Water Access
43.8% Households with Hygienic Toilet Access



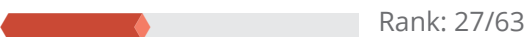
Information Access Vulnerability



11.7% Adult Illiteracy Rate
86.1% School Attendance Rate
91.0% Households without Internet
10.0% Housholds without TV



Economic Constraints



42.2 Economic Dependency Ratio
12.0% Poverty



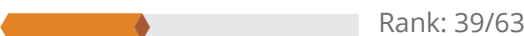
Gender Inequality



0.18 Income Inequality*
0.54 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.5% Average Annual Population Change
3.0% Average Annual Urban Population Change
2.7% Net Migration Rate



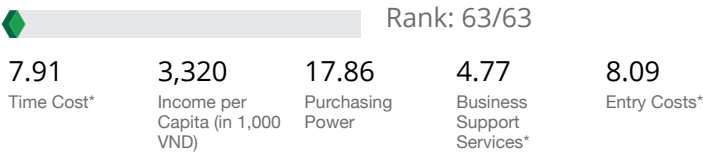
COPING CAPACITY (CC)

RANK: 36 / 63 PROVINCES
SCORE: 0.474

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



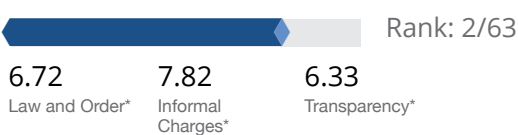
Economic Capacity



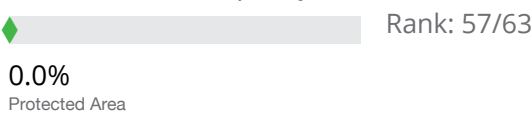
*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



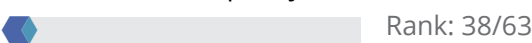
Governance



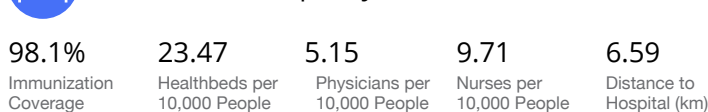
Environmental Capacity



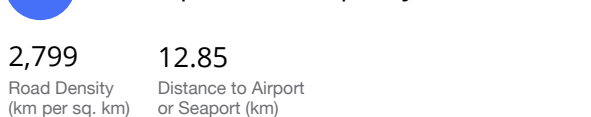
Infrastructure Capacity



Health Care Capacity



Transportation Capacity



Communications Capacity





RESILIENCE (R)

RANK: 55 / 63 PROVINCES
SCORE: 0.457

Tra Vinh's score and ranking are due to very high Vulnerability combined with moderate Coping Capacity scores.

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



Gender Inequality



Environmental Stress



Economic Capacity



Health Care Capacity



MULTI-HAZARD RISK

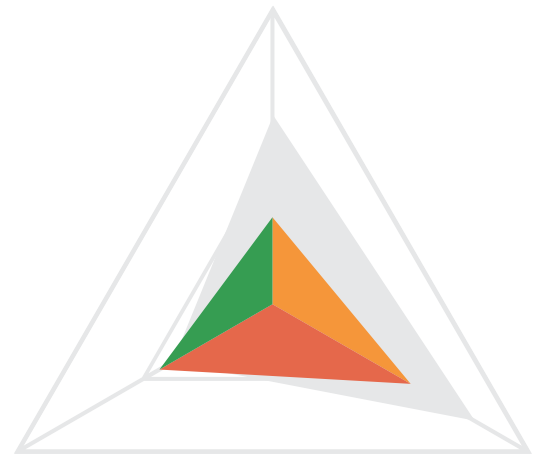
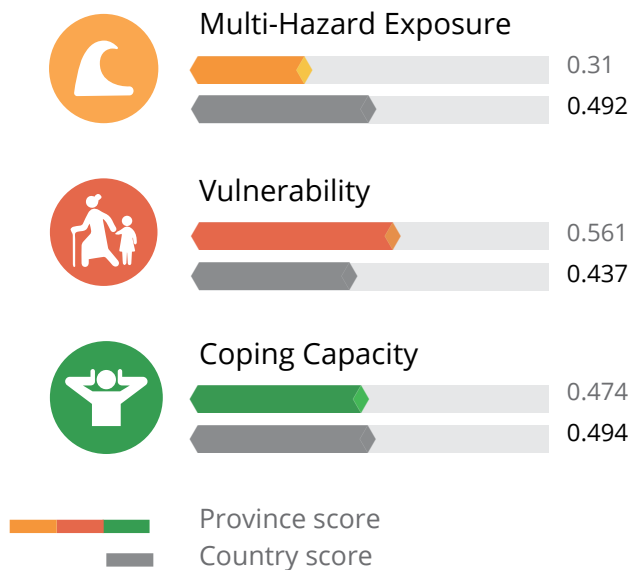
36 / 63

Rank within provinces
Score: 0.466



Tra Vinh's score and ranking are due to very low Multi-hazard exposure combined with very high Vulnerability and moderate Coping Capacity scores.

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





VIỆT NAM

TUYEN QUANG

NDPBA PROVINCE PROFILE

VIỆT NAM TUYEN QUANG

CAPITAL: TUYÊN QUANG

Area: 6,866 km²

Tuyen Quang province is located in the Northeastern region of Viet Nam at the center of the Lo River valley. The province has widely varying topography covering high mountains, deep valleys, and an abundance of rivers, lakes and ponds. Tuyen Quang's economy is based on forestry, agriculture, fishery, mining, and primary industries. The province experiences cold winter with occasional mist, hoarfrost and is prone to cyclones and floods resulting from frequent intense rainstorms.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.425 • Rank: 48/63



RESILIENCE (R) - low
Score: 0.488 • Rank: 47/63



MULTI-HAZARD EXPOSURE - very low
Score: 0.252 • Rank: 57/63



VULNERABILITY (V) - high
Score: 0.457 • Rank: 18/63



COPING CAPACITY (CC) - low
Score: 0.433 • Rank: 50/63



Population (2017)
794,208



Population in Poverty
14.7%



Illiterate population
5.5%



Access to improved water
74.7%



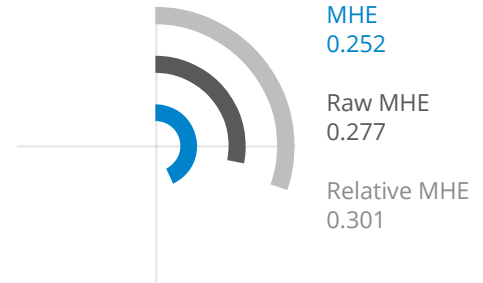
Average life expectancy
72.00 years

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

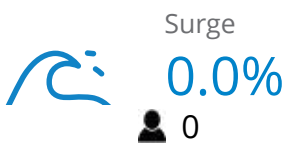
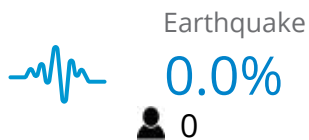
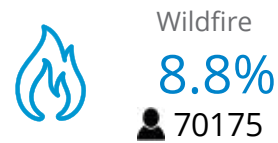
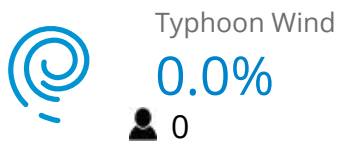


MULTI-HAZARD EXPOSURE

RANK: 57 / 63 PROVINCES
SCORE: 0.252



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





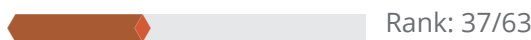
VULNERABILITY (V)

RANK: 18 / 63 PROVINCES
SCORE: 0.457

Vulnerability in Tuyen Quang is primarily driven by Clean Water Access Vulnerability and Economic Constraints. The bar chart indicates the socioeconomic themes contributing to the province's overall Vulnerability score.



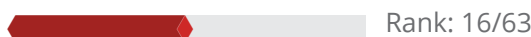
Environmental Stress



2.1% Forest Change
35.66 Livestock Density (per sq km)



Vulnerable Health Status



72 Life Expectancy (years)
18.6 Infant Mortality Rate (per 1,000 live births)
8.6% Acute Malnutrition (Children <5)
18.7 Tuberculosis Incidence (per 100,000 persons)
7.96 Malaria Prevalance (per 100,000 persons)
115.5 HIV Prevalance (per 100,000 persons)



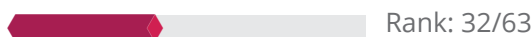
Clean Water Vulnerability



74.7% Households with Safe Water Access
38.9% Households with Hygienic Toilet Access



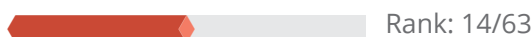
Information Access Vulnerability



5.5% Adult Illiteracy Rate
96.1% School Attendance Rate
90.0% Households without Internet
6.0% Housholds without TV



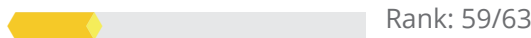
Economic Constraints



46.2 Economic Dependency Ratio
14.7% Poverty



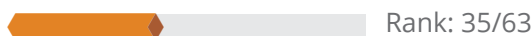
Gender Inequality



0.06 Income Inequality*
0.17 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.7% Average Annual Population Change
2.9% Average Annual Urban Population Change
2.4% Net Migration Rate



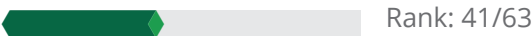
COPING CAPACITY (CC)

RANK: 50 / 63 PROVINCES
SCORE: 0.433

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



Economic Capacity

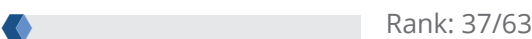


5.79	4,249	15.17	6.13	8.29
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



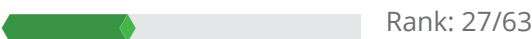
Governance



5.95	4.58	6.59
Law and Order*	Informal Charges*	Transparency*



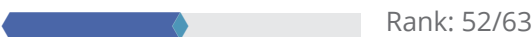
Environmental Capacity



9.2%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 51/63

97.3%	29.25	5.86	7.18	14.33
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 49/63

1,484	55.82
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 35/63

83.7%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 47 / 63 PROVINCES
SCORE: 0.488

Tuyen Quang's score and ranking are due to high Vulnerability combined with low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Economic
Constraints



Governance



Economic Capacity



MULTI-HAZARD RISK

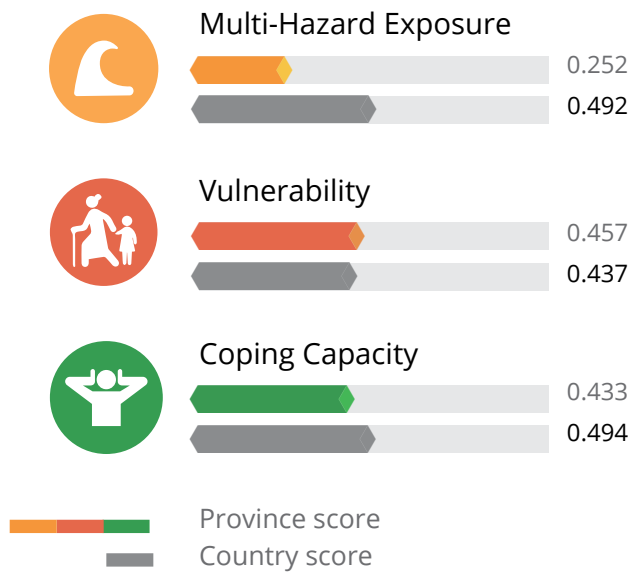
48 / 63

Rank within provinces
Score: 0.425



Tuyen Quang's score and ranking are due to very low Multi-hazard exposure combined with high Vulnerability and low Coping Capacity scores.

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





VIỆT NAM

VINH LONG

NDPBA PROVINCE PROFILE

VIỆT NAM VINH LONG

CAPITAL: VĨNH LONG

Area: 1,584 km²

Vinh Long province is located between the Hau and Tien rivers in center of the Mekong Delta. Vinh Long is home to about 20 ethnic groups, including Kinh, Khmer, Hoa, and Cham people. Flat terrain with rich alluvial soil and a complicated network of rivers and canals makes the province favorable for rice and fruits cultivation. Vinh Long is also well-known for fishing.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - moderate
Score: 0.464 • Rank: 37/63



RESILIENCE (R) - high
Score: 0.556 • Rank: 20/63



MULTI-HAZARD EXPOSURE - moderate
Score: 0.503 • Rank: 30/63



VULNERABILITY (V) - moderate
Score: 0.43 • Rank: 30/63



COPING CAPACITY (CC) - high
Score: 0.541 • Rank: 17/63



Population (2017)
1,079,952



Population in Poverty
5.4%



Illiterate population
6.3%



Access to improved water
70.0%



Average life expectancy
75.10 years

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



MULTI-HAZARD EXPOSURE

RANK: 30 / 63 PROVINCES
SCORE: 0.503

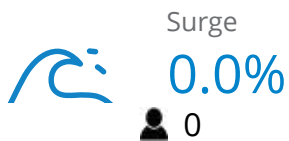
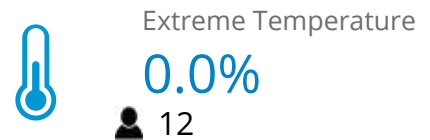
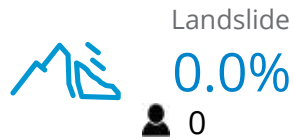
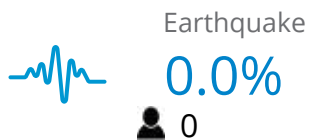


MHE
0.503

Raw MHE
0.513

Relative MHE
0.62

ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





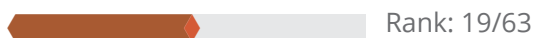
VULNERABILITY (V)

RANK: 30 / 63 PROVINCES
SCORE: 0.43

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



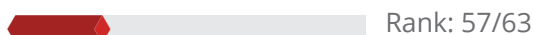
Environmental Stress



1.5% Forest Change
81.09 Livestock Density (per sq km)



Vulnerable Health Status



75.1 Life Expectancy (years)
10.1 Infant Mortality Rate (per 1,000 live births)
4.8% Acute Malnutrition (Children <5)
80.9 Tuberculosis Incidence (per 100,000 persons)
0.48 Malaria Prevalance (per 100,000 persons)
216.5 HIV Prevalance (per 100,000 persons)



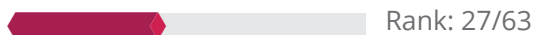
Clean Water Vulnerability



70.0% Households with Safe Water Access
57.3% Households with Hygienic Toilet Access



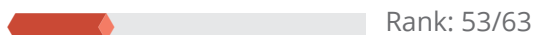
Information Access Vulnerability



6.3% Adult Illiteracy Rate
92.3% School Attendance Rate
84.0% Households without Internet
7.0% Housholds without TV



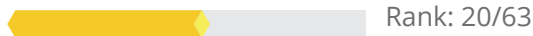
Economic Constraints



41.4 Economic Dependency Ratio
5.4% Poverty



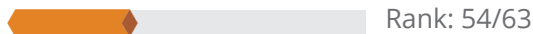
Gender Inequality



0.18 Income Inequality*
0.27 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



0.2% Average Annual Population Change
1.6% Average Annual Urban Population Change
5.2% Net Migration Rate



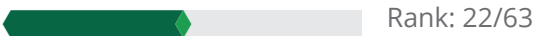
COPING CAPACITY (CC)

RANK: 17 / 63 PROVINCES
SCORE: 0.541

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



Economic Capacity



Rank: 22/63

7.4	3,441	32.83	6.73	8.47
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

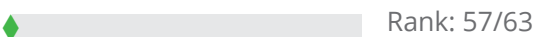


Rank: 5/63

7.08	6.64	6.06
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity

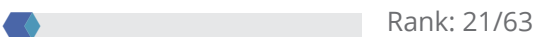


Rank: 57/63

0.0%
Protected Area



Infrastructure Capacity



Rank: 21/63



Health Care Capacity

Rank: 33/63

98.3%	21.99	5.72	10.28	6.72
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 25/63

2,311	9.85
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 14/63

88.4%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 20 / 63 PROVINCES
SCORE: 0.556

Vinh Long's score and ranking are due to moderate Vulnerability combined with high Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Gender Inequality



Environmental
Capacity



Economic Capacity



MULTI-HAZARD RISK

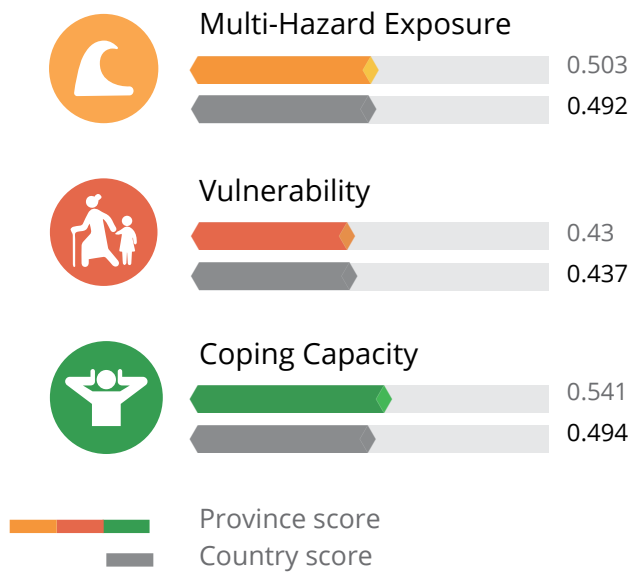
37 / 63

Rank within provinces
Score: 0.464



Vinh Long's score and ranking are due to moderate Multi-hazard exposure combined with moderate Vulnerability and high Coping Capacity scores.

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





VIỆT NAM

VINH PHUC

NDPBA PROVINCE PROFILE

VIỆT NAM

VINH PHUC

CAPITAL: VĨNH YÊN

Area: 1,509 km²

Neighboring Hanoi capital to the north, Vinh Phuc province is located in the transition area between midland mound, hill area, and the Red River Delta in northern Viet Nam. There are seven ethnic groups living together in the province as Kinh, San Diu, Dao, Cao Lan, and Muong. Vinh Phuc is one of the most industrialized provinces in Viet Nam, attracting major car makers such as Honda, Toyota, Nissan, and other manufacturing investors in 20 industrial parks.



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - very low
Score: 0.398 • Rank: 54/63



RESILIENCE (R) - high
Score: 0.577 • Rank: 16/63



MULTI-HAZARD EXPOSURE - low
Score: 0.349 • Rank: 47/63



VULNERABILITY (V) - moderate
Score: 0.421 • Rank: 34/63



COPING CAPACITY (CC) - very high
Score: 0.576 • Rank: 10/63



Population (2017)
1,099,692



Population in Poverty
3.7%



Illiterate population
2.2%



Access to improved water
94.9%



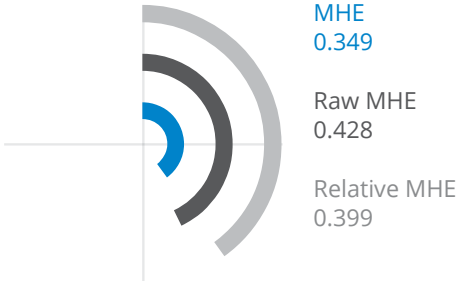
Average life expectancy
73.90 years

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



MULTI-HAZARD EXPOSURE

RANK: 47 / 63 PROVINCES
SCORE: 0.349



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:



Typhoon Wind
0.0%
0



Flood
48.3%
531439



Wildfire
0.0%
0



Earthquake
0.0%
0



Landslide
0.0%
0



Extreme Temperature
100.0%
1099692



Surge
0.0%
0



VULNERABILITY (V)

RANK: 34 / 63 PROVINCES
SCORE: 0.421

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



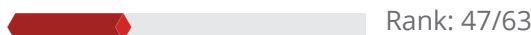
Environmental Stress



4.1% Forest Change
173.53 Livestock Density (per sq km)



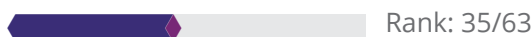
Vulnerable Health Status



73.9 Life Expectancy (years)
12.9 Infant Mortality Rate (per 1,000 live births)
5.2% Acute Malnutrition (Children <5)
5.9 Tuberculosis Incidence (per 100,000 persons)
76.59 Malaria Prevalance (per 100,000 persons)
115.9 HIV Prevalance (per 100,000 persons)



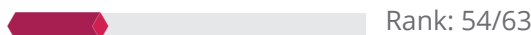
Clean Water Vulnerability



94.9% Households with Safe Water Access
63.6% Households with Hygienic Toilet Access



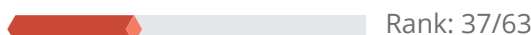
Information Access Vulnerability



2.2% Adult Illiteracy Rate
98.0% School Attendance Rate
84.0% Households without Internet
5.0% Housholds without TV



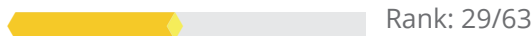
Economic Constraints



48.5 Economic Dependency Ratio
3.7% Poverty



Gender Inequality

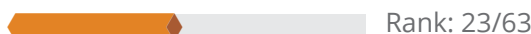


0.1 Income Inequality*
0.33 F M School Enrollment Rate*

*Values closer to 1 represent greater gender parity.



Population Pressures



0.9% Average Annual Population Change
4.8% Average Annual Urban Population Change
1.4% Net Migration Rate



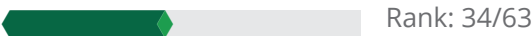
COPING CAPACITY (CC)

RANK: 10 / 63 PROVINCES
SCORE: 0.576

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



Economic Capacity



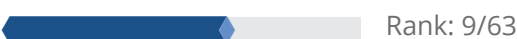
Rank: 34/63

7.27	4,332	30.45	6.81	7.1
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



Governance

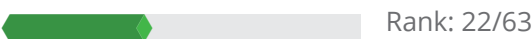


Rank: 9/63

6.28	6.05	6.59
Law and Order*	Informal Charges*	Transparency*



Environmental Capacity



Rank: 22/63

12.0%
Protected Area



Infrastructure Capacity



Rank: 5/63



Health Care Capacity Rank: 3/63

98.5%	39.35	7.88	14.96	5.79
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity Rank: 36/63

1,631	23.56
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity Rank: 19/63

87.4%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 16 / 63 PROVINCES
SCORE: 0.577

Vinh Phuc's score and ranking are due to moderate Vulnerability combined with very high Coping Capacity scores.

