



THAILAND

Disaster Management Reference Handbook

JANUARY 2022

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Front Cover

View of the Chao Phraya River in Bangkok by Hillary M. Forden.

Disclaimer

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Letter from the Director

Thailand is an important U.S. ally in Southeast Asia and through the partnership our two countries cooperate to address a range of regional challenges including natural and man-made disasters.¹ One of the key aspects of the bilateral partnership is steadily increasing military interoperability. For decades the U.S. and Thailand have held joint military exercises, including co-hosting Exercise Cobra Gold, the Indo-Pacific region's largest annual multinational military exercise. The 40th Exercise Cobra Gold was held in Thailand in August 