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



Environmental Stress



Population Pressures



Economic Capacity



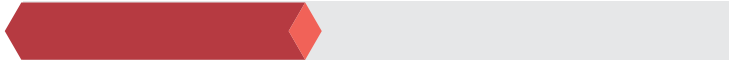
Transportation Capacity



MULTI-HAZARD RISK

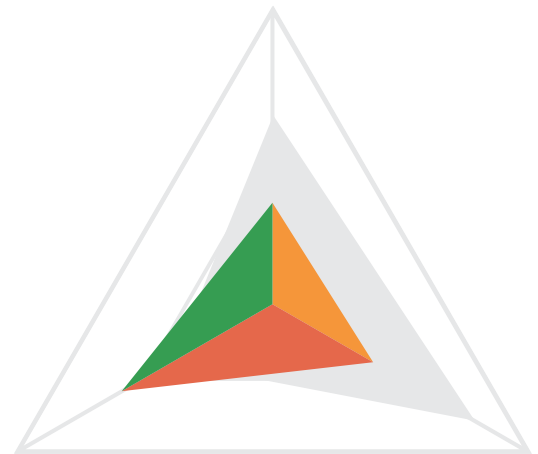
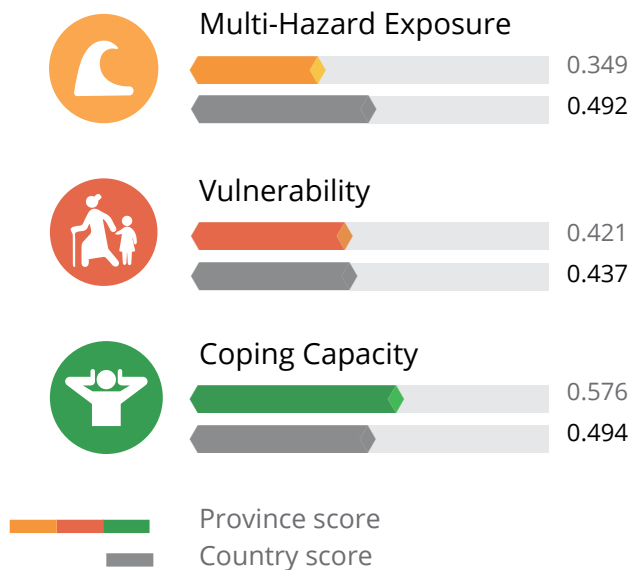
54 / 63

Rank within provinces
Score: 0.398



Vinh Phuc's score and ranking are due to low Multi-hazard exposure combined with moderate Vulnerability and very high Coping Capacity scores.

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





VIỆT NAM

YEN BAI

NDPBA PROVINCE PROFILE

VIỆT NAM YEN BAI

CAPITAL: YÊN BÁI

Area: 8,030 km²

Yen Bai is a mountainous province located in the northwestern Viet Nam, part of the Hoang Lien Son mountain range and the Red and Chay rivers systems. Forestry and farming are the main economic activities of the region. Thac Ba is a well-known artificial lake contributing to ecological tourism, water resources, and hydropower development. Yen Bai is home to about 30 ethnic groups, including Kinh, Dao, Tay, and H'Mong people. The province is vulnerable to floods and landslides caused by frequent typhoons and heavy rains.

RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK - low
Score: 0.455 • Rank: 41/63



RESILIENCE (R) - low
Score: 0.487 • Rank: 49/63



MULTI-HAZARD EXPOSURE - low
Score: 0.338 • Rank: 49/63



VULNERABILITY (V) - high
Score: 0.474 • Rank: 14/63



COPING CAPACITY (CC) - low
Score: 0.449 • Rank: 43/63



Population (2017)
817,558



Population in Poverty
19.7%



Illiterate population
11.0%



Access to improved water
59.6%



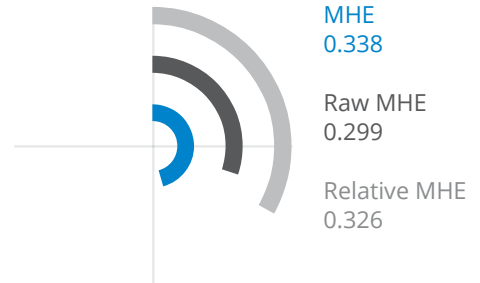
Average life expectancy
68.80 years

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

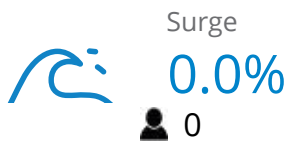
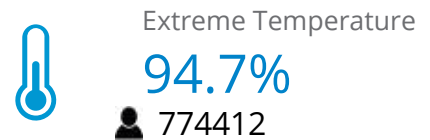
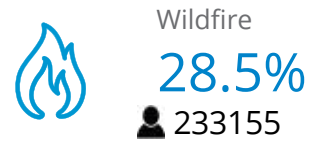
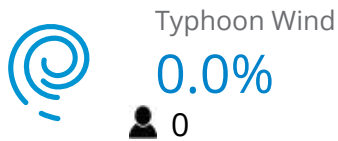


MULTI-HAZARD EXPOSURE

RANK: 49 / 63 PROVINCES
SCORE: 0.338



ESTIMATED POPULATION EXPOSED TO EACH HAZARD:





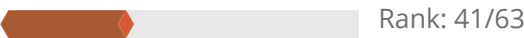
VULNERABILITY (V)

RANK: 14 / 63 PROVINCES
SCORE: 0.474

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



Environmental Stress



2.3% Forest Change
29.17 Livestock Density (per sq km)



Vulnerable Health Status



68.8 Life Expectancy (years)
26.9 Infant Mortality Rate (per 1,000 live births)
9.8% Acute Malnutrition (Children <5)
19.6 Tuberculosis Incidence (per 100,000 persons)
18.82 Malaria Prevalance (per 100,000 persons)
486.5 HIV Prevalance (per 100,000 persons)



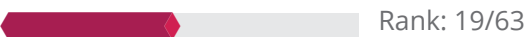
Clean Water Vulnerability



59.6% Households with Safe Water Access
53.6% Households with Hygienic Toilet Access



Information Access Vulnerability



11.0% Adult Illiteracy Rate
92.5% School Attendance Rate
86.0% Households without Internet
7.0% Housholds without TV



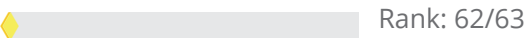
Economic Constraints



50.1 Economic Dependency Ratio
19.7% Poverty



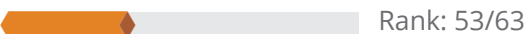
Gender Inequality



0 Income Inequality*
0.11 F M School Enrollment Rate*
*Values closer to 1 represent greater gender parity.



Population Pressures



1.0% Average Annual Population Change
1.4% Average Annual Urban Population Change
1.1% Net Migration Rate



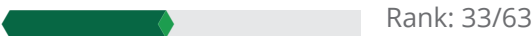
COPING CAPACITY (CC)

RANK: 43 / 63 PROVINCES
SCORE: 0.449

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



Economic Capacity

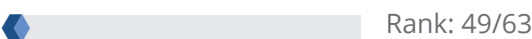


5.89	4,527	14.33	6.94	7.65
Time Cost*	Income per Capita (in 1,000 VND)	Purchasing Power	Business Support Services*	Entry Costs*

*Values represent a sub-index score where 1 is considered low (poor) and 10 is considered high (good).



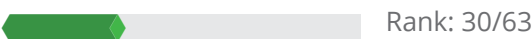
Governance



6.17	4.31	6.16
Law and Order*	Informal Charges*	Transparency*



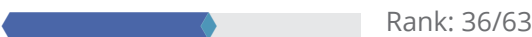
Environmental Capacity



7.7%
Protected Area



Infrastructure Capacity



Health Care Capacity

Rank: 10/63

98.8%	37.36	7.43	15.8	17.16
Immunization Coverage	Healthbeds per 10,000 People	Physicians per 10,000 People	Nurses per 10,000 People	Distance to Hospital (km)



Transportation Capacity

Rank: 57/63

1,554	87.06
Road Density (km per sq. km)	Distance to Airport or Seaport (km)



Communications Capacity

Rank: 42/63

81.6%
Households with Phone Access (Landline/Mobile)



RESILIENCE (R)

RANK: 49 / 63 PROVINCES
SCORE: 0.487

Yen Bai's score and ranking are due to high Vulnerability combined with low Coping Capacity scores.

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



Clean Water
Access
Vulnerability



Vulnerable Health
Status



Transportation
Capacity



Governance



MULTI-HAZARD RISK

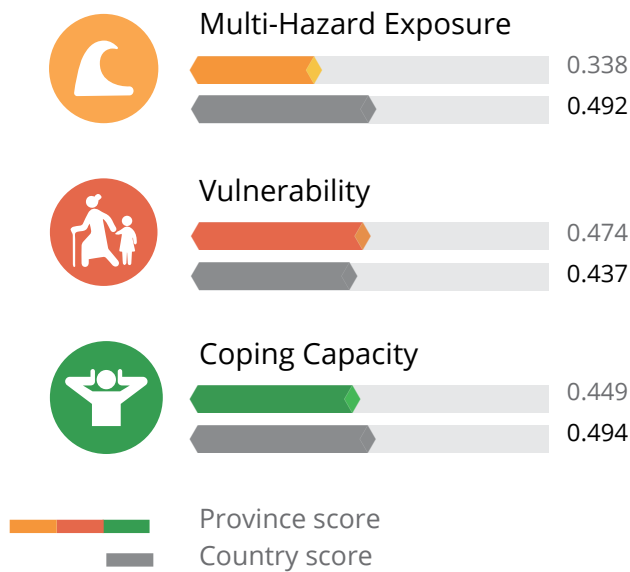
41 / 63

Rank within provinces
Score: 0.455



Yen Bai's score and ranking are due to low Multi-hazard exposure combined with high Vulnerability and low Coping Capacity scores.

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





APPENDIX A:

**DISASTER MANAGEMENT
ANALYSIS**

SURVEY RESULTS

APPENDIX A: **DMA SURVEY RESULTS**

The Disaster Management Analysis provides context to the risk and vulnerability data. Understanding the complex environment of disaster management in Viet Nam allows stakeholders to identify the best course of action that aligns within Viet Nam's legal framework and with national disaster risk reduction goals.

In the section below each disaster management indicator with detailed supporting information is provided. Data was compiled through online and archival research and validated with in-country stakeholders.

APPENDIX A DMA SURVEY RESULTS

- Limited or No Capacity
- Early Capacity Development
- Achievement with Significant Limitations
- Substantial Progress with Some Limitation
- Advanced Capacity



INSTITUTIONAL ARRANGEMENTS

ORGANIZATIONAL STRUCTURES

ORGANIZATION OF GOVERNMENT DISASTER MANAGEMENT FUNCTIONS

Several offices or agencies with DM functions exist within different government agencies

Disaster Management (DM) responsibility is shared among multiple ministries and state governing bodies according to hazard type and disaster scope. The Central Committee for Natural Disaster Prevention and Control (CCNDPC), chaired by the Ministry of Agriculture and Rural Development (MARD), is lead authority for resource management and interagency coordination. CCNDPC maintains budgetary and administrative control of the Việt Nam Disaster Management Authority (VNDMA), which oversees management of 21 natural hazards through its 9 functional units (see VNDMA Organization). VNDMA is subordinate to MARD but enjoys elevated authority during emergencies due to CCNDPC oversight.

Việt Nam DMA Organization

1. Planning and Finance
2. Science, Technology, and International Cooperation
3. Preparedness
4. Community Based Disaster Management (CBDM)
5. Dyke Management
6. Administration
7. Response
8. Recovery
9. The Disaster Management Policy and Technology Center (DMPTC)

DEVELOPMENT OF DM ORGANIZATIONAL STRUCTURE

Siloed organizational structure exists

Parallel management structures address other hazard types including transportation emergencies (National Committee for Transportation Safety); Medical Hazards (Steering Committee for Epidemic Control); Wildfire (Steering Committee for Forest Fire Prevention and Control; Environmental Emergency (Ministry of Natural Resources and Environment (MONRE)). The authority maintained by the Ministry of Defense National Committee for Incident, Disaster Response, and Search and Rescue (VINASARCOM) to manage most response and recovery related functions, including search and rescue, represents a significant organizational challenge. Plans are being developed to consolidate DM capacity into a single cabinet-level agency, which may alleviate the confusion experienced by development partners and the fragmented nature of DRM efforts across government.

BI/MULTILATERAL ENGAGEMENT

Jurisdiction maintains an office or entity dedicated to engagement with bilateral, international, and other humanitarian actors

Bi- and multi-lateral engagement, for both the provision and acceptance of international aid and information, is led by the MARD Department of International Cooperation, but several other entities (including VNDMA, the Ministry of Foreign Affairs, MONRE, VINASARCOM, and the Việt Nam Academy of Science and Technology) are also authorized to engage as determined by the purpose of engagement. Regional participation is strong, including through the actions of VINASARCOM in cooperating with regional regulatory authorities.

REGIONALIZED CAPACITY

DM activities, including those for response, are conducted out of regional DM offices

VNDMA maintains three headquarters offices (Hanoi, Da Nang, and HCMC). VNDMA and related ministries staff nine regional centers located in each of the country's main geographic zones. VNDMA also stations staff in each of the other 54 provinces.

DISASTER RISK REDUCTION (DRR)/CLIMATE CHANGE ADAPTATION (CCA)/SUSTAINABLE DEVELOPMENT (SD) PLATFORMS (MULTIPLE)

Plans exist to establish a DRR platform, but implementation is not complete, or platform is not functioning at ideal capacity

CCA platform exists at an advanced level of implementation

Plans exist to establish a sustainable development platform, but implementation is not complete, or platform is not functioning at ideal capacity

The CCNDPC is the interagency, cabinet-level DRR decision making body. The Committee's leadership arrangement has been identified as an organizational challenge. A National Committee on Climate Change has been established within the Office of the Prime Minister and the Office of the National Committee on Climate Change (NCCC) was established within MONRE to be the national CCA platform. The National Council on Sustainable Development and Competitive Enhancement and associated Steering Committee/Council on Sustainable Development, in addition to Offices on Sustainable Development set up in several ministries, agencies and localities, together serve to implement the Strategic Orientation for Sustainable Development in Việt Nam. The Ministry of Planning and Investment (MPI) is the lead agency on implementation of the 2030 Agenda and National Action Plan (NAP), as supported by other ministries planning and finance departments and provincial Departments of Planning and Investment (DPI). Finally, the Việt Nam Business Council on Sustainable Development (VBCSD) serves as the focal point for private sector development.

INTEGRATION OF DRR, CCA, AND SD

No integration

In 2013, MARD and MONRE sought to organize a National Platform for Disaster Risk Reduction and Climate Change Adaptation. However, this effort has not seen advancement since that time.

MILITARY ENGAGEMENT

Formalized integration efforts underway

Law 33/2013/QH13 details risk reduction and disaster response responsibilities of the armed forces, the Ministry of National Defense, and the People’s Army. Per Article 6 of the law, the People’s Army is tasked with “natural disaster prevention and control tasks” and to provide the core capacity for the “evacuation of people, means and properties, rescue and salvage and assurance of security and social order and safety under the mobilization of competent persons.” Civil/Military coordination in response to fire emergencies is guided by Decree 79/2014/ND-CP, which allows for the use of military forces and equipment not already mobilized. In the absence of a standardized incident command system, there exists the potential for blurred lines of command and control, further exacerbated by the positioning of military resources under VINASARCOM and not VNDMA. The previously-mentioned reorganizations may address these challenges.

LEADERSHIP

EMERGENCY MANAGEMENT LEADERSHIP ARRANGEMENT (3 OF 5)

Functional leadership positions exist but are not well coordinated, or leadership by intergovernmental committee with remaining implementation challenges

Dr. Tran Quang Haoi serves as General Director of VNDMA, reporting to Minister of MARD Nguyễn Xuân Cường, who is supported by VNDMA in their role as CCNDPC Chair. Implementation challenges have resulted in the drawing of plans to elevate the permanent chair to the Deputy Prime Minister in keeping with the CCNDPC authority and primary responsibility to oversee interagency coordination for the 21 hazards identified in Law 33/2013/QH13 and subsequent proclamations. For other hazard types, this arrangement is not relevant. The CCNDPC acts on pre- and post-disaster operations, including response and recovery, and directs the DM operations and resource management efforts of all ministries, ministerial-level and governmental agencies, organizations, and individuals. CCNDPC activities are coordinated with the Provincial and District-level Committees for Natural Disaster Prevention and Control (PCNDPC/DCNDPC). Decision-making authority is determined according to event severity on a scale of 1 to 5 (see Leadership Authority).

Leadership Authority

- Level 1: VNDMA
- Level 2: Minister of MARD
- Level 3: Minister of MARD
- Level 4: Deputy Prime Minister
- Level 5: Prime Minister

LEADERSHIP POSITIONS FILLED (4 OF 4)

All leadership positions are filled

Leadership positions are generally tied to political office and vacancies are therefore not a problem.

JOB-SPECIFIC COMPETENCIES OF LEADERSHIP POSITIONS

Competencies and experience are not required, but are generally expected

Viet Nam's national DRM strategy seeks to train and otherwise prepare all staff involved in disaster risk management (DRM) at all levels of government. It is expected that national-level leaders assume their positions having a baseline competency and training commensurate to the job role. Similar expectations do not exist at the local level, and many leaders serve in DM roles as an added responsibility to some other function (e.g., water or natural resources). Further hampering the capacity of local leaders is the "poaching" of trained DM staff, which leaves a knowledge gap in government but at times helps to transfer skills and knowledge with other sectors.

POLITICAL ACCESS OF DM LEADERSHIP

DM leadership enjoys an institutionalized, direct line of report and responsibility to the highest level of government

The CCNDPC structure ensures that DM leaders enjoy a direct and institutionalized line of reporting to the highest levels of government, an arrangement that will only become further strengthened when the Deputy Prime Minister becomes a permanent committee chair.

PROXY LEADERSHIP ARRANGEMENTS

Appointment of proxy leaders is possible, but procedures and policies are not explicitly defined, or leadership authority is not fully transferred

National-level representatives may report to a provincial government office to provide response support only when the disaster is contained at the provincial level. Provincial leaders and national supporting staff may make minor decisions, but anything of significance must be elevated to the Central Committee.

SPECIAL DECISION-MAKING AND POLICY-MAKING COMMITTEES FOR RESPONSE AND RECOVERY

Committees and/or structures are in place

A comprehensive system of DM policy and decision-making mirrors long-standing community governance structures present at each government level. The CCNDPC holds national-level decision-making authority for several pre- and post-disaster activities. This committee coordinates inter-ministerial and inter-agency efforts to organize and directing pre- and post-disaster activities, including recovery, as required for the 21 named natural disasters. This includes mobilizing and directing the resources of other line ministries, organizations, and individuals. VINASARCOM operates parallel to the CCNDPC, chaired by the Deputy Prime Minister, and manages many of the operational functions of response associated with search and rescue operations. At the Provincial, District, and Commune levels, it is the Commanding Committees for Disaster Prevention and Control and Search and Rescue, each headed by the Chairperson of the corresponding People's Committee, that serve decision-making bodies for each jurisdiction. These work in coordination with the national level committees, as is the case with committee action on other social and economic issues.

MULTI-STAKEHOLDER PARTICIPATION IN DECISION-MAKING COMMITTEES

Stakeholders are included, but have limited operational or decision-making responsibilities

There is minimal pre-disaster representation of multi-stakeholder groups or representatives in decision-making prior to the onset of disaster. However, in response and recovery, select stakeholders may be able to help inform the decision-making process even if relevant authorities are not granted.

STAKEHOLDER ENGAGEMENT



STAKEHOLDER REPRESENTATION IN GOVERNMENT DM STRUCTURES

Nongovernmental DM stakeholders regularly support governmental efforts, but no official recognition of such roles exists in organizational arrangements or charts.

Law 33/2013/QH13 applies to “Vietnamese agencies, organizations, households and individuals; foreign organizations and individuals and international organizations that are residing or operating or engaged in natural disaster prevention and control in Viet Nam,” and encourages the participation of citizens, civil society, community leaders and the private sector. However, NGO engagement in Viet Nam is in its infancy and few NGOs have any official role. International Red Cross delegations have supported local DRM activities by invitation and in close partnership with government counterparts as a condition of participation. Many NGOs operate in this environment to gain access and engagement. In the absence of an appeal, response opportunities are limited to the VFF and Viet Nam Red Cross (VNRC) which are singularly authorized to launch fundraising appeals at such times. The Government of Viet Nam (GoV) has recognized the challenges associated with a lack of engagement procedures or mechanisms by which NGOs may be easily registered and incorporated, but no comprehensive provisions to foster such activities has been developed or is in the pipeline.

PUBLIC PRIVATE PARTNERSHIPS (PPPS)

No policies or strategies exist to support PPPs, or they are limited in number and scope.

PPPs in Viet Nam are rare, funded primarily by Official Development Assistance (ODA), and focus on economic-sector resilience rather than response or recovery. The GoV has shown a willingness to promote PPPs through pilot programs, including a 2011 to 2013 program that fostered resilience in the agriculture sector through creation of a catastrophe insurance scheme administered by People’s Committees at each administrative level. A Ministry of Transport and Trade pilot program facilitated the construction of dual-use facilities capable of protecting fishing boats and other maritime resources in disasters. There remains great potential for growth in terms of developing supportive policies.

NGO AND PRIVATE SECTOR INVENTORY

No inventory is maintained or there is no DM stakeholder community.

Viet Nam law requires registration of all NGO activities and projects. This process is not organized in a manner that supports data indexing for the purpose of capacity assessment. Moreover, similar efforts are not conducted with private sector entities. Efforts are underway to enhance NGO capacity assessment, and while little is known about the nature of these assessments, it is possible that they may offer greater insight into NGO sector capabilities.

NATURE OF MULTI-STAKEHOLDER ENGAGEMENT

Plans and/or strategies call for direct engagement with nongovernmental stakeholders, but implementation challenges remain.

Law 33/2013/QH13 requires NGOs engaged in DM to adhere to official command structures and defines general responsibilities (but provides no specific guidance to carry out such acts). Decree 30/2017/ND-CP shows intent to enhance engagement by including NGOs, social, and voluntary organizations as response and search and rescue organizations, thereby recognizing them as a response component but without clarifying roles and responsibilities. NGO engagement is greatest in the context of community-based efforts, including the VNDMA Community-Based Disaster Risk Management (CMDRM) program. The CBDRM Technical Working Group includes NGO/INGO membership, but sector representatives report significant challenges related to NGO independence (most notably the requirement that efforts be coordinated with government counterparts). A group of 18 organizations established the Joint Advocacy Network Initiative (JANI) to share experiences and coordinate, which has since advanced several DM efforts including AADMER implementation.

PRIVATE SECTOR ENGAGEMENT

Private sector entities have little or no DM function to support the jurisdiction beyond meeting their own needs.

Outside of very small-scale development projects, private-sector engagement remains limited, with most businesses and associations becoming involved only in recovery and rehabilitation (and even then, only through cash and/or in-kind donation.)

NGO ORGANIZATIONAL ARRANGEMENTS

NGOs with DM program areas or missions coordinate through informal networks on both pre- and post-disaster issues.

NGO activities are highly-regulated in Viet Nam, and there are no independent organizational arrangements. The government-affiliated Viet Nam Union of Friendship Organizations (VUFO) NGO Resource Center does support limited civil-society coordination in lieu of an independent body. The VUFO steering committee, which has both governmental and NGO representation, maintains a Disaster Management Working Group (DMWG) that meets monthly. The People's Aid Coordinating Committee (PACCOM) is a specialized, functional VUFO body that facilitates foreign NGO activities. Within the Red Cross network, partner Red Cross organizations meet regularly to discuss coordination needs.

ACADEMIA INVOLVEMENT IN GOVERNMENT DM

Academia supports DM efforts but has no official association with government structures.

Integrated participation of academic institutions is limited, both as a source of training and education and with regards to the provision of pre- and post-disaster emergency management support. A small number of institutions conduct independent research and occasionally partnership support to government entities focused on for risk assessment and monitoring, messaging, strategic planning, and other functions. The Center of Multi-disciplinary Integrated Technologies for Field Monitoring (FIMO) of the University of Engineering and Technology at the Viet Nam National University (VNU), and Thuyloi University, are two notable examples.

NATIONAL GOVERNMENT ENGAGEMENT IN REGIONAL AND GLOBAL EFFORTS

Strong and effective relationships exist with global and regional organizations, including formalized support frameworks and/or agreements that have been ratified.

Viet Nam enjoys strong working relationships with bilateral and multilateral partners, including the World Bank GFDRR, UNDP, UNICEF, the UN Disaster Management Team in Viet Nam (a UNDP sub-group), UNISDR, UN Women, FAO, and many others. Organizations describe effective working relationships at all levels of government. Among UN agencies, there is a strong interagency planning process called One UN that enables all agencies to better work towards common goals.



ENABLING ENVIRONMENT

LEGAL FOUNDATION

LEGAL ARRANGEMENTS ADDRESS DM REQUIREMENTS

DM legislation is comprehensive and driven primarily by a single current disaster law.

Viet Nam has a diverse and complex legal framework guiding DRM activities that has evolved over decades. Development of emergency services capabilities, fire prevention, and firefighting activities are guided by the Law on Fire Fighting and Protection (27/2001/QH10). DRR and multiagency response has required additional legal instruments, the most prominent of which are Decision #1002/QD-TTg (Community Awareness and CBDRM) and Law 33/2013/QH13 (Law on Natural Disaster Prevention and Control). The latter of these seeks to consolidate authorities and policies and close legal gaps. Subsequent decrees and decisions have supported the implementation of these two instruments. Decree 30/2017/ND-CP is notable in that it provides significant clarification on the scope of emergency events, organizational structures, stakeholders, authority, SOPs, and roles and responsibilities.

SCOPE OF LEGISLATION

Legislation addresses all DM phases.

Law 33/2013/QH13 addresses pre- and post-disaster needs, including establishment of the (CCNDPC); expansion of early warning; zoning and resilient construction; public education and awareness; shelter construction; formalization of rights and obligations of individuals (with respect to DRM), and; incentives for and promotion of risk financing.

BASIS OF THE LEGISLATIVE PROCESS

DM legislation is established on the basis of a broad strategic vision.

Law 33/2013/QH13 applies the strategic vision of the 2007 National Strategy on Disaster Prevention and Control (National Strategy 2007). It was passed to consolidate disaster response and risk management systems under a single legal instrument. Article 14 stresses this in mandating that, “The [National Strategy 2007] [be] elaborated every 10 years, with a 20-year vision, and is updated and adjusted once every 5 years or upon great changes in the situation of natural disasters. The [National Strategy 2007] must identify objectives, tasks, solutions, programs, key schemes and projects, for the organization of natural disaster prevention and control activities nationwide.”

IMPLEMENTATION SCHEDULES IN LEGISLATION

Legislation details implementation schedules and is partially implemented or is on schedule to be.

Implementation timelines link closely to strategic plans, namely the National Strategy for Natural Disaster Prevention, Response and Mitigation Towards 2020 [National Strategy 2020]. Decision 1002/QĐ-TTg seeks to support over 6,000 high-risk communes within an eleven-year performance period (implementation partners reported little progress towards these goals by 2017). The 2009 Implementation Plan of the National Strategy 2020 also included implementation guidelines several priorities including promulgation and implementation of a coordinated disaster law by 2013, which was met by the issuance of Law 33/2013/QH13. It should be further noted that the May 1, 2014 promulgation of this law was also met as scheduled. Implementational guidance provided in the new law is less specific, and progress varies almost 4 years into implementation. Nationally, many organizational and institutional provisions have been addressed, but operational goals continue to face challenges due to funding and institutional challenges.

LEGISLATION AND INSTITUTIONS

Legislation provides detailed provisions for the establishment of DM.

Decision 26/2017/QĐ-TTg established the General Department of Natural Disaster Prevention and Control under MARĐ management, which led to creation of VNDMA. The law also explains how governments at all administrative levels should structure their DM administrative arrangements.

LEGISLATION AND BUDGETS

Legislation provides basic provisions for the establishment of DM budgets.

Law 33/2013/QH13 consolidated DM funding and financing, identifying 3 primary sources: the national budget, disaster prevention and control funds, and voluntary contributions. Annual expenditure estimates and national budget provisions are the source of national funds, while disaster prevention and control funds are established at the provincial level, come from compulsory contributions (from foreign and domestic organizations and individuals), and are managed by provincial committees. Voluntary funds are raised through charitable campaigns.

LEGISLATION IS SOCIALIZED

Legislation is actively socialized by the government.

Decision 26/2017/QĐ-TTg tasks VNDMA with “propagation, dissemination, and education of [Law 33/2013/HQ13]” and “to direct, monitor, and organize the implementation of legal documents, mechanisms, policies, strategies, planning, programs, and projects.” Law 33/2013/QH13 delegates socialization to each administrative level in Article 43.

DECLARATIONS PROCESS, VERTICAL COOPERATION, AND RESOURCE REQUISITION

All are addressed, but are not explicitly described in the language of the law.

Article 28 of Law 33/2013/QH13 describes the escalation of support requests, including the mobilization of manpower, supplies, means, equipment and essentials (under the “four on-the-spot” motto), and explains how capacity exceeding events are reported to superior People’s Committees. Escalation at each level is described in this manner, up to the level of the heads of the commanding committees of ministries and ministerial-level agencies, CCNDPC, and ultimately the Prime Minister.

EMERGENCY POWERS

Some provisions exist.

Per the Implementation Plan of National Strategy 2020, “strict consistency in disaster prevention, response, and mitigation institutions from the central to local levels” is a stated priority. Article 44 of Law 33/2013/QH13 mandated local and subnational DM structures (Commanding Committees), to be established by Chairpersons of People’s Committees at each level, in addition to the requirement that the People’s Committees create special DRR-specific committees within their structure.

DM STRUCTURES AND ARRANGEMENTS OF SUB-JURISDICTIONS

Provisions are extensive.

Article 44 of Law 33/2013/QH13 mandates DM structures at local and sub-national levels in stating that, “Chairpersons of People’s Committees at all levels shall decide to set up same-level commanding committees for natural disaster prevention and control and search and rescue to assist their People’s Committees in commanding and organizing natural disaster prevention and control and search and rescue in their localities.” There is not the same requirement, however, to create special committees for DRR activities, which are described as the responsibility of the existing People’s Committees. The Implementation Plan of National Strategy 2020 states as its first implementation priority to “Ensure strict consistency in disaster prevention, response, and mitigation institutions from the central to local levels.”

GUIDANCE FOR DRR ACTIVITIES AND REQUIREMENTS

Provisions are comprehensive.

Preparedness measures are a required development planning consideration at all administrative levels, and in all business sectors. per Circular 05/2016/TT-BKHDT. This document is notable in that it requires vulnerability assessment across a broad variety of demographic groups, including the poor, children, isolated elderly, female-headed households, people with disabilities, and ethnic minorities. The Viet Nam Land Law (Law 45/2013/QH13) explains that land use designations may be changed due to a natural disaster having occurred or the risk thereof, and that land may be requisitioned for the purposes of responding to disasters. The law provides a direct if vague explanation that “land recovery due to termination of land use” may occur on “land having risks of being eroded or sunk or otherwise affected by other natural disasters threatening human life.” The Law on Construction is another avenue for control in that it requires builders to apply for a construction permit for structures exceeding two floors. While not a focus of this indicator, it has been noted in independent assessment that there is a shortage of capacity to adequately enforce the inclusion of DRR provisions into building permits and land use decisions, or to otherwise provide technical assistance as would be required.

FACILITATION OF MILITARY SUPPORT

Provisions are comprehensive, or military resources are fully integrated given government structure.

Viet Nam’s greatest source of human and material resources for DM activities in all phases is its military, and as such the military is fully integrated into its DM framework. This is affirmed in Article 6 of Law 33/2013/QH13 which tasks the military with disaster prevention and control, recognizing it as the core resource for many operational functions. Article 42 directs the Defense Ministry to formalize these roles through planning and other legal documentation.

FACILITATION OF INTERNATIONAL & CROSS-BORDER ACTIVITIES (FACILITATION AND PROVISION)

Some provisions exist, or provisions are not fully effective.

Article 41 of Law 33/2013/QH13 formalizes international engagement, and addresses facilitation issues including duty and fees exemptions, expedited immigration, priority clearance of equipment and supplies, and logistical support (all of which was reaffirmed in Article 3.9.a of Decree 209/2013/ND-CP and Articles 14-17 of Decree 66/2014/ND-CP). These laws also require registration, limit permitted activities, and mandate compliance with Vietnamese law. Article 12 of the Law on Fire Fighting and Prevention establishes a basis for international mutual aid from or in support of other countries and organizations. Strict regulation on organizations' and donors' activities and onerous registration requirements (as are required per Decrees 93/2009/ND-CP and 66/2014/ND-CP, for example) can impede or even prevent support in some situations.

Related Statutory Authorities

- Decree 136/2013/ND-CP (Social policies for social protection subjects)
- Decree 66/2014/ND-CP (Implementation of Law 33/2013/QD-HD)
- Decision 46/2014/QDD-TTg (Forecast, warning and information)
- Decision 44/2014/QDD-TTg (risk standards)
- Decree 94/2014/ND-CP (Disaster control funds)
- Circular 43/2015/TTLT-BNNPTNT-BKHDT (Disaster statistics and assessment)
- Circular 05/2016/TT-BKHDT (Integration of DRR into development plans)
- Decision 26/2017/QĐ-TTg (Establishment of VNDMA)
- Decree 30/2017/ND-CP (Regulate emergency response)

FINANCIAL RESOURCES



DM BUDGET ARRANGEMENT

DM Budget exists as a sub-component of an agency-level budget, and not as a general budget line item.

The MARD budget contains a sub-ministry line item for DM activities, vis-a-vis VNDMA. Budget levels are set per the Law of National Budget and detailed in the Yearly Statistics Yearbook of the Finance Ministry. For general DRM activities, Law 33/2013/QH13 does not stipulate specific or relative resource allocation or funding amounts but does grant Provincial and local governments the authority to raise funds from organizations and individuals as required. The Viet Nam Law on State Budget requires a 2-5% annual budget set aside for DRM costs by all levels of government, including contingencies. Increased spending on mitigation has often resulted in availability of contingency funds falling well below minimum requirements.

DM BUDGET FUNDED AT TARGETED LEVELS

No, or no levels detailed.

Financial resources for DM activities are often stretched, and where funding is allocated, there is limited guidance on how it should be spent. Departments and provinces alike are often reticent to spend funds for fear of needing them for unforeseen circumstances, and it is therefore not uncommon that they go unspent. Complicating DM financing is the fact that MPI is concerned with planning while MoF is concerned with funds, which reduces the effectiveness of financing mechanisms. The World Bank and UNDP provided an example of how a \$30M project was nearly missed despite Prime Ministerial approval due to bureaucracy. A World Bank review found that 40% of national contingency funds and 20% of those at the local level (which together average between 2.5% and 3.8% of total budgeted annual expenditures) are available to finance post-disaster recovery activities, and that in practice only 30-40% of available funds are utilized given a reluctance to disburse funds for longer-term recovery expenses. In practice, financing for long-term recovery has met only 21% of actual needs. Development partners also noted that disconnects between planning and budgeting agencies resulted in DRM funding challenges.

SCOPE OF DM BUDGET

Budget addresses programmatic, administration, and operations; funding or programmatic challenges exist.

Law 33/2013QH13 authorizes national budget funds to be used for agency operations as well as disaster prevention and control, planning, construction, renovation and upgrading of mitigation measures, DRR, training, education, and disaster awareness. Funds may also be used for response and recovery at all government levels. Decree 30/2017/ND-CP further defines expenditures across several operational areas and permits capacity development and operating expenses. The law prioritizes spending on response and recovery. Despite listing nine (see sidebar on previous page) funding directives and granting the authority to pursue them, funding fails to meet stated needs due in large part to repeat disasters that dominate budget expenditures.

DRM GRANT PROGRAMS

Grants are institutionalized and recurring.

The three-year national budget includes funding for CBDRM and other areas of support. Progress reports and audits from this initiative indicate that financial resources are being directed to support community capacity as intended.

BUDGET SUPPORTS TRAINING, EDUCATION, AND RESEARCH & DEVELOPMENT

Yes, but implementation obstacles exist.

Law 33/2013/QH13 states that DRR activities are covered by budget provisions and describes specific activities in the language of the law, but does not identify training, education, and R&D as specific budget-eligible activities. The 3-year national budget does establish a funding category “Improvement of DRM Policies and Institutions” that may be used for various training uses that are described and which include training of officials, conduct of exercises, development of materials, and the conduct of courses. Training agencies do report that a lack of specific guidance or provisions on training requirements do hinder the development of training and education programs and have led to budgeted funds going unspent in previous years.

NATIONAL BUDGET SUPPORTS SUB-JURISDICTIONS

Yes, but implementation obstacles exist.

Several capacity development initiatives that target sub-jurisdictions are listed in the proposed 3-year National Disaster Preparedness Plan (2018/20). The budget estimates \$US4.61 billion in needs, with the vast majority targeting infrastructure upgrades (US\$4.46 billion). Other items include \$238.4M for upgrading of equipment, facilities, and search and rescue capabilities, \$78.66M for improved forecasting and warning, \$32.3M for planning and risk assessment, and \$29.1M for research and technology. The CBDRM program, which has a US\$1.37M three-year budget and addresses capacity through the development and operationalization of citizen and community leader training and empowerment, is the most notable. The language of laws and budgets often make it difficult to distinguish between human and operational capacities where sub-jurisdiction support is described (e.g., “Raise risk management capacity for river-bank erosion for the community.”)

DEDICATED EMERGENCY OR CONTINGENCY FUND EXISTS

Legal provisions exist to establish and/or maintain a contingency fund, but implementation challenges exist.

The general DRM budget does not cover special relief or long-term recovery and reconstruction expenditures, which are typically addressed using legally-mandated reserve funds maintained at every level of government. A national contingency reserve is maintained at a targeted 0.8 to 1.0% of GDP level in addition to the 2-5% DRM funds maintained by each sub-national jurisdiction. Articles 8 to 11 of Law 33/2013/QH13 establish contingency fund requirements at the Provincial level and assigns management to People’s Committees, and Article 12 of Decree 66/2014/ND-CP provides the detail necessary to authorize action at each administrative level. Decree 94/2014/ND-CP extends this requirement to communes and establishes provincial-level disbursement and control of financing support. Legislation provides no guidance on the use of contingency funds, which results in a general reticence to use them. The Law on Viet Nam Fatherland Front (VFF)(75/2015/QH13) recognizes VFF as a Party-aligned political umbrella group and authorizes the VFF Central Committee Standing Board to raise and disburse disaster relief funds.

CONTINGENCY FUND LEVELS

Disaster reserve/contingency funds exist but are less than 2% of national annual GDP and/or has fallen short of needs in the past even when emergency appropriations have been passed.

Prioritization of risk reduction activities have exhausted the 2-5% required set-aside for many sub-national governments, often leaving contingency funds below 2% targets. The World Bank reports that approximately 40% of the central contingency fund and 20% of local contingency funds are available to finance post-disaster recovery activities. World Bank Country Director Ousmane Dione stated that financing capacities meet only 21% of anticipated needs, and that Viet Nam could see losses of over 4% of GDP following major disasters.

CONTINGENCY FUND LIMITS

Guidelines exist for access to the fund, but funds are not protected from non-emergency withdrawals.

Law 33/2013/QH13 expressly prohibits the improper use of or delays in the provision of disaster funds. In the absence of any defined limits to eligibility, however, this protection is only marginal. The GoV is working to strengthen administration mechanisms and protections, including an ongoing review of state reserve management policies and laws (with a focus on State Reserve Utilization) initiated in 2016. Emphasis has been on improving allocations for disaster commodity purchase, and on policies that support the use of the strategic reserves to stockpile and pre-position commodities in advance of disasters.

EXISTENCE OF AND PUBLIC SUPPORT FOR CATASTROPHE RISK TRANSFER

Catastrophic risk insurance market does not exist.

Only 5% of Viet Nam's US\$1.3 trillion in assets are covered by insurance. This is a dominant basis of the 75-80% funding gap that typically exists following disasters in Viet Nam. Several unsuccessful attempts have been made to establish a catastrophe insurance market to date. The 2009 National Strategy 2020 Implementation Plan called for nationwide disaster risk insurance availability, to be completed by 2015. This was not achieved. Decision 315/2011/QD-TTg authorized a 3-year catastrophe insurance pilot program targeting the agriculture sector, which was implemented in 20 provinces and reached 304,017 households (80.8% of which were poor) and insuring 7,747.9 billion VND. The 394 billion VND collected in revenue fell far short of the 701.8 billion VND paid out for claims. Law 33/2013/QH13 called for policies that promote incentives to the insurance industry to promote market offerings, but this has yet to result in a viable market. At the present time, fewer than 5% of all structures are covered under active insurance policies.

INSURANCE INDUSTRY OVERSIGHT

Government regulates insurance markets to ensure solvency.

The Ministry of Finance (MOF) supervises Viet Nam's insurance market and is authorized to grant and withdraw licenses. The MOF Insurance Supervisory Authority (ISA) is the implementing agency. Minimum solvency margins are set for general insurers and for local branches of foreign providers. Solvency is established in Decree 73/2016/ND-CP, Section 4.

AVAILABILITY OF LOW-INTEREST LOANS TO SUPPORT RECOVERY

Loan programs offered on an ad-hoc basis; only provided to a limited audience; or not well-established.

The Viet Nam Bank for Social Policy and Agriculture and the Rural Development Bank provide loans with preferential interest rates to the rural poor. Microfinance options are also available through ODA on a project-specific basis. However, there is no institutional commitment to disaster-specific microfinance in Viet Nam outside of site-specific pilot programs. A Development Workshop France (DWF) program jointly funded by the Viet Nam Bank for Social Policy and the Ford Foundation that provided short-term low fixed-rate loans to cover resilient home construction costs is being explored as a model for similar lending programs throughout the country.

AVAILABILITY OF MICROFINANCE CREDIT SCHEMES AND/OR EXPEDITED REMITTANCES

Available through informal systems and structures.

Microfinance has been provided through ODA financed rural development projects rather than as a result of state-led institutional commitments. Microfinance systems do exist in many communities, but these are established organically and supported by banks that permit multi-member accounts. The Swiss Red Cross explored microfinance through a Forecast Based Finance (FBF) scheme that uses monitoring and other scientific data to identify disaster financing needs prior to disaster onset, but thus far it has experienced significant challenges and has been relatively limited in scope.

GUIDELINES FOR DISASTER RELIEF DISBURSEMENT

Mechanisms exist for funds distribution to sub-jurisdictions, but guidelines are informal or untested.

Decree 136/2013/ND-CP guides eligibility and coverage of state-provided individual and household recovery support. Guidance is provided for each support type, including request mechanisms and escalation processes. Communes are given the authority to triage, approve, and escalate requests. Requests are collated at each administrative level and reviewed for escalation until they reach the Provincial Finance Committee. Article 12 of Decree 66/2014/ND-CP provides additional detail about the mobilization, fundraising, and distribution of resources for natural disaster consequences. Like Decree 136/2013/ND-CP, the language of this instrument explains who maintains relief budget authority at each level of government, and the span of financial resources within their control. Other decrees that also define disaster assistance mechanisms include Decision 118/2007/QD-TTg (disasters at sea) and Decision 142/2009/QD-TTg (Agriculture Disaster). When requests reach the national government, funding is granted to the requesting provinces, which subdivide among requesting districts as necessary, and the process is repeated until communes are reached. This process has been effective for environmental disasters but less so for natural disasters due to a lack of a disaster risk financing strategies that result in funding delays or failures. A new process has been developed, but it is not generally followed.

2018-2020 Decision Approving the National Disaster Preparedness Plan” budget items:

1. Improvement of DRM policies and institutions
2. Communication and socialization of laws, regulations, and DRR information
3. Upgrading equipment and facilities for disaster prevention and search and rescue
4. Improvement of forecasting and warning capabilities
5. Local and national risk assessment and disaster planning
6. CBDRM
7. Science and Technology Research
8. International Cooperation on Disaster Prevention
9. Investment in Infrastructure Resilience

STRATEGIES

STRATEGIC PLANS AND POLICIES

Standalone or distinct and strategic plans and policies exist, but not for all DM phases and/or the policy document(s) is (are) more than 10 years old.

Viet Nam is a signatory of the Hyogo Framework for Action (HFA, 2005), the ASEAN Agreement on Disaster Management and Emergency Response (AADMER, 2009), and the Sendai Framework for Disaster Risk Reduction (Sendai Framework, 2015). Viet Nam is committed to DRM and champions these efforts from the highest levels of government. The National Strategy 2020 and subsequent implementation plans outline the country's DRM objectives and provide a policy framework for DRR and CCA activities. Key elements include integration of DRM into national development plans; sustainability in disaster recovery; regionalized DRM; and integration of structural and non-structural mitigation measures across all ministries. Objectives include enhancement of forecasting; promotion of resilient planning practices and tools; staff training; relocation of high-risk communities; improvement of search and rescue; dyke, reservoir, and flood safety; storm shelters for boats and ships; and maritime safety communication.

STAKEHOLDER ENGAGEMENT

Strategic plans address some or all relevant stakeholders; stakeholders not engaged in the process.

NGOs are not generally engaged in the development of government policy and law in Viet Nam. National Strategy 2020 discusses the inclusion of "social, political, international" organizations, and non-governmental organizations in general terms only, and gives only IGOs and domestic political organizations as examples. Law 33/2013/QH13 contains language on stakeholder organizations but does not state whether NGOs were engaged, nor does it formalize any roles or responsibilities.

STAKEHOLDER GUIDANCE

Guidance provided solely via self-directed means; guidance is provided to a limited range of stakeholders; and/or implementation or facilitation challenges exist.

The Office of Community-Based Disaster Management implements Viet Nam's CBDRM program, providing policy development and strategic planning guidance as necessary. MARD and UNDP jointly developed a DRR and CCA training guide that targets government staff at all administrative levels with technical information, risk and disaster assessment methods, information management, and central components of DRR policy. MARD and UNDP released a CBDRM Guideline in 2015, which provides information on Law 33/2013/QH13, on monitoring and warning, and on building community resilience. This is facilitated using printed guidance, training of trainers, and direct technical assistance. A mid-term program review reported extensive multi-stakeholder involvement but found the program to be limited by resources shortfalls and limited geographic coverage, among other issues.

POLICY SUPPORT OF DRR INTEGRATION

Detailed policies ensure adequate integration of national DRR goals in development, planning, recovery, and reconstruction and ensure integration and coordination with CCA and SD policies and goals.

National Strategy 2020, The Viet Nam Sustainable Development Strategy 2011-2020, and the Viet Nam National Strategy on Climate Change each identify integration as a principal element of effective policy. Circular 05/2016/TT-BKHDT, entitled Provide Guidance on the Integration of Natural Disaster Preparedness Contents into Socio-economic Development Plans and Industry Distribution and Development Plans, requires integration and supports such efforts by outlining principles and defining how integration might occur at each government level and in several industries.

DRR AND DM POLICY INTEGRATION PROGRESS

Policy goals are integrated across all of government and are widely socialized.

Law 33/2013/QH13 mainstreams DRM as a government-wide policy goal at every administrative level, and of every stakeholder and citizen. The law assigns specific integration responsibilities to: People's Committees at all levels; ministries and ministerial-level agencies; and notably to MPI with regards to socio-economic and sector-specific development master plans. A joint 2014 IFRC and UNDP legal analysis found that, "Viet Nam's DRM law [...] mainstreams both DRM as a whole, and DRR as an element of it, into normal government functions, from the national to the local level, rather than establishing specialist or parallel institutions. It is noteworthy that the law mentions the rights and responsibilities in DRM for individuals, communities, business, civil society, government and professional organizations. It sets out their rights to risk information and to participation in prevention planning, as well as their obligations to take concrete DRR measures on their own behalf, to implement local plans, and generally to take the initiative in DRR. This conveys a strong message that DRR is a whole-of-society responsibility for a general social benefit."

MITIGATION MANDATES IN DRR POLICIES

Provisions exist but requirements are vague or unspecific and/or enforcement mechanisms do not exist.

Disaster mitigation goals are identified in the National Strategy 2020, which includes as a component of this strategy the mainstreaming of disaster mitigation into social development. Article 16 of Law 33/2013/QH13 is the basis of mitigation policy, stating that, "National and local socio-economic development or sectoral development master plans and plans must have natural disaster prevention and control contents suitable to the characteristics of natural disasters in each region and locality in order to ensure sustainable development." The law identifies several required actions but does not address enforcement mechanisms or consequences of inaction. A 2014 independent review of disaster mitigation efforts found that despite the existence of rules and regulations guiding risk reduction, effective enforcement mechanisms are not yet in place and there is no indication in the current assessment that this challenge has abated."

CONSIDERATION OF GENDER AND VULNERABLE GROUPS IN STRATEGIES AND POLICIES

Groups' needs are considered, but implementation challenges remain.

A 2008 report by the Việt Nam National Committee for the Advancement of Women identified a need to increase the profile of women in politics to address inequalities in policy influence. Since that time, a commitment to meeting this goal has been apparent, including in the areas of DRR, CCA, and SD. Evidence includes: the listing of gender equality as a specific objective of the National climate change strategy; a desire to conduct SD in a manner that pursues the implementation of “guidance, laws and policies on marriage, family, gender equality, and prevention of home violence and social evil penetration into families” in the National SD Strategy; and formal inclusion of the Việt Nam Women’s Union (VWU) as a member of the CCNDPC (when it was known as the Central Committee for Flood and Storm Control, by Decision 216/QĐ-PCLBTW). VWU has continued to play key roles at all levels of government in both pre- and post-disaster activities, notably as a Co-Implementing Partner of the CBDRM program. Progress is not without challenges, and both government staff and stakeholder partners have noted that inclusion of women’s and vulnerable groups in project planning remains scarce, thereby reducing the extent of gender inclusion in materials.

PUBLIC CONFIDENCE & POLITICAL SUPPORT



SUPPORT FROM TOP GOVERNMENT OFFICIALS

The office of the head of state champions DM and DRM activities, including preparedness and mitigation.

The office of the Prime Minister, through Deputy Prime Minister Mr. Trinh Dinh Dung, is actively engaged in DRM efforts including participation in conferences, making statements in support of DRM efforts, and by direct engagement with pre-disaster risk reduction projects and post-disaster response and recovery efforts. The Prime Minister’s high-profile participation in the 2018 Natural Disaster Prevention and Control Day (May 22, 2018) typifies this support. Prior to flood season, the Prime Minister makes a public appeal to all DM stakeholders affirming the support of government and highlighting the importance of the issue.

SUPPORT OF THE LEGISLATURE

There exist standing legislative or other advisory committees with a central focus on DM and/or DRR.

The National Assembly’s Committee on Science, Technology, and Environment crafted Law 33/2013/QH13. DM issues fall within the context of the committee’s authority, although it is not mentioned by name. The CCNDPC supports this committee in these efforts, and the legislative process, as required.

INTERAGENCY AND MULTI-STAKEHOLDER INPUT IN THE LEGISLATIVE PROCESS

Input exists, but to a limited degree for some stakeholder groups.

The National Assembly held multiple workshops leading up to passage of Law 33/2013/QH13 to engage representatives from various provinces, with the Viet Nam Red Cross Society, with UNDP, and with international legal experts. However, the NGO community was notably absent in this process in terms of measurable influence. Viet Nam's top-down governance structure presents a significant obstacle to participatory policymaking, with one NGO representative noting that individuals can only affect change at the most local level given Commune People's Committees do not have the means nor the structure to elevate concerns to an appreciable degree.

PUBLIC SUPPORT FOR DRR

The public supports DRR provisions that do not result in increased taxes, costs, or other benefit losses.

Viet Nam's extensive risk profile and experience with disasters has resulted in public appreciation of DRR importance and associated benefits. This typically translates to support for government DRR programming including the associated actions and requirements. NGOs have noted significant citizen motivation, even in poor, remote, and otherwise socially or economically disadvantaged communities, to reduce future disaster impacts. Support wanes when financial outlays are required on account of personal financial constraints, but government, donor, NGO, or other support mechanisms that accompany requirements minimize resistance. That said, mandates are uncommon considering funding limitations.

PUBLIC CONFIDENCE IN GOVERNMENTAL DM

The public is confident in the capabilities and capacity of government DM.

Viet Nam citizens have a high level of confidence that their government will assist them during and in the aftermath of a disaster. There are no reports or surveys that have been conducted to confirm this, though researchers at Nanyang Technological University report that local governments are considered highly trustworthy among constituents. The central role that citizens play in community disaster response capacity is another likely basis of high confidence levels.

POLITICAL APPROVAL RATINGS

Approval ratings are not collected and/or public support for political figures is not measured.

Decree 72/2013/ND-CP (On the Management, Provision, and Use of Internet Services and Online Information) places certain restrictions on blogs and social media postings, which limits the degree to which social media may be used to collect information on or otherwise understand political approval information related to the performance of public officials during disaster response.

ATTITUDES, ENGAGEMENT, & EXPERIENCE

PRACTICAL EXPERIENCE OF THE JURISDICTION

Jurisdiction responds to more than 1 major disaster that requires extra-jurisdictional and/or interagency coordination each year.

Viet Nam experienced an average of 7 national-level disasters per year between 2005 and 2014. These events resulted in an annual average of 265 fatalities and over US\$700 million in economic losses.

PRACTICAL EXPERIENCE OF THE LEAD DM OFFICIAL

Lead DM official has coordinated a major disaster requiring or in provision of extra-jurisdictional assistance within the previous year but has held their position for less than 3 years.

Dr. Tran Quang Hai, General Director of the General Department of Disaster Prevention and Control (VNDMA), assumed his position in August of 2017. Dr. Tran was formerly the Deputy Head of Water Resources Directorate prior to his nomination at VNDMA.

PUBLIC ENGAGEMENT IN DM

Public is actively organized and engaged in DM efforts.

The Viet Nam government promotes significant public engagement in DM and considers citizens a major and active component of official response capacity. The public role is well-documented in legislative instruments, including Article 44 of the 2001 Law on Fire Fighting and Prevention which requires communes to organize grassroots civil defense and fire brigades, and Decree 79/2014/ND-CP which further defines grassroots brigade organization and establishes watch groups. Commune People's Committees Presidents are required to set up, impose operating regulation on, balance the budget for, provide equipment to, and maintain the operations of these groups. Facilities are required to establish firefighting teams, which fire departments must direct and provide qualifications inspections on members. Each year, every commune is required to conduct a disaster exercise, with all previously-mentioned stakeholders required to participate.

PRIVATE SECTOR ENGAGEMENT IN DM

Little to no disaster planning reported by business community, and little to no business community participation in community emergency management efforts.

Very little involvement of the private sector other than the efforts of large international corporations exists in official DM systems in Viet Nam. Some businesses have participated in BCP training sessions conducted in concert with donor and development agencies, but these are not institutionalized programs nor are they common.

HOUSEHOLD PREPAREDNESS (1 OF 3)

No assessments or surveys of household or individual disaster preparedness conducted, or if they are, less than 25% of households report adequate preparedness .

No national-level surveys of disaster preparedness have been identified. Surveys of hazard-specific vulnerability indicate that many poor households in hazard specific areas lack any resilience to or preparedness for disasters. A household preparedness survey in Nghe An Province found that poverty and vulnerability to flood hazards are highly correlated.



DISASTER GOVERNANCE MECHANISMS

PLANS & PROCESSES

DM PHASES ADDRESSED IN PLANS

Response; DRR

Article 15 of Law 33/2013/QH13 requires the drafting of “[n]atural disaster prevention and control plans” at all levels. Hazard-specific frameworks which define response coordination and control at the national level are also developed, though these are not procedural and therefore do not provide a significant level of incident action planning support in disasters. MARD issued a National-level disaster risk reduction and control plan that has 2018-2020 validity, and which focuses on DRR capacity requirements and not response or recovery. Local level planning progresses, albeit slowly. It was reported in 2015 that 2000 of the 6000 most disaster-prone communities identified in the National Strategy 2020 had developed DRR and response plans. The planning focus is typically on flooding given its prominence in Viet Nam, but this leaves deficiencies in communities where plans do not adequately address other hazards like drought, seismicity, or tsunamis, to name a few.

COORDINATION OF GOVERNMENT DISASTER PLANS

DM agencies have unique plans that are not coordinated in structure and/or function.

Article 22 of Law 33/2013/QH13 includes general guidance on the contents of plans at each administrative level and establishes coordination responsibilities. National plans are hazard-specific and in framework format, with different ministries holding authority over specific hazards as assigned. In the absence of a single all-hazards law or strategy, plans differ in structure and function. Coordination is likely to improve if efforts to establish a single centralized cabinet-level DM agency succeed. Coordination between national and sub-national levels has not yet occurred, though standard guidelines for plan form and content do exist as a result of the CBDRM program Natural Disaster Prevention and Control Plan (NDPCP) Report Template, and associated guidance, that target the commune level..

CONTINUITY OF OPERATIONS (COOP) AND CONTINUITY OF GOVERNMENT (COG)

No guidance or structure is provided for government COOP or COG.

There is no evidence that government plans or policies require or otherwise address COOP and/or COG.

ROLES AND RESPONSIBILITIES DEFINED BY PLANS

Plans and SOPs do not identify roles and responsibilities of lower levels of government.

Article 15 of Law 33/2013/QH13 states that plans at all administrative levels must identify the, “responsibilities of organizations and individuals in implementing, and examining and supervising the implementation of the plan.” The National-level Disaster Reduction and Control Plan 2018-2020 does include responsibilities for several line-level ministries, but provides no detail on the roles of leaders, decision-makers, and/or organizations at lower-levels of government. This represents a coordination challenge in disasters that involve multiple government levels or that span many jurisdictions.

DEFINITION OF THE DECLARATIONS PROCESS

An informal declarations process exists that does not standardize triggers and/or assistance mechanisms.

Escalation of support requests is detailed in Article 28 of Law 33/2013/QH13 which explains how each level of government mobilizes resources under their control, and requests assistance when those resources fall short of needs. Elaboration on these policies is provided in Decree 30/2017/ND-CP, Articles 10-15. The disaster declarations as described is a relatively informal one, with the Central Committee deciding whether to intervene based on committee consensus. If prior to a request for assistance the Central Committee estimates that response requirements will exceed response capacity, they may choose to push out disaster assistance as determined to be necessary. Subnational levels may not refuse this help. Impacted communes, districts, and provinces may also make requests for national-level assistance as based on their own damage assessments.

ACCESSIBILITY OF PLANS AND PROCESSES

Some but not all plans and processes are publicly accessible.

It is possible to access most legal documents that address DM at the national level, including decrees, circulars, and decisions, in both English and Vietnamese, online via Thu Vien Phap Luat (<https://thuvienphapluat.vn/en/>). Many national-level policies, strategies, and reports are also accessible online, through the PreventionWeb portal. However, access to both national and provincial disaster plans is much more limited with no central portal for the filing of such documents.

COORDINATION OF GOVERNMENT AND STAKEHOLDER PLANS

Plans are not coordinated.

The 2013 disaster law requires committees at all government levels (Central, Provincial, and District committees for Natural Disaster Prevention and Control (CCNDPC/PCNDPC/DCNDPC)) to develop coordinated natural disaster prevention and control plans, but the only requirement to coordinate outside of this structure appears in Order 07/2013/L-CTN which guides the implementation of Law 33/2013/QH13 and states that commune and district planners must, “[Identify] responsibilities for organizing the implementation of the plan,” and that provincial planners must, “[Identify] responsibilities of organizations and individuals in implementing, and examining and supervising the implementation of, the plan.”

MUTUAL AID AGREEMENTS

Mutual aid agreements exist, but are informal, unwritten, or unsigned.

Domestic mutual aid support is facilitated without the use of formal agreements on account of a highly-centralized government structure. Higher levels of government are authorized to mandate subordinate levels, whether a province, district, or commune, to provide lateral support as required.

INTERNATIONAL MUTUAL AID AGREEMENTS

Formal mutual aid agreements have been established at the bilateral/global regional level.

Viet Nam is a signatory to AADMER, to the Partnership in Oil Spill Preparedness and Response in the Gulf of Thailand, the 1979 International Maritime Search and Rescue Convention, and other treaties, frameworks, and conventions with APEC, ADMM+, UNOCHA, and others. Bilateral mutual aid agreements have also been signed with Russia (for natural disaster response and search and rescue), the Philippines (for search and rescue and for oil spill response), and with Laos and Cambodia (for natural disaster prevention and response).

PROTOCOLS FOR THE USE OF EXTERNAL DISASTER ASSISTANCE

External resource processing is facilitated but is not streamlined during disasters, or implementation challenges prevent efficient use of external assistance despite protocols and procedures in place.

Chapter IV of Law 33/2013/QH13 (International Cooperation in Natural Disaster Prevention and Control) contains provisions that guide the processing and utilization of external (international) assistance. Article 40 establishes roles and responsibilities of line-level ministries for requesting, processing, and utilizing such resources. Article 41 provides a basis for the exemption of duties and other expenses for foreign individuals and resources, and for facilitation of entry and exit of people, equipment, and supplies. No evidence of protocols or procedures to guide these requirements exists, and representatives of international organizations have expressed concern that bureaucratic hurdles (e.g., paperwork) have represented a challenge to efficient use of international resources in past events.

VOLUNTEER AND DONATIONS MANAGEMENT CAPACITY

Systems in place to accept, process, and utilize donated goods and volunteers.

Decree 64/2008/ND-CT provides a framework that structures the request and management of cash and in-kind donations following disasters. Limits are placed on which organizations can appeal for and receive donated items, generally to include VNRC (including local VNRC Societies); the VFF Central Committee; central and local mass media agencies; And local VFF Committees. The decree also instructs jurisdictions to establish special committees to mobilize and receive cash and in-kind donations, and provides detailed procedures on mobilization, processing, accounting, and disbursement. VNRC has established responsibilities and procedures for appealing, receiving, processing, and distributing donated cash and goods per these regulations. The VNRC Disaster Relief Emergency Fund (DREF) is the national focal point for all monetary donations from the international community.

COMMAND, CONTROL, & COORDINATION SYSTEMS

INCIDENT COORDINATION SYSTEMS

Incident management procedures or protocols are often used to coordinate vertical and horizontal interagency and stakeholder engagement, but there is no standard system within the area of assessment.

Law 33/2013/QH13 details many of the incident coordination parameters for government, NGOs, households, and businesses, including the rights and obligations of each. UNICEF noted three parallel coordination systems present during the 2016/2017 drought response (for Government, UN, and NGO stakeholders), and found there to be no comprehensive coordination framework that served sub-national efforts (thereby limiting collaboration). UNICEF and the ARC have each identified challenges to inter-ministerial coordination in its efforts, and the World Bank staff reported negative impacts to preparedness activities and interagency communication on account of confusion among stakeholders over legal jurisdiction for DM. Perhaps the greatest obstacle to effective coordination stems from a lack of clarity concerning what committee or office is authorized or tasked to lead response when a disaster is not the result of the 21 hazards named in Law 33/2013/QH13 or its subsequent provisions. Stakeholder response agencies have found that while the CCNDPC coordinates many aspects of response, Search and Rescue committees lead the operational aspects of events because the Provincial Chairman is the committee Head (and other response teams fall under the authority of this Committee). The permanent agency in charge varies depending on the disaster type.

INCIDENT COMMAND SYSTEMS

Many or all jurisdictions utilize an incident command system, but no single standard incident command system has been implemented.

Article 37 of Law 27/2001/QH10 introduces and formalizes requirements for incident command structures by stating that the highest ranking official from the fire or police forces present at a fire holds the title of commander, and that in the absence of either, guidance is provided for establishing command. Law 33/2013/QH13 explains that command in natural disaster response is structured according to the “Four on the Spot” principle wherein “Command on the Spot” is the basis of leadership. Article 17 of the law describes escalation of the chain of command and provides ‘levels’ of disaster that serve as a basis for warning, direction, and command of, response to, and recovery from natural disasters. Article 22 requires plans at all levels to clarify command and coordination in natural disasters, and Article 25 explains that the interagency command structure is generally top-down. Decrees 66/2014/ND-CP and 30/2017/ND-CP further clarify the requirement for incident command structures according to the incident ‘Level’, which ranges from 1 to 5 (ascending). Articles 6-11 of Decree 66/2014/ND-CP provide detailed guidelines for agency authority at each level of severity, while Article 13 of Decree 30/2017/ND-CP (Emergency Response and SAR) states that that “According to the severity of an emergency event, a site command may be established with sufficient equipment for working around the clock and communication networks connected to the superior Steering Committee for Search and Rescue and the National Search and Rescue Committee.” Within this latter clause, guidance is provided on when the military establishes command, and when the Fire and Rescue Police Department does. That said, there is no mention of a standardized incident command or structure, ICS or otherwise. In January 2015, the Governments of Việt Nam and the United States signed an MOU to develop a country-specific Incident Command System. In 2018 the VNRC was engaged as a unique stakeholder within the ICS structure under development. Việt Nam has expressed its intentions to support the “Four on the Spot” philosophy through the system developed.

LEGAL BASIS OF COMMAND AND COORDINATION STRUCTURES

Incident command and management systems and structures, including decision-making authority and reporting hierarchies, are defined in legal and planning instruments.

Article 25 of Law 33/2013/QH13 titled “Direction and Command of Response to Natural Disasters” provides basic requirements for incident coordination, but does not provide explicitly-defined mechanisms.

COMMAND AND COORDINATION BY FUNCTION

Plans and procedures are not functional in their structure.

At the national level, plans are not organized according to defined response functions. Rather, they describe response-related operational responsibilities by ministry.

FACILITATION OF INTERAGENCY COORDINATION

Standard procedures exist for interagency coordination, including interagency agreements, requests for assistance, mission assignments, reporting requirements, and reimbursement.

Through VNDMA, the CCNDPC has broad authority to require any ministry or subordinate office to provide support in response to a disaster, and to do so using their own funding sources. Decree 30/2017/ND-CP details interagency coordination mechanisms in Articles 10 (Emergency Response Classifications) and 15 (The Authority to Mobilize Human Resources, Facilities, Equipment, and Materials).

GOVERNANCE INFRASTRUCTURE



EMERGENCY OPERATIONS CENTER (EOC)

Plans exist for a purpose-built EOC, but it has not been completed.

There are currently plans in place to develop a fully-functional EOC capable of managing incidents of any size and scope. At the present time, the CCNDPC meets via teleconference during major disasters. VNDMA staff do have an incident management facility from which their own staff operate, and which functions as a limited EOC. This two-room facility is called the “National Operational Center for Disaster Management.” It is not a sole-purpose facility as it is often used to host training, meetings, and other non-disaster functions.

DEDICATED EOC FACILITY

The EOC is not in a dedicated facility.

At the present time, there is no national EOC. A new facility under construction will provide dedicated EOC space.

EOC RESOURCES

EOC equipped for minor incidents but may need additional equipment and resources for large events.

The VNDMA EOC facility supports VNDMA staff but does not host representatives from each of the CCNDPC member ministries and agencies (who typically coordinate using teleconference during major disasters.) The VNDMA facility has two rooms. The larger “Meeting Room” is 55m² and is equipped with: a 150-inch screen; 2 projectors; 3x100-inch and 2x55-inch televisions; several wall hazard maps; an audio system and camera; and 2 computers. The smaller “Concierge Room” is 30m² and is equipped with: 2 landline and 1 mobile phone; 3 computers; 2 printers; 2 fax machines; 1 86-inch television; and 1 bedroom.

EOC ACTIVATION READINESS

Jurisdiction does not have the staff or resources to maintain one week of continuous EOC operations.

There is currently no national-level EOC facility. The dual-use facility at VNDMA could be used as an EOC, as it does not have significant on-site storage it lacks the adequate space and equipment to support full-time operations.

EOC RESILIENCE

EOC is vulnerable to known hazards, or no EOC exists.

There is currently no national-level EOC facility.

BACKUP EOC

No capacity exists to stand up a backup EOC facility.

There is currently no national-level EOC facility.

FIELD-LEVEL COORDINATION CENTERS

Jurisdiction has the plans, procedures, and resources to establish one field-level coordination center.

During major disasters, the Minister of MARD is deployed to the disaster-impacted area to set up a field-level ‘frontline’ office. The Việt Nam Post and Telecommunications Company supports this effort by providing on-the-ground transport and ensuring that telecommunications access is accessible and reliable.

LONG-TERM COMMUNITY RECOVERY FACILITATION CAPACITY

Jurisdiction does not have the plans, procedures, or resources to support long-term recovery.

Recovery is facilitated by commune-level People’s Committees (typically at the Community Center). There is no evidence of a national or Provincial-level capability to provide direct support for long-term recovery other than responding to funding requests from the People’s Committees. This presents a challenge if local government capacity is overwhelmed or non-existent as might exist in the aftermath of a major disaster.

RESPONDER CREDENTIALING

Credentialing processes and systems exist and have been tested in past disaster events.

While there is no credentialing system for individuals, emergency vehicles are credentialed and anyone in those vehicles is permitted into the disaster area. This is considered an effective practice and is stipulated in Article 26 of Decree No. 33/2017/ND-CP where it is stated that, “[e]very command vehicle and emergency response and SAR vehicle shall have a “TÌM KIEM CUU NAN” flag sign put up on the front left of the driver. The flag sign is in the shape of rectangle, bordered in red, background in white with the size of 20 cm x 30 cm and has the [VINASARCOM logo] on the left and the phrase “TÌM KIEM CUU NAN” in red on the right. The authority to issue the flag signs such emergency vehicles shall be decided by the [VINASARCOM Chairman].” Official responders are required to wear identifiable uniforms, including those with the defense forces, Youth Union, Police, Fire, VNRC, and others. This requirement is stipulated in Article 27 of Decree 33/2017/ND-CP.



CAPABILITIES AND RESOURCES

FACILITIES & EQUIPMENT



EMERGENCY SERVICES FACILITIES CAPACITY

Fewer than 1 fire station per 100,000 people; fewer than 1 fire station per 50 square miles.

The Fire Prevention, Fighting, and Rescue Police Department (FPFRPD) is positioned within the Ministry of Public Security, which provides a centralized national governance structure. A 2017 inventory logged 174 fire stations that collectively serve 19,691 firefighting personnel throughout the country, which equates to a distribution rate of one fire station per 536,000 people, and one fire station per 736 square miles.

MATERIAL RESOURCES AVAILABLE FOR DM

Material resources designated for DM are maintained at inconsistent levels (less than 50%) across the jurisdiction.

Articles 50 and 51 of the Law on Fire Fighting and Prevention (27/2001/QH10) defines the equipment needs of agencies, organizations, and individuals, and tasks commune-level People's Committees with the responsibility of equipping civil defense groups with fire prevention and firefighting capabilities. This law also requires organizations and individuals engaged in manufacturing and services, certain property owners, and owners and operators of motorized transport to have the same capacity. The Ministry of Public Security is required to specify and guide equipment requirements in support of these stipulations. As of the last inventory, the International Fire Service Information Center reports that there are only 1,234 fire vehicles in service in Viet Nam maintained by the national fire service. The Ministry of Defense is the primary source of DM supplies and equipment at the national level, and this includes construction equipment, heavy lift, medical, and others as required. This means that access to resources and equipment is better in proximity to military facilities. Restrictions on the location of military facilities prevents full assessment of this indicator. Development partners also noted difficulties in inventorying resources available for response purposes due to a lack of efficient mechanisms to support such efforts.

SUPPLEMENTAL DM RESOURCES

Supplemental resources secured through a comprehensive blend of formalized private-sector partnerships, relationships with the NGO sector, and other means.

Supplemental resource requirements are not generally met through a contracts process. By nature of the Viet Nam constitution, private facilities and resources may be utilized (with compensation) in the event of a disaster, and any facility, equipment, vehicle, or other resource may be commandeered in where needs arise. By the authority of Decree 30/2017/ND-CP, the Presidents of the People's Committees of districts and communes have the authority to mobilize "facilities, accoutrements and materials from entities within their management for the purpose of emergency response and SAR in the district and/or commune." And where it is beyond their authority, these officials need only elevate the incident to the next higher administrative government level until the correct level of command is achieved. As such, governments at all levels have the statutory authority to access all the resources and equipment present in the community and are therefore limited only by the extent to which they exist.

DM EQUIPMENT INVENTORIES

Accurate and up-to-date Inventories of disaster-relevant equipment are maintained.

Inventories of DM equipment are maintained, oftentimes as a result of legislative requirements. Article 4 of Circular 66/2014/TT-BCA requires firefighting agencies in the military and civilian domains to maintain statistics on fire prevention and fighting equipment, lists of officers, night watch members, and professional fire prevention and firefighting teams, and these must be reported to "upper-level agencies and organizations." These and other similar inventories are not publicly accessible and are therefore not typically useful for planning purposes (e.g., for regional planning efforts). They are also not generally maintained on a centralized system that may be readily accessed by all relevant agencies.

SHELTER CAPACITY

Emergency shelters with the capacity to serve at least 50% of anticipated needs have been identified, but alternate sheltering capabilities would likely have to be identified to address all requirements.

Shelter capacity is very good for short-term needs, but capacity to house displaced residents longer than a few days is quickly exceeded in major disasters. There exists an extensive and highly distributed inventory of emergency shelters in Việt Nam, the bulk of which consists of grade-level schools, which are purpose-designed and built solely for this purpose. To supplement needs, many community centers (also called “culture houses”) are assessed for shelter suitability and where appropriate are designated for use as a shelter (based on construction and siting). And finally, to accommodate people who do not live near these community facilities, neighbors will typically organize in small groups, identifying the most resilient home and deciding to use that home as a shelter if the need should arise. Experience in past disasters indicates shelter inventories do not meet anticipated needs given the number of people who require shelter during evacuations or due to typical home damage and/or destruction. In cases where sheltering is inadequate, the Army and the VNRC have been able to provide tents.

SHELTER SUITABILITY ASSESSMENTS

Some but not all shelters have been assessed for suitability.

There is no evidence of a nationwide program to assess shelter suitability, or to provide suitability requirements. Donor-supported projects have included a shelter assessment component, and through these efforts many shelters have been inventoried and assessed. One such project, the UNDP “Strengthening the Institutional Capacity for Disaster Risk Management in Việt Nam Including Climate Change Related Risk for 2012-2016-SCDM II” project, assessed capabilities for flood- and storm-related disasters in 20 Provinces. Hundreds of shelters were assessed across the study area.

SHELTER EQUIPMENT

Less than half of all shelters are specially equipped for disaster use.

Shelter facilities often serve dual use purposes and are not generally equipped with special items to support the sheltering function. They have very limited water and sanitation resources considering the number of people that may be housed in them. For longer-term sheltering needs, and to address unmet shelter requirements, the VNRC and Army can provide tents.

WAREHOUSING CAPACITY

Purpose-built warehouse and staging facilities exist to meet logistics operations requirements in a major disaster event.

Government warehouse facilities, many of which are maintained by the Ministry of Defense, are used to support disaster logistics operations. Several are not purpose-built for DM but may be used for those purposes. The VNRC maintains supply-stocked warehouses in Hanoi (2), Da Nang (1), and Ho Chi Minh City (1). Each of its 40 disaster preparedness centers, which it uses for relief operations and fundraising, also manages a small stockpile of disaster-relevant commodities.

HUMAN RESOURCES

EMERGENCY SERVICES STAFF

Between 1 and 2 firefighters per 1000 people.

A 2017 survey of the FPFRPD found there are 19,691 firefighting personnel nationwide, giving a distribution of one firefighter per 4,744 people. That said, the 2001 Law on Fire Fighting and Prevention states in Article 43 that, “[f]ire prevention and fighting forces constitute the core in the entire population’s fire prevention and fighting activities, which also includes the civil defense force, grassroots fire prevention and fighting forces, and specialized fire prevention and fighting forces (organized and operating according to various legal provisions. It is generally expected that all community youth between the ages of 18 and 35 years will be provided with civil defense training, and these individuals will constitute the community’s primary emergency services human resource. In just one province (An Giang), VNRC serves as the first response organization. An inventory of 101 ambulances is maintained there, and this capacity is considered very effective. There are discussions in place to expand this arrangement to other provinces but that has not yet happened. The fire service in Viēt Nam does not have robust staffing outside of major urban areas, and even though there are volunteer firefighters to provide supplemental staffing, they are weakly organized and in many cases there are no firefighters available to respond to a fire (leaving such duties to members of the household and/or neighbors). Interest in developing a more organized fire service in the future has been expressed, but no information has been released on when this might occur. In the health sector, Viēt Nam had improved its physician to patient ratio to 1.3 per 1000 people in 2012, but by 2016 that number had fallen to 0.821.

PLANNING STAFF

Key staff have dedicated job functions, but most programmatic staff have job functions that support other activities OR a cadre of trained staff with job functions dedicated to pre- and post-disaster emergency management activities and programs exists, but challenges exist in meeting programmatic needs.

Article 42 of Law 33/2013/QH13 describes DRM responsibilities by agency. MARD, through VNDMA, manages planning and civil protection. There is a national-level workforce dedicated to a diverse range of DM functions both within VNDMA and in other stakeholder agencies. At the subnational and local levels, most planning staff have non-disaster responsibilities. Because the ‘four on the spot’ approach to DRM decentralizes many DRM activities to the subnational and local levels, this translates to a shortage of DRM-dedicated staff. The CBDRM program is working to increase the number of people dedicated to DRM through implementation of Law 33/2013/QH13, but implementation remains in an ongoing state. Decree 30/2017/ND-CP reiterates that the provincial, district, and communal Steering Committees for Search and Rescue are responsible for building and managing an emergency response and search and rescue capacity at each administrative level. The same requirements exist at the ministerial and national levels (VINASARCOM and Steering Committee for Search and Rescue). Training and other capacity development efforts remain ongoing in keeping with the requirements of this legislation and others that influence civil protection staff and resources.

SURGE STAFF DOCUMENTATION AND PROCEDURES

Surge staffing needs are formally addressed in the jurisdiction’s disaster plans and procedures, but the adequacy of staffing resources has not been verified or is not at desired levels.

Viet Nam law, including the Constitution, establishes that any citizen may be tasked with DM responsibilities if such a need arises. Article 5 of Law 27/2001/QH10 (On Fire Prevention and Fighting) states that, “[c]itizens, who are full 18 years of age or older and have good health shall have to join civil defense groups or grassroots fire brigades set up at their residential or working places, when so requested.” Article 34 of this same law states that, “[i]n case of fire, people, means and properties of agencies, organizations, households and individuals may all be mobilized for fight fighting and service of the fire fight; they shall also have to execute orders immediately upon the receipt thereof. The mobilization of priority vehicles, people and means of the army, international organizations, foreign organizations and individuals in Viet Nam for firefighting shall comply with the Government’s regulations.” Article 43 of Law 33/2013/QH13 states that People’s Committees at the commune level are responsible for “[organizing] standing units and command the prevention of and response to natural disasters and remediation of consequences of natural disasters” which are presumed to be drawn from these same citizen units.

SURGE STAFF SOURCE

Surge staff drawn from throughout the DM stakeholder community, but most surge staff utilized only in major events.

Surge staffing is drawn first from the Military, and secondly from community members themselves through the organizational arrangement of volunteer cadres (both focused on and otherwise unfocused on DM activities). The capacity and the mission (intention) of these two groups differ considerably, with the military being highly equipped but engaged much more in immediate and short-term response while community members show much lower levels of technical capacity and have far less in terms of equipment and resources but are engaged in both shorter-term response and recovery and long-term recovery and reconstruction. They are also most likely to be impacted themselves in a disaster and are not organized in such a way as to act as a response resource for other communities. There are several organizational structures according to which these citizen volunteers assemble or otherwise associate. The most significant is the Communist Youth Union, which has a nationwide membership of over 16 million people. Youth Union members are trained in disaster response skills and are often mobilized at the local level when incidents arise. For major disasters, they often serve as ‘communicators’ who carry warning messages to areas not reached by loudspeakers and may also become involved in longer-term recovery efforts through national-level campaigns. They also address DRR and CCA, as organized through national-level campaigns. VWU is another community-based association that has come to represent both standard and surge capacity for disasters and manages disaster preparedness and risk reduction efforts as well. The VNRC represents a second major source of surge staffing in disasters. VNRC maintains “Shock Brigades” in over 4000 communes that maintain memberships ranging from 20 to 50 people who are trained in disaster response (including first aid and emergency relief) that remain on call. Secondary to these first two sources, there is a robust NGO presence in the country. However, the staff of these organizations do not necessarily have the depth required to manage large-scale incidents.

SURGE STAFF SOURCE

Rosters of trained professionals able to support critical post-disaster needs are not maintained.
No evidence that rosters of trained professionals are maintained.

CITY PAIRING OR SIMILAR TECHNICAL STAFFING PARTNERSHIPS

Programs exist to a limited extent.

USAID supported a sister-city program for disaster resilience with Peace Winds America (PWA) between several municipalities in the United States and Viet Nam (HCMC and San Francisco, CA; Hai Phong and Seattle, WA). Vietnam also actively pursues sister-city arrangements with other countries, and the larger cities have many city pairs (e.g., HCMC lists 15 sister cities). However, there is no evidence of intra-country city pairing arrangements for disaster management technical assistance. Seconding has been used in disasters, including by VNRC (e.g., during the response to and recovery from Typhoon Wutip, VNRC provided a seconded technical assistant to support cash transfer programs of foreign Red Cross affiliates). However, there is no evidence of wider use of secondment to support the technical assistance needs of disaster-impacted communities.

COMMODITY & SUPPLY INVENTORY

GENERATING ESTIMATES OF POST-DISASTER COMMODITY NEEDS

Estimates of post-disaster commodity needs are not maintained.

A June 2010 World Bank report found that both disaster modeling and post-disaster needs assessments (from realized disasters) do not tend to estimate or otherwise assess needs for emergency relief (e.g., food, water, cleanup kits, tents, cots). In December of 2018, the UNDP Sustainable Development Group announced it was working with VNDMA on a program to begin pre-positioning data relative to eight key relief and recovery sectors, including health, food, security, WASH, nutrition, shelter, protection, education, and early recovery. The effort seeks to develop a web-based tool that will help estimate commodity needs, which will be based on scenario estimates from hazard monitoring sources. Once this program is in place, if it functions as intended it can be expected that VNDMA and disaster management authorities at lower administrative levels will be better able to estimate commodity needs for purposes of procurement and prepositioning. However, at the present time there is no evidence that estimates of post-disaster commodity needs are developed as a standard of practice.

COMMODITY STOCKPILE QUANTITIES

Commodity stockpiles maintained at levels insufficient levels, or needs estimates are not available.

Disaster-specific commodities are maintained by the Ministry of Defense and by VNRC. VNRC commodity stockpiles are rather limited and are thus often quickly depleted during large-scale events. VNRC maintains contracts with local suppliers which can be mobilized on short notice, but funding shortages impacts the ability to call on these contracts when required. Law 33/2013/QH13 does require all levels of government to maintain stockpiles of equipment and commodities that support search and rescue, response, and early recovery activities. All local authorities and relevant Ministries are tasked with establishing a reserve of equipment and materials that includes food, medicine, medical supplies, and others. However, there are no assessments of whether this is being done on a widespread scale or whether stockpiles meet anticipated needs.

LOCATION OF COMMODITY STOCKPILES

Commodity stockpiles are kept in locations that require repositioning in rapid-onset events.

Article 15 of Law 33/2013/QH13 states that each level of government must, as a component of the planning process, “Prepar[e] supplies, means, equipment and essentials for natural disaster prevention and control activities.” However, the Ministry of Defense is the primary source of commodities when disasters occur given many communities do not stockpile at levels necessary to meet needs in a major event. Stockpiles are therefore located in proximity to most major urban areas, but repositioning would be necessary for remote or rural locations that are geographically removed from base locations. VNRC stockpiles are maintained in four major metropolitan areas: Hanoi, Danang, Quang Tri Province (co-located with VNRC offices), and Ho Chi Minh City. In addition to this, there are some provincial and municipal governments that have agreed to provide space for the storage of commodities. VNRC has noted that their warehouse system is lacking in terms of access to transport machinery, staff skills, and fire protection equipment. Review of past event situation reports revealed that repositioning of commodities from warehouse stockpiles have posed delays of 30 or more days, in some cases reaching displaced people after their needs had subsided.

BASIS OF COMMODITY STOCKPILE DISTRIBUTION

Commodity stockpile locations are based primarily on the location of warehousing facilities.

Each commune, district, and province is required to maintain stockpiles appropriate for emergency response and search and rescue. The legislative requirements include no guidance on what that might entail, and therefore standardization does not exist. The VNRC warehouses are located in the most populous areas of the country but are limited in number and are meant to act as redistribution centers. Beyond that level, commodity stockpiles are located based on VNRC Provincial Office locations.

COMMODITY CONTRACTS

Contracts with commodity providers do not exist.

As a matter of practice, neither VNDMA nor the People’s Committees at any level of government maintain contracts with providers of commodities for disaster response and/or recovery purposes.

DM RESOURCE AND SUPPLY INVENTORIES

DM resource and supply inventories exist but are incomplete.

Articles 15 and 16 of Law 33/2013/QH13 call upon authorized officials at all government levels to identify resources by which natural disaster prevention and control might be achieved, and to incorporate them into plans. There are no provisions, however, that require resources and supplies to be inventoried or that such information must be accounted for in plans or otherwise shared among stakeholders within and between jurisdictions. Resource inventories are maintained for the military, which are not public, and by the VNRC. The VNRC inventories describe the resources stored in its four warehouses and 40 relief centers. No other supply inventories were discovered in the research effort.

FREQUENCY OF RESOURCE AND SUPPLY INVENTORY UPDATES

No requirement to update inventories on a regular schedule.

No evidence that requirements exist to guide the inventory of DM resources and supplies.

HOSTING OF RESOURCE AND SUPPLY INVENTORIES

DM resource inventories managed through multiple (individual) information systems, and/or a centralized system is planned or under development but is not yet operational.

Disaster management resource and supply inventories are maintained internally by the agencies that oversee those resources. Inventories are generally not disaster risk management-focused in their content, format, or focus.



CAPACITY DEVELOPMENT (CD)

TRAINING & EXERCISE REQUIREMENTS AND/OR RECOMMENDATIONS

TRAINING AND EXERCISE REQUIREMENTS AND/OR RECOMMENDATIONS

Training and exercise requirements and/or recommendations do not exist.

The National Strategy 2020 lists among its goals that, “100% of local authority officials of all levels directly involved in natural disaster prevention, response, and mitigation are trained on natural disaster prevention, response and mitigation.” However, no general or specific training requirements or recommendations are provided. The strategy explains that VNDMA is expected to develop policy and program implementation training kits, and to facilitate the conduct of the training itself. The CBDRM program is identified as a central focus for training at sub-national levels. Response and Search and Rescue training needs are addressed in Chapter 4 of Decree 30/2017/ND-CP (“Education, Training, and Rehearsal for Emergency Response and SAR”), which states that regulatory authorities at all government levels must develop the response capacity of both the public and official responders. The decree states that regulatory authorities will cooperate with VINASARCOM to define the content and method of training for those agencies, and for the general public that the “minimum duration of an annual training in emergency response and SAR shall account for 3% of the total training duration as stipulated in the training program released by the Ministry of Education and Training.” Despite these legislative requirements, CBDRM staff have confirmed that no comprehensive capacity development strategy or plan has been developed and that DM staff are not required to have DM training. Within Government jobs, there are some informal mechanisms for job-specific training, but staff often learn through experience rather than formal training.

POSITION-SPECIFIC COMPETENCY REQUIREMENTS

Position-specific competency has not been addressed.

No position competencies-specific competency requirements have been established. DBDRM staff confirmed that DM staff are not required to have DM training, and that most DM staff at the sub-national level serve in some other non-disaster role on a day to day basis.

COORDINATION OF CAPACITY DEVELOPMENT EFFORTS

A government agency or office is tasked with capacity development coordination and support.

VNDMA is tasked with improving the capacity of “leaders, professionals and local people involved in [DM] work so that they understand the disasters and the measures needed to prevent them from occurring, in addition to promoting DM to reduce risks.” It does this through administration of the CBDRM program and by coordinating the efforts of agencies tasked with training provision in Decree 30/2017/ND-CP (e.g., Ministry of Education and the Ministry of National Defense). The World Bank supports government capacity assessment efforts and is working to help with training program development. Viet Nam employs a top-down approach to training wherein national-level staff train the subnational level, which means a few individuals trained at a national level provide training for provincial-level staff, who, in turn train at the sub-provincial level. Although the World Bank considers this strategy cost-effective, staff turnover challenges sustainability.

STRATEGY DRIVEN EFFORTS

Capacity development plans and/or strategies are not used to drive capacity development efforts.

Per Article 15 of Law 33/2013/QH13, commune and district governments are responsible for ensuring their NDPCP addresses “organizing training and drills on natural disaster prevention and control skills.” However, unique capacity-specific plans are not generated. At the provincial and national level, these requirements do not exist.

DM AND DRR CAPACITY AND RESOURCE NEEDS ASSESSMENTS

DM and DRR capacity and resource needs assessments are conducted, but not according to any defined schedule and/or devoid of any deliberative planning process.

Viet Nam participated in multiple rounds of the HFA Monitor assessment effort and has committed to participating in the Sendai Framework Monitor.

COORDINATION WITH REGIONAL AND GLOBAL CAPACITY DEVELOPMENT EFFORTS

DM and DRR capacity development efforts are coordinated with Regional and global efforts.

Viet Nam works closely with bilateral and multilateral partners on a wide range of training and capacity development efforts. Examples include: UN-SPIDER and Sentinel Asia on earth observation data; WMO on weather radar data quality and standardization; hosting and participation in UNESCAP Typhoon Committee meetings; participation in ASEAN regional exercises (e.g., ARF DiREx); hosting and participation in the APEC Senior Disaster Management Officials Forum (SDMOF) and Emergency Preparedness Working Group; Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) training and exercises; Oregon National Guard Chemical, Biological, Radiological, Nuclear Defense (CBRNE) Enhanced Response Force Package (CERFP) training; oil spill response training with the Oil Spill Preparedness and Response in the Gulf of Thailand (GOT) Program; and many others. While VNDMA and VINASARCOM are the most common focal points for these efforts, cooperation goes outside the traditional disaster management agencies as is evidenced by Viet Nam's hosting of the International Seminar on Disaster and Risk Management for Roads in November of 2018, led by the Directorate of Roads of Viet Nam (DRVN).

NATIONAL SCIENCE AND TECHNOLOGY AGENDA

The national science and technology agenda addresses DM and DRR needs.

The National Strategy 2020 represents an early recognition of the need for increased dedication to science and technology research to address rising disaster risk from known hazards and climate change in Viet Nam. Decision 418/2012/QĐ-TTg affirmed for the Ministry of Science and Technology (MOST), and for research and development in general, the following to be among the most important science and technology development tasks faced by the country: “To pay special attention to the development of some inter-sectoral fields between natural sciences and technical and technological sciences, social sciences and humanities for the sustainable development. To study and identify the nature, causes and impacts of natural disasters and processes of climate change to be the basis for proposing and implementing solutions to mitigate, prevent and adapt to climate change, especially impacts of sea water rising phenomena.” The Viet Nam Strategy for Science and Technology Development for 2011-2020 also identifies DRM and CCA as vital to S&T innovation for the country. Section III, “Directions of Science and Technology Development Tasks”, states that the country will seek to “synchronously develop social sciences and humanities; natural sciences and directions of prioritized technologies to study and identify the nature, causes, and impacts of natural disasters and processes of climate change to be the basis for proposing and implementing solutions to mitigate, prevent, and adapt to climate change, especially impacts of sea water rising phenomena.” DM is referenced throughout the strategy.

TRAINING & EDUCATION

CONDUCT OF DM AND DRR TRAINING

NDMO supports training, but no designated training facility or budget exists.

Law 33/2013/QH13 tasks several government agencies with DM education and training. The Ministry of Information and Communications is responsible for directing and guiding mass media on various communication skills and techniques related to disaster prevention and management. The Ministry of Education and Training is tasked with leading the incorporation of DM lessons into the national curriculum. MARD is responsible for directing and organizing public awareness and community-based DM efforts. The VNDMA CBDRM department is tasked with building both public and local DM office capabilities, achieved through train-the-trainer workshops and the development of training materials that can be used by trainers at a community level. Decree 30/2017/ND-CP further guides training requirements, tasking the Ministry of Education and Training with “Tak[ing] charge of and cooperat[ing] with the Ministry of National Defense and relevant authorities in organization, education, and training in emergency response and SAR” and “Cooperat[ing] with [VINASARCOM] and relevant authorities in development training documents; instruction education and training facilities to prepare facilities and funding for education in emergency response and SAR.” People’s committees at all levels are also tasked with providing instruction on mobilization of emergency response teams, and with conducting exercises. The CBDRM program supports an informal in-service training program that provides DM staff with relevant reports or materials, however many DM staff learn from experience over training. The CBDRM program offers more formal training in March and April of each year, which is required of all DM staff. An approved set of training materials on DRR and CCA has been in place since 2013 and training has been offered in all 63 provinces since that time. In 2014, MARD approved two programs for CBDRM and CBRA that target the commune level. Additional optional training is sometimes provided by CBDRM, which staff must apply for and receive approval to attend. Budget constraints continue to be the greatest challenge to this program. That said, there is also a lack of guidance or provisions within the legal framework to adequately support the training program, and even when funds are available, they are often unspent for this reason. Staff may attend international training if budgets exist to support their participation and they have received approval by their superiors. Financial resource shortages also hinder these efforts.

SCOPE OF TRAINING AND EDUCATION CURRICULUM

A training curriculum exists, but it does not address all DM phases nor all operational and functional needs, and/or implementation challenges exist.

Decision 1002/2009/QĐ-TTg and Law 33/2013/QH13 call for multi-modal training to ensure that by 2020, all local disaster managers understand CBDRM concepts, and 70% of civilians understand basic DM concepts. The CBDRM program created in response to Decision 1002 has addressed this need through the development of a national train-the-trainer curriculum for DM staff and for general population. This program focuses on approximately 6,000 communes considered at risk from major hazards. Although formalized, the program has had a significant reach only in major urban areas due to problems with budgets, staffing, and the remote locations of some communes. To supplement the government-driven curriculum, several NGOs have worked to make disaster training available. The ASEAN Humanitarian Assistance (AHA) Centre, for instance, established the AHA Centre Executive (ACE) Programme, designed to expose officers from ASEAN Member States to the Centre's DM processes. The program is conducted at the AHA Centre in Jakarta over a six-month period (AHA Centre, 2016). Several Vietnam government staff have participated in this program. The sentiment among the international development and NGO communities was that this curriculum had not made a measurable impact on DRM in the identified communes, primarily because many areas are extremely remote and inaccessible, and budget shortfalls present a formidable obstacle).

TRAINING METHODS

Training provided in centralized in-person training facility and/or mobile staff that provide training as required throughout the country; Online.

Vietnam regularly participates in international training programs, primarily within the region but also with providers include the Center for Excellence in Disaster Management and Humanitarian Affairs (CFE-DM) and the US Agency for International Development Office of Foreign Disaster Assistance (USAID/OFDA). These have had a dramatic impact on the operational readiness of national level resources, but do not necessarily translate to capacity building at the Provincial and local levels given gaps in the availability of operational training. The Online Training Program of the Disaster Management Policy and Technology Center offers several online courses focused on disaster prevention and response to governments at all administrative levels, and with nongovernmental stakeholders. Courses are largely theoretical and do not support most response and/or recovery functions, covering topics that include disaster prevention and climate change adaptation, community-based disaster risk management, community-based disaster risk assessment, gender mainstreaming and disability inclusion, and monitoring and evaluation.

TRAINING CATALOG AND SCHEDULE

No training catalog or schedule exists.

Formal training programs are not in place and so no regular frequency has been established. Training provided by I/NGOs are also not regular as they are dependent on project activities and funds.

TRAINING RECORDS

Training records are not maintained.

Disaster management training records are not maintained as a matter of practice.

PROGRAM TO SUPPORT EXERCISES

Exercise efforts are managed by staff with other regular (non-exercise) day-to-day job functions.

Law 33/2013/QH13 requires that the planning and conduct of drills be included in disaster plans at the Commune and District levels. However, there is no evidence of a formal national-level program to support exercises at the State-level or at any other level of government. The 2013–2015 HFA Monitor Progress Report explains that evidence exists that disaster exercises are held at the sub-national and levels, such as those supported by the Committees for Flood and Storm Control, and those conducted by local governments and/or NGOs. These are occurring on an annual basis, though perhaps not in the same places year after year. Occasionally, local and subnational efforts are supported by the national budget.

EXERCISE EVALUATION STANDARDS

Exercise evaluation standards do not exist.

There is no evidence of exercise evaluation standards.

STRUCTURED ANNUAL EXERCISE SCHEDULE

General recommendations for exercise schedules are provided, but no structured annual exercise schedule exists.

The Implementation Plan of National Strategy 2020 explains that improvement of public preparedness and CBDRM are contingent on communities organizing annual natural disaster prevention, response and mitigation drills, inclusive of the required “equipment and devices.” However, there is no evidence of a structured annual exercise schedule or requirement. Representatives from the UN community confirmed the absence of such requirements in stating that there remains an acute need for a more systematic approach to disaster drills.

NATIONAL-LEVEL EXERCISE

No national-level exercise is conducted.

The GoV does not currently require, guide, or otherwise support recurring national-level disaster response drills and exercises. Two large-scale exercises have been undertaken in recent years: the ASEAN Disaster Emergency Response Simulation Exercise (ARDEX-13) on October 19–24, 2013, and the first-ever U.S.-Viet Nam Disaster Response and Civil-Military Coordination TTX on May 10, 2016. The ARDEX-13 event was implemented by VINASARCOM with the aim of practicing, assessing, and reviewing disaster response mechanisms under the ASEAN Standby Arrangements and Standard Operating Procedures (SASOP). The 2016 U.S.-Viet Nam TTX was sponsored by the Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) and hosted by VINASARCOM. In addition to these partner-supported exercises, there are also regional and subnational exercises. For instance, the Lower Mekong Initiative (LMI) Disaster Response Exercise and Exchange (DREE) is a relatively new, annually-held exercise that occurs in the south. The health-specific regional exercise ARCH (ASEAN Regional Capacity on Disaster Health Management) is an example of a regional exercise.

SUPPORT FOR SUB-JURISDICTIONAL EXERCISES

No support (financial, technical, or material) provided for sub-jurisdictional exercises.

Article 23 of Law 33/2013/QH13 tasks government offices from the ministry level to the local People's Committees with supporting exercises at the level where they sit, in stating that, "Ministries, ministerial-level agencies, government-attached agencies and People's Committees at all levels shall [...] organize training courses and drills under local natural disaster prevention and control plans." There is no evidence of national-level support for the exercise efforts of lower levels of government. As such, financing of exercises is expected to come from the local governments themselves. This presents a potential capacity obstacle in that economically-challenged communities will not have the financial capacity to properly budget for disaster exercises.

EXERCISE PARTICIPATION REQUIREMENTS

Government agencies with DM functions not required to participate in exercises.

No evidence of a mandate or other requirement that agencies with DM responsibilities participate in exercises.

STAKEHOLDER INVOLVEMENT IN TRAINING AND EXERCISES

Exercises may include interagency partners, but do not typically include non-governmental DM stakeholders.

Law 33/2013/QH13 states that it is the responsibility of 'economic organizations' to participate in these drills, but no requirements are outlined for nongovernmental organizations. Several DM and development partner organizations, including Red Cross organizations and UN agencies, described involvement in CBDRM efforts, including the conduct of exercises. While government-sanctioned mass movement organizations do regularly participate in local-level exercises, NGO and private sector participation in disaster exercises, which are not standard or uniform across all parts of Viet Nam, does not exist to any appreciable degree.

DM PROGRAMS IN THE HIGHER-EDUCATION COMMUNITY

Higher education community supporting DM professionalization is very limited in number and the scope of offerings.

Due to a cultural aversion to disasters-related terminology, degree-granting programs that support professionalization of disaster risk management remain unlikely to use traditional nomenclature in degree program titles (e.g., a Master or Ph.D. in "Disaster Management"). For instance, the University of Science and Technology of Hanoi offers a Master in Water, Environment, and Oceanography (WEO) that identifies its main objective to be training future leaders in the field of water science who are capable to work for industries, consulting firms, and government agencies concerning such things as flood and environmental disaster prevention, among other topics. Thuy Loi University (TLU) offers a well-attended Bachelor program in Hydrology and Water resources, which addresses many disaster risk management topics. In May of 2018, TLU signed an agreement with the Viet Nam Disaster Management Authority to cooperate on researching and applying technological innovation, training, and capacity building, including bachelors, masters, and doctoral degrees. TLU staff noted that the disaster management bachelor's program is currently unpopular because many students feel the topic is too narrow, and a Masters offered every 2-3 years is likewise suffering from low attendance, but this is likely to change as more programs (including the TLU program) embrace the need for professionalization. Other programs supporting disaster management include the Viet Nam Space Technology Institute, which conducts academic research and technological innovation related to earth observation satellites for natural resource, environment, and disaster management; Nong Lam University (Ho Chi Minh City) Faculty...

of Environment and Natural Resources, which supports disaster management through Bachelors and Masters programs in Natural Resource and Environmental Management that allow for a research focus on natural disasters (specific to GIS and remote sensing techniques); and Haiphong Private University which offers a Bachelor degree in Environmental Technology that supports a number of competencies vital to the disaster management profession (and the school supports disaster related symposia and research efforts. The Việt Nam Academy of Water Resources is a nationally-accredited institution established in 1959 that supports disaster management, notably in the area of flood control and prevention, erosion control, and climate change adaptation. It maintains a staff of over 1500 people. In addition to publishing a journal and conducting a range of workshops, it maintains 14 separate facilities throughout the country.

HIGHER-EDUCATION PROGRAM AND DEGREE OFFERINGS

Bachelor’s and master’s degree programs are offered.

Master’s and bachelor’s degrees are offered from a number of universities and institutions. These programs do not typically identify their degree programs using disaster-specific terminology due to cultural preferences, and therefore efforts to inventory these programs require greater understanding of the research and curricula foci.

NATIONAL DM CURRICULUM

DM and DRR curriculum for K-12 is under development.

Law 33/2013/QH13 states that it is the responsibility of ‘economic organizations’ to participate in these Law 33/2013/QH13 states that, “The Ministry of Education and Training shall direct and guide the integration of natural disaster prevention and control knowledge into curricula of all educational levels.” A 2012 national training document provided guidance to local and subnational governments on curriculum enhancement methodologies that support DRM efforts, but the national government has not yet developed a national DRR or DRM curriculum. In November of 2018, a joint 5-year project was launched by the Ministry of Education and Training and MARĐ that sought to develop a national curriculum for all grade levels that was location-specific in its content. The program seeks to develop both in-class and extra-curricular components. Efforts to incorporate disaster preparedness materials into the K-12 curriculum have been ongoing for many years, including a collaborative multi-stakeholder effort called the Joint Advocacy Networking Initiative (JANI), which began in 2007 and supported the development of the Community Based Disaster Risk Management program. Challenges previously identified include an already over-burdened curriculum and a lack of practical experience on the part of the teachers and those tasked with developing the curriculum.

FORMAL PUBLIC DISASTER AWARENESS AND PREPAREDNESS EFFORTS

Public awareness, preparedness, and resilience-building programs face implementation challenges, or are conducted in an ad-hoc manner.

Decision 1002/2009/QĐ-TTg, which led to the creation of the CBDRM program, is the basis of public awareness, preparedness, and resilience building in Việt Nam. The program seeks to provide multi-modal training to ensure that by 2020, 70% of civilians living in disaster -prone areas understand basic DM concepts. CBDRM specifically names approximately 6,000 communes known to be at risk from one or more major hazards and urges for a focus on the most vulnerable groups (several of which are listed in the program guidance.) That said, the program is centered around the risk prevention and control planning rather than on the transfer of specific individual and household preparedness skills. Skills as needed are identified as gaps in the recommended community capacity assessment, and it is presumed that public preparedness education would advance from this knowledge using other programmatic sources of funding or expertise. Outside of this program disaster preparedness efforts are commonly...

encountered at the local due to very high exposure to hazards, a complex disaster history, and broad involvement of development organizations focused on such efforts. Article 21 of Law 33/2013/QH13 introduces a requirement that “information, communication, and education about natural disaster prevention and control” be developed. Responsibilities are described as follows: “Ministries, ministerial-level agencies, government-attached agencies and provincial-level People’s Committees shall, within the scope of their tasks and powers, build, manage and operate radio and television broadcasting systems, communication systems and other information transmission systems for collecting and transmitting information on natural disaster forecasts and warnings for organizations, individuals and communities; and organize information, communication and education about natural disaster prevention and control; The Ministry of Information and Communications shall direct and guide mass media agencies in conducting information and communication about natural disaster prevention and control; The Ministry of Education and Training shall direct and guide the integration of natural disaster prevention and control knowledge into curricula of all educational levels; MARD shall direct and organize the implementation of programs and schemes on raising public awareness and community-based natural DM; Organizations, households and individuals shall participate in information, communication and education about natural disaster prevention and control; and furnish themselves with equipment for receiving natural disaster forecasts and warnings.” One of the most visible commitments to public preparedness is the annual “Natural Disaster Prevention and Control Day” (last held on May 22, 2018) that attempts to raise public awareness of the threats of disaster and to highlight important actions and decisions that should be taken to address them. VOV delivers regular DRR messages to the audience, particularly during the lead up to the wet season when they will often organize a forum to discuss disaster and preparedness issues. Việt Nam Television (VTV) Weather and Emergency Broadcasting Center (WEBC) has produced several educational DRR videos in conjunction with the VNDMC (team members have travelled to the Philippines to learn broadcasting techniques and are utilizing best practices from China, Japan and Cuba). The Việt Nam Television Corporation (VTC) has a 24-hour channel (VTC14) that airs documentaries and disaster preparedness information, in addition to providing several weather bulletins throughout the day. The station’s reporters have received appropriate training for these purposes. Public preparedness efforts are supported by the international and NGO communities participating in Việt Nam’s DRM efforts. Examples include the “iPrepare” Asian Disaster Preparedness Center (ADPC) campaign that targets university-level students, NGOs report that there are significant implementation challenges since materials do not address the unique needs of the commune level. Also, because NGO work is typically linked to disaster appeals, the organizations providing public awareness support are response-oriented and the focus of their education efforts are likewise focused on response rather than more comprehensive DRR concepts.

PUBLIC EDUCATION METHODS

DM public education is provided on government websites, through media and other active campaigns (to a generalized audience), and through multi-modal methods to targeted sectors, stakeholder groups, and audiences.

Article 21 of Law 33/2013/QH13 lists a number of methods by which DM information, communication and education must be conducted in order to target unique audiences, to include websites, the mass media, through documents, journals and leaflets, by holding exhibitions, workshops and training courses, by integrating information into curricula at all educational levels, and by hosting specialized forums. Through the government media channel Việt Nam Digital Company, a media channel (VTC14) dedicated to DRR was launched. This channel features documentaries, public education programs, and alerts and bulletins related to hazard conditions and disasters. Public education is also conducted through annual national (May 22) and international (October 13) disaster awareness days (Việt Nam Disaster Reduction Day; International Disaster Reduction Day). Through the CBDRM program, multimodal DM public education is provided in a variety of settings and channels, including musical and theatrical performances, on posters at community culture centers, on student notebook covers, and other mechanisms.

INVOLVEMENT OF COMMUNITY CENTERS IN AWARENESS AND PUBLIC EDUCATION

Community centers involved, but not uniformly throughout the country.

The American Red Cross supports an initiative focused on school and community-based disaster preparedness education, which includes the training of Emergency Response Teams (ERTs) and awareness-raising activities and training for teachers, students and other members of the community. This program was supported by initial training of trainers provided by USAID. While there is currently no specific legislation regarding DM activities in school, in areas where ARC is already engaged and consider “priority”, ARC is working in schools to develop action plans with staff and 4th and 5th graders in case of disaster. ARC also participates in community drills in their project provinces. VNRC provides training to Provincial Disaster Response Teams (PDRTs) in partnership with other RC agencies, although the VNRC tools and methods are not always accepted by the Viet Nam government. The Swiss Red Cross (SRC) provides training to DM staff at the commune level using the ERT approach. UNICEF facilitates DM training at the provincial level, which is focused on school-safe initiatives and development of DRR curricula in keeping with a long-term partnership the organization has with the Ministry of Education. Under the partnership, which includes the VNRC, students participate in risk mapping for their community and their school. The training is not provided uniformly across the country. To an increasing degree, INGOs are becoming involved in disaster awareness and preparedness activities. This is typified in a Habitat for Humanity program that supports community disaster exercises in several provinces. For many of the communes supported by the program, the Habitat for Humanity exercise was their first interaction with such training. In 2015, HFH reported having trained over 56,000 people, many of which had received disaster preparedness instruction.

DISASTER PREPAREDNESS INFORMATION FOR THE PRIVATE SECTOR

Private sector provided with disaster preparedness and resilience information but not with financial or technical support, or private sector supported only through NGO/ODA programs.

There is no evidence of CBDRM or VNDMA programs that provide business-specific guidance or other support in Viet Nam. However, support is being provided at the subnational level by nongovernmental organizations and bilateral development agencies. A 2012 report by the Asia Foundation stated that small and medium-sized enterprises in Viet Nam were grossly underprepared for disasters at that time, despite that a majority (85 percent) had been directly impacted by a past event, and identified business-targeted preparedness education as a resilience priority. The same report noted that there was no national program to support business preparedness in Viet Nam and there is no evidence that this is not still true today. A USAID-supported Asia Foundation program has been working in Viet Nam since 2012 to support business preparedness in 15 provinces in the South and Central regions of the country. Through that program, over 1,500 people have been trained, and a group of 120 master trainers from 60 organizations has been developed to expand the program’s reach. A similar effort conducted by Peace Winds America from 2013 to 2016 provided business resilience training in Hai Phong, reaching over 1000 businesses there. Catholic Relief Services offers yet a third example, through their “Disaster Risk Reduction for Businesses in Viet Nam” program. This program targets agricultural businesses in ‘urban deltas’, and has reached over 6,900 people to date. What is notable about this program is that it includes a partnership with VNDMA to develop guidelines that will “serve as a reference for national urban Community-Based Disaster Risk Reduction Management programs taking place throughout Viet Nam.”

CAPACITY DEVELOPMENT MONITORING & EVALUATION

STANDARD EVALUATION PROCEDURES

The evaluation and revision of plans, strategies, and SOPs occurs, but procedures and practices are not standardized.

Article 15 of Law 33/2013/QH13 states that, “Natural disaster prevention and control plans are elaborated at local, ministerial, and national levels every 5 years corresponding to socio-economic development plans and adjusted annually.” The 2013/15 HFA implementation report found that, “Annually, 100% [of] communes, districts, and provinces conduct review and evaluate the implementation results of last year and make flood and storm control and DRM plans for the upcoming disaster season including updates on the disaster situations, strengthening the organizational structure, etc.” That said, the assessment also found that these reviews do not take a comprehensive all-stakeholder, multi-agency approach and are therefore relatively limited in their utility. At the national level, the CCNDPC also conducts a review meeting and develop a plan for the whole country and relevant ministries also develop a plan for each sector. The VNRC society has a response SOP which is updated as needed. This update normally occurs after a response to a large event which allows VNRC to review and revise its procedures.

REVIEW OF PLANS, STRATEGIES, AND SOPS

Plans, strategies, and SOPs are reviewed and revised as needed on an annual basis.

Article 15 of Law 33/2013/QH13 requires disaster prevention and control committees at all government levels to review and revise plans every five years, and to adjust them annually. Article 6 of Decree 30/2017/ND-CP requires that VINASARCOM assist the government and Prime Minister by providing instructions on the development of and annual and 5-year updated to emergency response plans, strategies, planning, and relevant projects. This decree also states in Article 11, entitled “Preparation of Emergency Response and SAR Plans,” that “Every regulatory authority shall actively prepare an emergency response and SAR plan, and annually adjust to suit the reality.” Article 14 of Law 33/2013/QH13 explains that the National Strategy be renewed every 10 years, with a 20-year vision. It is to be updated and adjusted once every 5 years, “or upon great changes in the situation of natural disasters.”

REVIEW OF DM LEGISLATION

DM-relevant legislation is reviewed and updated on a regular basis and following major disaster events, and/or a comprehensive DM law has been passed in the last 5 years.

Law 33/2013/QH13 is comprehensive and current. Laws, decrees, and other legal instruments pertaining to DRR and DM are issued on a regular basis, many of which supersede similar previous laws or provisions of those laws. Many of these changes are the result of stringent review processes contained in the 2013 Disaster Law and the decrees issued for its implementation which are required on an annual basis.

REQUIREMENTS FOR POST-DISASTER REVIEWS

Post-disaster review and evaluation of disaster response efforts occurs for some larger-scale incidents and/or they are not required.

Viet Nam's disaster laws and regulations include a stringent annual review process. While this is not tied to the instance of specific disasters, People's Committees at all levels, and ministerial level agencies are each required to review plans and policies based on past events. Comprehensive reports have been drafted in partnership between the GoV and international and regional organizations following major or catastrophic disaster events. However, there is no evidence of a standardized practice of drafting and distributing after action reports for smaller-scale incidents, even those with Provincial or national significance.

EVALUATIONS INCORPORATED INTO PLANS, POLICIES, AND/OR SOPs

Evaluations of adverse events, drills, and/or exercises occur but there is no evidence that outcomes influence or are otherwise linked to plans, policies, and/or SOPs.

IFRC reports that it is a matter of practice to organize and conduct reviews at all administrative levels following major disasters to evaluate the effectiveness of response and to utilize this information in the annual meetings required under the National Strategy 2020. A 2016 report by the World Bank described subnational/regional meetings wherein commune representatives converge to discuss lessons learned from disaster events, disaster exercises, and community preparedness efforts.



COMMUNICATION AND INFORMATION MANAGEMENT

HAZARD & RISK ANALYSIS



RISK ASSESSMENT PROCESSES AND STANDARDS

The jurisdiction has instituted a standard risk assessment process at the jurisdiction and sub-jurisdiction levels, but implementation challenges remain.

The 2013/15 HFA Monitor reports that, “[t]here is no systematic collection of hazard risk information and data is not always available, nor accessible to the public.” The MARD Water Resources Directorate (WRD), through the former Disaster Management Center (DMC), was previously given the responsibility for developing “Community-based Disaster Risk Assessment” guidelines in coordination with related agencies, INGOs, social organizations (e.g., VWU), and donors. This task was assigned to providing “local commune and village authorities with specific instructions on how to identify natural disaster risks, vulnerabilities and resources ‘on the spot’, and how to develop suitable solutions for natural disaster prevention and response.” The result of these efforts is the Community Based Disaster Risk Assessment (CBDRA) Guidelines. Despite the comprehensive nature of these guidelines, implementation challenges exist on account of multiple factors. Perhaps most significantly is a shortage of technical assistants who have thus far focused their efforts on the urban centers leaving rural and remote areas relatively underserved. Another is that many communities have failed to adopt or have even rejected the CBDRA methodology. Additionally, there are no enforcement mechanisms or incentives to increase application of the program across more communities.

RISK ASSESSMENT REQUIREMENTS FOR PLANNING

Requirements exist, but there are no enforcement mechanisms.

Article 15 of Law 33/2013/QH13 requires the identification and assessment of risk for Ministerial and Provincial-level natural disaster prevention and control plans, in stating that they are tasked with, “[i]dentifying and assessing natural disaster risks and levels of natural disaster risks that frequently occur, and the impacts of climate change on local socioeconomic activities.” However, enforcement mechanisms are lacking. The same requirements are not stated for the commune and district levels in this law, but the CBDRA Guidelines identify as a requirement of a program that a risk assessment be conducted in each community at least once per year prior to the ‘disaster season’, as well as prior to the development of a socio-economic development plans and before the development of an NDPCP. Development organizations noted these requirements but found that communities are not universally applying the standard system, and some are outright rejecting the methodology.

RISK ASSESSMENT STAFFING CAPACITY

The jurisdiction requires outside assistance to perform risk assessments as required.

The GoV is working to increase risk assessment capabilities through the CBDRM program. With the support of UNDP and other IGOs, the VWU, VNRC, and Oxfam conducted train-the-trainer courses at the provincial and district levels, certifying more than 1,000 CBDRM & CBDRA trainers by 2015. Development partners stated concern that risk assessment data, even at the national levels, remains inconsistent, and that more training is required to increase the collection and reporting of risk assessment data. At the sub-jurisdictional level, there are significant staffing and resource shortfalls that have prevented risk assessment progress other than in the more populated urban areas.

VULNERABILITY MEASURED IN RISK ASSESSMENTS

Vulnerability assessment criteria limited in scope to demographic data and/or housing type, or inclusion of complex vulnerability measures is hindered by implementation challenges.

The Viet Nam CBDRA Guidelines include language on vulnerability assessment to support the risk assessment process, stating on page 6 that, “[v]ulnerability assessment is a process of information collection, synthesis and analysis on each type of natural disaster on local residents, infrastructure, social, cultural and economic activities that are vulnerable to damage.” Communities are urged to consider “basic (direct, indirect, objective and subjective) and root causes of vulnerability”, as well as the infrastructure, construction methods and materials, activities, and other factors. The CBDRM program identifies several vulnerable groups, including children; elderly; people with disabilities; pregnant women or women with children less than 12 months old; single women; poor households; people with chronic illnesses; people evacuated before a disaster; temporary houses; houses near rivers, low lying areas; houses near hillsides, slopes; flood prone areas; and drought prone areas. Despite the comprehensive guidance on vulnerability, implementation challenges stand in the way of utilizing the guidance effectively in the DRM process.

CLIMATE CHANGE INCLUDED IN RISK ASSESSMENTS

Climate change criteria limited in scope, or inclusion of climate change measures is hindered by implementation challenges.

Climate change is featured prominently in the national risk assessment methodology (CBDRA Guidelines), which challenge communities to consider the influence of global climate change on local risk. Communities are also urged to consider how climate change might impact future risk, thereby promoting risk forecasting. Development partners that are heavily involved in DRR at the commune, district, and provincial level are also promoting climate change in the risk assessment process where they work. For instance, UNDP supported a project by MARD called Strengthening Institutional Capacity for Disaster risk Management in Viet Nam, including climate change related disasters, which directly supported development of the CBDRM program itself. As is true with other aspects of risk assessment, implementation challenges related to the CMDRA program impact the inclusion of climate change in risk assessment efforts, when they are even conducted.

LOCAL AND INDIGENOUS KNOWLEDGE IN RISK ASSESSMENTS

Knowledge is included, but implementation challenges remain.

Article 4 of Law 33/2013/QH13 states that, “Natural disaster prevention and control activities must be based on scientific grounds, combining traditional experiences and scientific and technological advances, combining structural and non-structural solutions; protecting the environment and ecosystems and adapting to climate change.” The 2013/15 HFA Monitor discusses the use of traditional knowledge as follows: “The process of decentralization is on-going in and there is an increasing recognition of the need to include people from the villages/wards and communes and particular groups in more participatory forms of governance and decision-making across all sectors. The Decision 1002 on CBDRM is an example of this movement and emphasizes the need to put in place mechanisms and structures for identifying vulnerable groups, assessing vulnerabilities and capabilities and engaging effectively with communities in the planning, management and implementation (and monitoring) of DRM/DRR measures.” The report qualifies this in stating that, “There is still a long way to go with these processes and considerable constraining factors such as standardized tools and approaches, capacity and adequate financial and human resources. There have, however, been success stories and the [GoV] is now implementing through the new national level policies, legislation and in rolling out the CBDRM program and supporting implementation of the DM law.” In terms of local implementation of risk assessment standards, the CBDRA Guidelines recommend the following stakeholders: Representatives from commune authorities; Representatives from commune socio-political organizations; CBDRM Technical Assistance Group (TAG) and Community-Based Group (CBG); Representatives from the community that include men and women of different ages, economic status, livelihoods, religions and geographical locations from across the commune. There should be participation from representatives of the different population groups and vulnerable groups (such as the elderly, children, women, people with disabilities, poor and ethnic minorities).

HOSTING OF RISK ASSESSMENT INFORMATION

Risk assessments utilize GIS technology, but no centralized system exists to support risk assessment reporting; or a centralized GIS system exists to support risk assessment reporting, but risk assessments do not adequately utilize GIS technology.

Community-based risk maps are currently developed on paper, and therefore wider reporting and/or centralization of risk assessment data faces significant challenges. At the national level, risk maps are produced in digital formats but by multiple stakeholders on disparate systems. The VinAWARE system supports risk assessment reporting, but despite its availability it is not widely used due to problems with the granting of access, marketing of the system across government, and a lack of training opportunities for end users. There is no other central database to store hazard maps and data.

RISK MAPPING REQUIREMENTS

Risk mapping requirements exist at all levels but support and/or capacity is insufficient.

The CBDRA Guidelines recommend that communities develop risk maps as a component of the risk assessment process. The recommended procedures involve using paper maps and markers to identify risk areas. The mapping efforts are comprehensive in terms of what is discussed (hazards, infrastructure, DRM capabilities and resources, etc. At the present time, requirements do exist at all levels, but support is being provided at levels insufficient to meet the needs of the 6,000 communes identified as being high risk.

RISK MAPPING CAPACITY

Outside support is required to conduct risk mapping.

The 2013/15 HFA Monitor stated that, “[t]here is a serious lack of material resources for DRR especially disaster risk identification (mapping).” Outside of national-level efforts to map hazard risks, communes depend on technical support provided through the CBDRM program and from donor organizations promoting community-based DRR. At the present time, only high-density urban communities are receiving adequate support to conduct risk mapping. There are no nation-wide landslide hazard maps except in some pilot areas along national roads prepared by the Ministry of Transport. The DMPTC was created within VNDMA through the merger of the DMC and the Water Resources Consultant and Technology Transfer Center following Decision 19/2017/QD-PCTT. Among the functions assigned are the building, examination, and verification of flood and dyke management maps and other maps that serve DM and response to CCA (including sea level rise). The center currently hosts a very small number of paper-based community risk maps, and provides a link to the VINAWARE platform, but otherwise has not developed significant mapping capabilities.

RISK ASSESSMENT LINK TO DEVELOPMENT PROCESSES

Risk assessment efforts inform the development process.

Article 16 of Law 33/2013/QH13 states that, “National and local socio-economic development or sectoral development master plans must have natural disaster prevention and control contents suitable to the characteristics of natural disasters in each region and locality in order to ensure sustainable development.” The law has several planning requirements that are based on risk assessments, including the identification of mitigation measures for several hazard types, the identification of measures to build disaster prevention infrastructure, and the identification of measures to build disaster control infrastructure systems, and identification of ways to integrate mitigation measures into plans. The CBDRA Guidelines also require that risk assessment be used to inform the development process, in stating that, “Natural disasters are becoming more extreme due to the impacts of climate change and because of this, the Vietnamese Party, State and people have identified natural disaster prevention and control as one of the priority areas in the socio-economic development process.” The guidelines recommend that risk assessment outcomes be integrated into socio-economic development plans.

MONITORING & NOTIFICATION

EXISTENCE OF HAZARD MONITORING

Monitoring of all major hazards is occurring.

The National Strategy 2020 contains a directive to “[e]nhance the capacities of forecasting flood, storm, drought, seawater intrusion, informing of earthquakes, warning of tsunamis and extreme hydrometeorology phenomena, of which the focus is given to increase the early warning of storms and tropical depressions to 72 hours in advance”. The Strategy seeks to expand warning capabilities to benefit communes and villages in mountainous areas and the Central Highlands, and to strengthen cooperation with neighboring countries on these efforts. Hazard monitoring for major hazards is primarily the result of efforts by the MONRE’s National Centre for Hydro-Meteorological Forecasting (NCHMF) and its National Remote Sensing Department (NRS), as well as the relatively-new Việ Nam Earthquake and Tsunami Early Warning Center. The NCHMF is a governmental organization within the Việ Nam Meteorological Hydrological Administration (VMHA), which is authorized to issue forecasting and warning information for weather, climate, hydrology, water resource, and marine weather. The Centre organizes forecast activities for typhoon winds and tropical depression; heavy rainfall; cold surge and associated weather such as: extreme cold and frost; extreme heat; thunderstorms, strong winds, tornadoes, lightning, and hail; flood and flash flood; rain-induced landslide; drought; saltwater encroachment; high waves and storm surge, king tides, coastal fog, and other hydro-meteorological hazards. The center also provides 10-day, monthly, and seasonal forecasts and climate change predictions. It’s system of sensing technologies includes 186 surface meteorological stations, 889 rain gauge stations, 14 radiation monitoring stations, 232 hydrological stations, 23 marine meteorological stations, 7 weather radars, 179 air and water environment observation stations, and 18 lightning detectors. The National Remote Sensing Department is responsible for the generation and analysis of satellite imagery including for natural disaster prevention and climate change response, and it participates in Sentinel Asia (regional collaboration of space and DM agencies). It supports monitoring and notification for several natural and environmental hazards, including flooding, oil spills, erosion, landslide, and others. The Việ Nam Earthquake Information and Tsunami Warning Center (EITWC), at the Institute of Geophysics (IGP) of the Việ Nam Academy of Science and Technology, is responsible for observing seismic data and issues earthquake and tsunami warnings. Though not a component of the national monitoring network, the DMPTC has provided disaster impact maps in select large-scale incidents (this is not a standard function of the Center).

COORDINATION OF HAZARD MONITORING

A single office is tasked with oversight and/or management of monitoring for all major hazards.

Until 2017, monitoring and forecasting for meteorological and hydrologic hazards were managed by MONRE’s National Hydro-Meteorological Service (NHMS) and National Center for Hydro-Meteorological Forecasting (NCHMF), while earthquake and tsunami threats were managed by the Institute of Geophysics (IGP) of the Academy of Science and Technology. Through Decision No. 26/2017/QĐ-TTg, VNDMA was tasked with monitoring natural disasters throughout Việ Nam, and for advising the CCNDPC on subsequent management needs. With this change, although daily hazard bulletins are still provided by these different agencies, the issuance of warnings is centralized.

POPULATION IN AREAS SERVED BY MONITORING EFFORTS

Monitoring of hazards benefits more than 75% of the jurisdiction's population.

Coverage of hazard monitoring differs by hazard. For flood hazards, nearly all at-risk areas benefit. Storm hazard monitoring is conducted through several mechanisms, including remote sensing, weather radar, rocket-deployed sensors, ground observation stations, offshore weather gauging stations, and more, which together benefit almost all land and sea areas. The tsunami monitoring network is continually expanding from the initial 10 sensors installed in Da Nang in 2011. A project is currently underway to install 532 alert stations in 13 coastal cities from Central Ha Tinh Province to Ba Ria Vung Tau City (the system is planned for completion in 2019.) Monitoring of forest fires and landslides is more limited.

DOPLER RADAR COVERAGE

Between 75 and 100 percent of land area.

The Việt Nam National Hydrometeorological Service (NHMS) currently maintains 7 weather radars which cover approximately 70% of land area. Expansion to 20 weather radars is currently in process, with completion expected in 2025. This should provide close to full Doppler Radar land coverage in Việt Nam.

HAZARD MONITORING RESPONSIBILITY

Hazard monitoring managed by agencies or offices with relevant or hazard-specific missions.

Several agencies with different missions conduct hazard monitoring. Within the Việt Nam Meteorological and Hydrological Administration, there are several functional units with monitoring responsibilities. These include the National Centre for Hydro-Meteorological Forecasting (NCHMF), the Hydro-Meteorological Network Center, the Hydro-Meteorological Data and Information Center, the Aero-Meteorological Observatory, the Center for Application of Hydro-Meteorological Technology, and the Hydro-Meteorology Survey Detachment. Together, these units monitor hazards of the 'air and water environment', inclusive of typhoon wind, heavy rainfall, thunderstorms, hail, wind, extreme heat and cold, flooding and flash flooding, landslides, drought, salinity intrusion, storm surge, and 'dry spell.' The Institute for Water and Environment (IWE) conducts drought monitoring for the purpose of agricultural production and impacts to the sector.

HAZARD MONITORING METHODS

Up-to-date methods and technologies are utilized for some hazards.

Utilization of up-to-date technology differs significantly by hazard type. Việt Nam has made significant progress in modernizing hydrometeorological monitoring capabilities inclusive of space-based imagery and weather radar, as well as through the development of regional partnerships. Other aspects of monitoring oftentimes depend on human observation and reporting, such as with many of the country's stream gauges and to a mixed extent with regards to forest fire, drought, and landslides, to name a few.

ASSIGNMENT OF NOTIFICATION AND EARLY WARNING RESPONSIBILITIES

Notification and early warning functions are consolidated and assigned to the DM agency or an agency with DM communications responsibilities for some hazards.

Warning and notification in Viet Nam is guided by Decree 66/2014/ND-CP. This legal instrument establishes responsibilities for transmission of warning messages and other information bulletins, and tasks the state media with a central role. Viet Nam is improving the capacity and coordination of national multi-hazard early warning systems. Warning capacity varies by geographic area and hazard type. The VNDMA CBDRM Department is responsible for communications relative to the 21 Law 33/2013/QH13 hazards, including warning issuance. Warnings for other hazards is provided by different ministries and agencies relative to their mission. A top-down system of warning issuance exists in Viet Nam, wherein generated monitoring information is provided to VNDMA, where it is successively passed through the Provinces and districts to the communes and villages. The common scenario is that the CCNDPC, via VNDMA, is informed of a potential disaster, oftentimes from the NHMS. The CCNDPC subsequently meets and determines how frequently warning messages should be broadcast on government media. As a Central Steering Committee member, the VNRC begins immediately supporting warnings issuance, distributing information to local communities through its national networks where warnings are issued via handheld or mounted loudspeaker. The Australian Broadcasting Corporation reports that slow message transmission speeds exist in this system due to bureaucratic hurdles, and that further problems stem from poor local participation once messages arrive. Law 33/2013/QH13 states that national broadcasters have a crucial role in community-level disaster warning as well. In 2013, VTV established the Weather and Disasters Broadcast (WDB) Center, making it the sole Vietnamese media agency delivering weather news and disaster messaging. The Center produces dozens of bulletins each day, transmitted on all VTV channels. The Center also provides warning information through breaking news sessions for hazards including floods, storms, tornadoes, and heatwaves. In 2015, the GoV began construction on a project to establish a tsunami warning capability in 13 major cities through the construction of 532 alert stations. This project is planned to be completed in 2019. The VNRC is responsible for monitoring early warning systems at the commune level and ensuring the systems function correctly.

STANDARD PROCEDURES FOR EARLY WARNING

Standard procedures to facilitate notification and early warning exist for all hazards.

Law 33/2013/QH13 dictates how warnings are disseminated through the media, namely that, “[MONRE] shall issue meteorological and hydrographical forecasts and warnings about natural disasters; The Viet Nam Academy of Science and Technology shall issue bulletins on earthquakes and tsunami forecasts and warnings; [These agencies] shall send bulletins on natural disaster forecasts and warnings to VTV, VOV, and competent agencies and take responsibility for the contents of natural disaster forecasts and warnings. VTV and the VOV shall transmit and broadcast natural disaster forecasts and warnings.” Broadcasters receive weather related warnings from NHMS and national broadcasters VOV, VTV and VTC have systems in place to respond. According to VOV’s emergency broadcasting plans, VOV will take control of broadcasting for all 64 radio provincial stations and broadcast continuously with preparedness information and interviews with authorities and experts when disaster risk is severe. VOV news and emergency information is also broadcast through village level speaker systems. Decree 66/2014/ND-CP provides more detail on the frequency and lengths of time of transmission of information, and the chain of command for dictating the information transmitted and the manner of transmission. Standardization of reporting on incident severity was established through the issuance of Decision No. 44/2014/QĐ-TTg, titled, “On Detailed Regulations on Natural Disaster Risk Levels.” A color-coded scheme which quickly communicates event risk as assessed for a variety of hazards (including tropical depressions and storms, tornadoes, hail, heavy rain, extreme heat, drought, extreme cold, fog, floods and flash floods, landslides, ground subsidence, saltwater intrusion, sea-level rise, strong wind at sea, earthquake, and tsunami) was produced. Despite the existence of standard procedures, their implementation is hampered by challenges. The 2015 national HFA assessment found that early...

warning systems capabilities and functions differ considerably by hazard, wherein slow onset river floods and typhoons show advanced capacity while rapid onset disasters (flash flooding, earthquakes, tsunamis, forest fires) are comparatively basic in function. UNICEF likewise expressed concern about the distribution of early warnings to the public.

EARLY WARNINGS COMMUNICATION CHANNELS

Warnings provided through radio, television, social media, and sirens. Warnings not provided through landline phones or mobile (cellular) phones.

Warning in Viet Nam is primarily limited to loudspeakers and media broadcasts. The VNDMA CBDRM Department is developing a plan to alert the public using television broadcasts and working closely with national and provincial TV networks to increase message transmission speeds. Social media is also being explored as a public message sharing method by utilizing a network of volunteers that relay information which the Department can re-transmit through Facebook. The primary disaster information broadcasters are VOV (radio), VTV (TV), and VTC (TV). VTC operates VTC14, a 24/7 channel dedicated to disaster information including educational material relating to DRR and climate change. Eight weather forecasts are issued daily, in addition to scrolling weather information on an all-day 'ticker.' VTV has a dedicated Weather and Emergency Broadcasting Centre (WEBC), that broadcasts 23 weather bulletins daily. VTV begins a 'breaking news' format with presenters, interviews and updates and live updates from on-scene reporters when a warning is issued. Whenever a warning message reaches the commune or village level, they are retransmitted through handheld or mounted loudspeakers. Flood warnings are posted on Flood Warning Level Boards displayed in public gathering places such as culture houses or markets. Work is underway to improve warnings capabilities to include landline and cellular telephone. WEBC has developed a subscriber based short message service (SMS) for delivering weather reports, but at the present time it does not automatically send information to subscribers (users must request a status update by sending a text to the system. The system has proven effective for some situations, such as when parents wish to know if school schedules are affected by weather. The system's capacity to be a transmitter of early warning messages, however, is still under development. Save the Children supported a user-driven SMS alerting system in a limited service area (Thua Thien Hue, Quang Nam, and Da Nang Provinces). Volunteers monitor floodwater levels in their neighborhoods to alert Provincial authorities, who in turn issue SMS alerts to subscribers (and which volunteers use to communicate the warning in their assigned coverage area.) Considering these limitations, SMS is not yet considered an active component of the nation's early warning system.

TARGETED EARLY WARNING CAPABILITIES

Early warning systems can target specific locations according to risk for some hazards.

Community-based early warning systems, namely those that rely upon sirens, loudspeakers, or door-to-door communication, are able to achieve location-specific targeting. However, SMS and cell-based alerting systems are not in place and therefore targeted warning is prone to multiple points of failure (nonfunctioning sirens, geographic isolation, failure of a commune to receive an alert telegram).

EARLY WARNING SYSTEMS COVERAGE AREA

Between 25 and 75 percent of the population is served by early warning systems.

Research has found that 89% of Vietnamese claim to access the news media daily, so this is an effective foundational warning channel. However, for other more direct warning systems, including the use of sirens and landline/mobile phones, representatives from GoV offices and UN agencies alike expressed concern about capacity challenges.

TESTING OF EARLY WARNING SYSTEMS

Some early warning systems are tested, or testing occurs on a non-routine basis.

Tsunami warning systems drills are conducted, including the coordinated international Pacific Wave 2018 drill. Commune siren systems, which may be pole-mounted or hand-held, are tested for functionality by the VNRC, but not necessarily to promote understanding among recipients.

TRAINING AND EDUCATION FOR WARNING RECIPIENTS

Populations served by early warning systems are provided with pre-disaster training or education about message meaning and appropriate response.

An assessment of early warning capabilities conducted by ESCAP in 2014 found that a good training system on hazards exists in Viet Nam for media and the public. The NHMS provides training for the media focused on enhancing basic knowledge about hazards, understanding the warning, knowing how to respond, and preventing and/or preparing for disasters. NHMS also provides public educational support by disseminating flyers that include basic information about hazards and disasters.

POPULATION TARGETING OF EARLY WARNING MESSAGES

Early warning systems do not have the capacity to address the needs of specific populations.

There are gender-related obstacles for some local early warning systems, as noted through research by the Australian Broadcasting Corporation. ABC found that culturally it is considered the man's role to listen to government warnings and forecasts broadcast on the village speaker systems, which leaves women less likely to be reached through this method. Development partners also noted challenges related to communicating with ethnic minority groups for which Vietnamese is not a primary language. Save the Children supported a project in areas vulnerable due to geographic isolation, especially those along high-risk coastal zones. The program provided SMS-based warnings to supplement loudspeaker-based systems which had been found to be ineffective due to the great distances many residents were from the fixed sirens.

DISASTER ASSESSMENT



DISASTER ASSESSMENT CAPABILITIES

Assessment systems and/or procedures exist, but capabilities remain under development and likewise insufficient for major disasters.

Article 31 of Law 33/2013/QH13 requires People's Committees at all levels to assess and summarize disaster damages and report them to their next superior People's Committee. Provincial-level People's Committees are required to communicate findings to both the Prime Minister and MARD for summarization. The commanding committees for natural disaster prevention and control of ministries and ministerial-level agencies summarize the damages and report this to the CCNDPC, which is responsible for summarizing all the damage and needs assessment reports received for the purpose of incident action planning and assigning responsibilities to each of the responsible agencies and organizations. This process is standardized by Circular 43/2015/TTLT. Members of the NGO community reported that disaster assessment methodologies were not always effective because there is currently no standard baseline to which identified damages may be measured. This problem stems from the fact that many communities have not been reached by the CBDRM training efforts, and some communities have chosen not to adopt the assessment methodologies. A 2018 disaster assessment report compiled by...

the World Bank in response to Typhoon Damrey echoed these concerns, stating that disaggregation of data from the various communes was not always possible, and there are many instances where data is incomplete or inconsistent.

DISASTER ASSESSMENT REQUIREMENTS

Disaster assessments are required under the declarations process, but decision-making often occurs irrespective of assessment outcomes.

Disaster assessments are a statutorily-mandated component of response, and government-sanctioned training seeks to support government DM officials at all levels in developing the capacity to adhere to these requirements. However, distinct protocols exist to drive the declarations process and the provision of relief. While reference is made to assessment requirements in these protocols, there is no explicit link to the use of standard government-issued templates in declarations.

NATIONALLY-AUTHORIZED ASSESSMENT METHODOLOGY

A nationally-authorized assessment methodology exists, but universal application is hindered by either a lack of implementation requirements or implementation challenges.

Viet Nam established a nationally-authorized damage and loss assessment methodology through issuance of Decision 33/2012/QD/PCLBTW. This introduced a series of templates and report formats to be used at all levels of government, and by all stakeholders (including mass movement organizations, NGOs, INGOs, IGOs, and others). In addition to providing a template to establish baseline (pre-disaster) data, templates cover immediate needs, short-term recovery, and long-term recovery. Recovery templates are structured using the UN Cluster System. Despite the existence of these templates, the 2013/15 HFA Monitor reported that, “Although the [CCNDPC] has damage and needs assessment templates, these are not used consistently throughout the country. The information that is collected on disasters is often scattered amongst different agencies. In addition, there are frequent problems with the [CCNDPC] website (e.g. slow, unstable, and not quickly updated).” In 2015, MARD issued Circular 43/2013/TTLT-BNNPTNT-BKHDT to standardize and otherwise direct the disaster assessment process. This covers collection of statistics on the scope of damage sustained, reporting and data management requirements, responsibilities, and archiving. Subsequent disaster assessment reports, which included multi-stakeholder involvement, indicate that these provisions are being adhered to in major disaster responses.

ASSESSMENT RESOURCE CAPACITY

Capacity typically requires the intervention of international organizations.

For small-scale emergency events that do not require significant assistance from the central government, disaster assessment capabilities are managed by the people’s committees at the level of impact and aggregated at by the Provincial People’s Committees for disasters that impact multiple communes and/or districts. Circular 43/2015/TTLT defines these requirements and provides the necessary documentation to support efforts. However, in larger events where national or international assistance has been required, disaster assessment capabilities appear to have fallen short of needs, and international partners and nongovernmental organizations that engage in the process have noted capacity gaps. Disparity in capacity between jurisdictions, for example, has resulted in incomplete data at aggregation points (e.g., the Provincial Level) making allocation of relief and recovery resources difficult. The assistance of international and NGO partners has been requested in multiple large-scale incidents, indicating that significant capacity development needs remain in this area.

ASSESSMENTS AND INCIDENT ACTION PLANNING

Assessment outcomes are generally a key driver behind incident action planning.

The CCNDPC utilizes damage and needs information generated through the escalation process, and through the efforts of members with monitoring and warning responsibilities, to guide incident action planning and decision-making. Disaster assessment reports issued by international partners have indicated that assessments conducted in adherence of Circular 43/2015/TTLT have been used to inform incident action planning efforts, at least in terms of longer-term recovery. There is no evidence to suggest that disaster assessments are regularly used to drive incident action planning in the response phase.

STAKEHOLDER ENGAGEMENT IN THE ASSESSMENT PROCESS

Multi-stakeholder engagement is not required, but it is common.

Regulations do not mandate the inclusion of multiple (nongovernmental) stakeholders in the assessment process. Responsibilities are limited to the government committees affiliated with DRM at all administrative levels. In large-scale events, international organizations have supported disaster assessment efforts, typically as a result of requests for such assistance.

INFORMATION COLLECTION, MANAGEMENT, & DISTRIBUTION

DATA COLLECTION AND STORAGE STANDARDS

Data are collected, standardized, and stored based on individual agencies' standards and procedures.

Although different sectors and administrative levels of government do maintain standards for the collection and reporting of data on hazards, risk, vulnerability, disaster impacts, and other related categories, there are few that are common between them. Disaster damage data from flooding and storms, collected per event and annually from all administrative levels of government, is a notable exception.

FORMAT OF DATA

It is mixed at the jurisdictional level, and/or it is not the case in most sub-jurisdictions.

The CBDRM risk assessment program often involves the development of paper-based risk maps. The Disaster Management Policy and Technology Center has digitized a small number of these (at the present time there are 19 community maps in the early stages of digitization that appear on the DMPTC website). However, it should be assumed that, given the program CBDRM program requirements, most maps are kept in paper format or are simply photographs of the paper versions.

DATA SHARING

Data sharing is informal and inconsistent and is not typically shared between different levels of government.

CCNDPC meetings are considered the most effective means of information sharing between the various DRM-engaged ministries. Việt Nam has instituted the VinAWARE platform, which is designed for data sharing between agencies and at all administrative levels. Once fully implemented and socialized, data sharing will be robust. However, full implementation is prevented by significant access and training challenges. More systemic obstacles that go beyond the problems of VinAWARE include a lack of systematic procedures for collection, reporting, and access to hazard and risk information, a scattering of DRM information across the various ministries, a lack of website reliability to share and access data and information, and a lack of legislation to guide the collection and sharing of DRM-specific information and statistics. For response and recovery, data sharing problems are often more acute, the result of there being no inventory to track the provision of disaster assistance. Agencies do maintain and report on what they have or did, but do not necessarily share this information. The DMPTC was established in late 2017 with the mandate to (among other functions) “build, manage, and exploit specialized databases on DM and dyke management and response to climate change, and sea level rise, under the management of the [VNDMA]”. The DMPTC website features a prominent link to the VINARE platform.

GIS-BASED DATA MANAGEMENT SYSTEM TO LEVERAGE A COMMON OPERATING PICTURE

System is in place, but use is not common beyond the jurisdictional level and/or implementation challenges remain.

The VinAWARE system is currently in place, providing VNDMA with a state-of-the-art decision-making capability designed for incident action planning and decision support. That said, challenges related to user access and training have prevented more widespread use. The Center of Multidisciplinary Integrated Technologies for Field Monitoring (FIMO) of the University of Engineering and Technology, Việt Nam National University (VNU), is currently working on the development of a spatial data center. The new Spatial Data Exploration and Analysis Platform that is supported by the data center will be released for wider access in January of 2019 in accordance with laws that allow for increased access to mapping resources.

DISASTER LOSS DATABASE LINKED TO THE NATIONAL STATISTICS AGENCY

Exists, but implementation challenges remain.

Disaster statistics are maintained in multiple locations at the national level, presenting problems with coordination and duplication. The General Statistics Office (GSO) has maintained disaster statistics from the Commune to the Province level since 1996. Trained GSO statisticians report disaster damage information and annually update this in a standard manner countrywide. However, this data is not available on the GSO website or published in the annual report (Yearbook). The primary use for this data is by the MOF to allocate post-disaster financial recovery support. The CCNDPC collects data on medium and large-scale events at all government levels. Data is used primarily for the purposes of disaster response and recovery operational planning and is immediately available online. Data archives exist back to 1989 and are managed in the Việt Nam Disaster Damage Database. Various reports describe a national disaster and needs assessment (DANA) database that lists disaster statistics. The 2011 UN Global Assessment Report (GAR) describes the DANA as follows: “Currently, in Việt Nam there is no systemized methodology, a single tool applied or software for analysis of disaster data. Disaster damage data is collected by Government agencies through a parallel data collection and collation system operated by the [CCNDPC] and by the General Statistics Office (GSO) under the Ministry...

for Planning and Investment (MPI). The data collected through the [CCNDPC] system is commonly referred to as the Damage and Needs Assessment system or DANA. Currently under DANA, data is collected through one template containing more than 150 indicators. This data is collected and collated from the commune up to the central level. At the central level it is stored by the CCFSC in a central DANA database. The current software, however, has no proper data processing tools for further analysis.

FACILITATION OF INFORMATION SHARING

An internet-based platform to share information on all DM phases exists and is available to all relevant DM stakeholders (e.g., WebEOC), but implementation challenges remain.

VinAWARE was developed and implemented in order to facilitate DM information sharing between all relevant DM stakeholders. However, problems with awareness of and access to the system, and training in its use, are preventing more widespread application as an information management portal.

MEDIA & PUBLIC AFFAIRS



PUBLIC INFORMATION OFFICER

Each of the DM agencies maintains a PIO position or capacity as a standard of practice.

The Director of VNDMA, in their capacity as Chair of the CCNDRC, is the spokesperson for disaster management in Viet Nam as it pertains to the 21 hazards named in Law 33/2013/QH13. For other hazards, such as oil spill response, the VNDMA director does not serve as or provide a public relations point of contact.

DOCUMENTED COMMUNICATIONS STRATEGY

Communications strategies are articulated in a more general strategic instrument.

The 2013 Law on Natural Disaster Prevention and Control assigns the Ministry of Information and Communications with directing and guiding mass media agencies in conducting information and communication about natural disaster prevention and control. Articles 3 to 5 of Decree 66/2014/ND-CP provides detailed information on communications requirements and procedures. There is not, however, a communications strategy to guide the transmission of information to the public that is based on these statutory requirements.

DEDICATED MEDIA BRIEFING SPACE

The jurisdiction provides a dedicated media briefing space collocated or close to the DM facility.

There is a dedicated media briefing space at MARD. The media outlets understand that this is where public announcements related to developing or ongoing disaster incidents will occur.

MEDIA TRAINING

Not Assessed.
Not Assessed.

INFORMATION DISSEMINATION FORMATS

Processes exist to obtain and disseminate public information in multiple formats and through multiple channels.

Article 21 of Law 33/2013/QH13 describes responsibilities related to Information, Communication, and Education about Natural Disaster Prevention and Control. It describes the distribution of communication responsibilities as follows: “Ministries, ministerial-level agencies, government-attached agencies and provincial-level People’s Committees shall, within the scope of their tasks and powers [...] organize information, communication and education about natural disaster prevention and control; The Ministry of Information and Communications shall direct and guide mass media agencies in conducting information and communication about natural disaster prevention and control; The Ministry of Education and Training shall direct and guide the integration of natural disaster prevention and control knowledge into curricula of all educational levels; [MARD] shall direct and organize the implementation of programs and schemes on raising public awareness and community-based natural DM; Organizations, households and individuals shall participate in information, communication and education about natural disaster prevention and control and furnish themselves with equipment for receiving natural disaster forecasts and warnings.” Each of these efforts has been found to be complete or in progress.

PRE-SCRIPTED INFORMATION BULLETINS

Not Assessed.

Not assessed.

PUBLIC INFORMATION AUDIENCES

Public information capacity includes capability to communicate with special-needs and vulnerable populations.

Article 24 of Law 33/2013/QH13 requires that “Information on natural disaster forecasts and warnings must be timely, accurate, and meet the needs of various target groups, and made in a common language (Vietnamese), paying special attention to vulnerable groups and, when necessary, made in ethnic minority languages.” Article 21 describes similar requirements for DRR and preparedness messages, stating that “Information, communication, and education about natural disaster prevention and control must be conducted in various forms suitable to different target groups, including [among other requirements] developing specialized documents, journals, and leaflets, including documents in ethnic minority languages.” The mass media is a primary source of public information in disasters, and mass media is almost entirely government regulated and/or controlled in Viet Nam. VOV has broadcast in twelve languages including minority languages for over 30 years, and newspapers are printed in the language of many of the ethnic minorities. Languages are just one communication challenge, however, and other audiences have been highlighted in government documents including a statement in the National Strategy 2020 which described an effort to provide poor coastal communities with equipment that allows them to receive disaster information and to prepare for them proactively. The degree to which these efforts have succeeded in reaching a broad audience of diverse stakeholders remains unknown. A 2015 CBDRM program review found that, “One of the project’s stated objectives was to reach all ethnic minorities and vulnerable groups (remote communities, disabilities, illiterate). It is not clear to what extent the project has successfully reached the most remote communities and ethnic minorities as there was not specific information available to the Mid-Term Review Team on this.”

TRACKING PUBLICLY-GENERATED INFORMATION

Publicly-generated information is tracked and used, but no dedicated policies or procedures exist to do so.

Social media use in Viet Nam is widespread, with over half (53 million) of all residents using Facebook alone. Decree 72/2013/ND-CP (On the Management, Provision, and Use of Internet Services and Online Information) places certain restrictions on blogs and social media postings that may present an obstacle to the use of social media for collection of disaster-related information. The Law on Cybersecurity, passed on June 12 of 2018 and having gone into effect on January 1 of 2019, requires social media companies operating in Viet Nam to store all data within the country and to provide access to government officials when requested. While on one hand this increases monitoring capabilities, it may influence social media use among citizens who choose to avoid open networks like Twitter in favor of those that are perceived to protect their information or opinions. While social media is known to be actively tracked for security purposes, there is no evidence that capabilities exist to monitor these networks for incident awareness and monitoring purposes.

APPENDIX B RVA METADATA



Multi-Hazard Exposure					
Subcomponent	Indicator	Source(s)	Year	Description	Notes
Raw Exposure	Raw Population Exposure	Global Assessment Report, World Resources Institute, WorldPop , PDC, VNU (See Notes for detailed metadata)	2015 (population)	Cumulative raw count of person units exposed to multiple hazards, including inland flood, extreme heat, landslide, typhoon wind, wildfire, earthquake, and storm surge.	<p>Inland Flood: Areas Susceptible to inland flood based on 500 year floodplains (WRI - Water Resources Institute).</p> <p>Extreme Heat: Areas exposed to extreme heat, extreme heat is defined as temperatures exceeding 38 degrees Celsius. Data was provided by the Viet Nam Ministry of Natural Resources and Environment (MONRE).</p> <p>Landslide: Areas susceptible to landslide were estimated using environmental inputs of elevation, land use, and proximity to rivers/roads/faults. Susceptibility was classified on a relative scale. Areas of 'very high', and 'high' susceptibility were used to define the hazard zone (PDC).</p> <p>Typhoon Wind: Areas exposed to tropical cyclone wind speeds that coincide with the Saffir-Simpson Scale, Category 1 or higher. This dataset was derived from the Munich Reinsurance Company's (Munich Re) World Map of Natural Hazards.</p> <p>Wildfires: Areas exposed to Wildfire hazards in Viet Nam. The zone is based on historic observations and probabilistic modelling.</p> <p>Earthquake: Areas with MMI VII and above based on historical occurrences. Viet Nam National University (VNU).</p>

APPENDIX B RVA METADATA

Multi-Hazard Exposure					
Subcomponent	Indicator	Source(s)	Year	Description	Notes
Relative Exposure	Relative Population Exposure	Global Assessment Report, World Resources Institute, WorldPop, PDC, VNU (See Notes for detailed metadata)	2015 (population)	Cumulative raw count of person units exposed to multiple hazards, per capita.	<p>Surge: This dataset includes an estimation of the annual physical exposition to surges from tropical cyclones per Saffir-Simpson category.</p> <p>The WorldPop.100m population per pixel (2015 UN adjusted values) were aggregated to 1km to improve processing speed. Each hazard zone was intersected with the population grid, and values were summed by Province. Data represents the cumulative sum for all hazards.</p> <p>Cumulative raw count of person units (2015 population) exposed to multiple hazards, including floods, landslides, extreme heat, storm surge, tropical cyclone wind and earthquakes.</p>

APPENDIX B

RVA METADATA

Vulnerability				
Subcomponent	Indicator	Source(s)	Year	Description
Economic Constraints	Economic dependency ratio	Ministry of Planning and Investment - General Statistics Office, Population and Housing Survey 2014	2014	Ratio of dependents - people younger than 15 and older than 64 - to the working-age population - those ages 15-64 in Viet Nam, by province.
	Poverty	General Statistics Office (GSO) - Population and Employment Statistics Yearbook (2016)	2015	Percentage of the population living in poverty in Viet Nam, by province.
	Illiteracy Rate	General Statistics Office (GSO) - Population and Employment Statistics Yearbook (2016)	2015	Percentage of the population aged 15 and over who are illiterate in Viet Nam, by province.
Access to Information Vulnerability	School Attendance Rate	General Statistics Office (GSO) - Population and Housing Statistics (2014)	2014	School attendance in lower secondary education (%) in Viet Nam, by province.
	Households without Internet Access	General Statistics Office (GSO) - Population and Housing Statistics (2014)	2014	Percentage of households without access to the internet in Viet Nam, by province.
Access to Clean Water Vulnerability	Households without Television Access	General Statistics Office (GSO) - Population and Housing Statistics (2014)	2014	Percentage of households without access to the TV in Viet Nam, by province.
	Households Without Safe Water Access	Ministry of Planning and Investment - General Statistics Office, Population and Housing Survey 2014	2014	Percentage of households without access to safe water in Viet Nam, by province.
	Households without Hygienic Toilet Access	Ministry of Planning and Investment - General Statistics Office, Population and Housing Survey 2014	2014	Percentage of households without access to hygienic toilet facilities in Viet Nam, by province.
	Infant Mortality Rate	General Statistics Office (GSO) - Population and Employment Statistics Yearbook (2016)	2015	Single year infant mortality rate per 1,000 live births in Viet Nam, by province.
Vulnerable Health Status	Life Expectancy	General Statistics Office (GSO) - Population and Housing Statistics (2014)	2014	Life expectancy at birth in Viet Nam, by province.
	Acute Malnutrition	Ministry of Health - Health Statistics Yearbook (2014)	2014	Rate of Acute Malnutrition in children under five in Viet Nam, by province. Malnutrition includes wasting.
	TB Incidence	Ministry of Health - Health Statistics Yearbook (2014)	2014	Reported cases of smear positive pulmonary TB cases per 100,000 persons in Viet Nam, by province.

APPENDIX B

RVA METADATA

Vulnerability				
Subcomponent	Indicator	Source(s)	Year	Description
	HIV Prevalence	Ministry of Health - Health Statistics Yearbook (2014)	2014	Reported cases of HIV infection per 100,000 persons in Viet Nam, by province.
	Malaria Prevalence	Ministry of Health - Health Statistics Yearbook (2014)	2014	Reported cases of malaria per 100,000 persons in Viet Nam, by province.
	Livestock Density	General Statistics Office - https://www.gso.gov.vn/ Agriculture, Forestry, and Fishing Yearbook	2015	Density of non-avian livestock per square kilometer of farm land in Viet Nam, by province.
	Forest Area Change	General Statistics Office - https://www.gso.gov.vn/ Agriculture, Forestry, and Fishing Yearbook	2010, 2015	Percent change in forested area between 2010 and 2015 in Viet Nam, by province.
Environmental Stress	Population Change	General Statistics Office - https://www.gso.gov.vn/	2005, 2015	Average annual population change (%) between the years of 2005 and 2015 in Viet Nam, by province.
	Urban Population Change	General Statistics Office - https://www.gso.gov.vn/	2005, 2015	Average annual urban population change (%) between the years of 2005 and 2015 in Viet Nam, by province.
	Net Migration Rate	General Statistics Office - https://www.gso.gov.vn/	2015	Net migration rate (difference between number of immigrants and out-migrants) per 1,000 persons in Viet Nam, by province.
Population Pressures	Income Inequality	Ministry of Investment and Planning - General Statistics Office	2015	Ratio of average annual income (female) to average annual income (male) in Viet Nam, by province (Unit: Thousand VND). Values closer to 1 represent a higher degree of gender parity in income.
	Female to Male School Enrollment Rate	General Statistics Office (GSO) - Population and Housing Statistics (2014)	2014	Ratio of female secondary school enrollment rate to male secondary enrollment rate in Viet Nam, by province. Values closer to 1 represent a higher degree of gender parity in school enrollment.

APPENDIX B

RVA METADATA

Coping Capacity				
Subcomponent	Indicator	Source(s)	Year	Description
Environmental Capacity	Protected Areas	Protected Planet	2018	Percentage of area that is within a natural protected area in Viet Nam, by province.
	Immunization Coverage	Ministry of Health - Health Statistics Yearbook	2014	Percentage of children under the age of one who have been fully vaccinated in Viet Nam, by province. Vaccinations include: BCG, DPT, VGB, Hib3, Hepatitis B, polio, and measles.
Infrastructure - Healthcare	Hospital Beds per 10,000 Persons	Ministry of Health - Health Statistics Yearbook	2014	Number of hospital beds per 10,000 persons in Viet Nam, by province.
	Physicians per 10,000 Persons	Ministry of Health - Health Statistics Yearbook	2014	Number of physicians per 10,000 persons in Viet Nam, by province.
	Nurses per 10,000 Persons	Ministry of Health - Health Statistics Yearbook	2014	Number of nurses per 10,000 persons in Viet Nam, by province.
	Distance to Hospital Road/Rail Density	GeoViet	2019	Average distance (km) to a hospital in Viet Nam, by province.
	Average Distance to Port	Open Street Map	2019	Road and railroad density in Vietnam, by province.
Infrastructure - Transportation	Average Distance to Port	Open Street Map	2019	Average distance (km) to a port (airport or seaport) in Viet Nam, by province.
Infrastructure - Communications	Phone Access	Ministry of Planning and Investment - General Statistics Office, Population and Housing Survey 2014	2014	Percent of households with access to telephone (fixed/mobile) in Viet Nam, by province.
Economic Capacity	Income per Capita	Ministry of Investment and Planning - General Statistics Office, Report on Labor Force Survey, 2015	2015	Average monthly employment income of wage workers aged 15 and above (in Thousands VND) in Viet Nam, by province.
	Purchasing Power	General Statistics Office - https://www.gso.gov.vn/	2015	Purchasing power, using retail sales of goods and services at current prices, per 1,000 persons in Viet Nam, by province.
	Business Support Services	Provincial Competitiveness Index (PCI)	2017	Business Support Services (BSS) Sub-index score in Viet Nam, by province. The BSS sub-index represents provincial economic performance. This sub-index is standardized to a ten-point scale, whereby the best is 10 and worst are 1.
	Entry Costs	Provincial Competitiveness Index (PCI)	2017	Entry Costs Sub-index score in Viet Nam, by province. Low entry costs for business start-ups is a proxy for economic capacity. This sub-index is standardized to a ten-point scale, whereby the best is 10 and worst are 1.
	Law and Order	Provincial Competitiveness Index (PCI)	2017	Law and Order Index score in Viet Nam, by province. The Law and Order Index is a measure of fair and effective legal procedures for dispute resolution and maintaining law and order. This sub-index is standardized to a ten-point scale, whereby the best is 10 and worst are 1.
Governance	Informal Charges	Provincial Competitiveness Index (PCI)	2017	Informal Charges Sub-index score in Viet Nam, by province. The Informal Charges Sub-index is a measure of the amount of money that businesses pay to government officials, used as

APPENDIX B

RVA METADATA

Coping Capacity				
Subcomponent	Indicator	Source(s)	Year	Description
	Transparency	Provincial Competitiveness Index (PCI)	2017	a proxy for corruption. This sub-index is standardized to a ten-point scale, whereby the best is 10 and worst are 1. Transparency Sub-index score in Viet Nam, by province. The Transparency Sub-index represents business access to government documentation and forms on regulation, used as a proxy for government transparency. This sub-index is standardized to a ten-point scale, whereby the best is 10 and worst are 1.
	Time Costs	Provincial Competitiveness Index (PCI)	2017	Time Costs Sub-index score in Vietnam, by province. The Time Costs Sub-index represents the time spent complying with government procedures and undergoing inspections, used as a proxy for efficient bureaucracy. This sub-index is standardized to a ten-point scale, whereby the best is 10 and worst are 1.

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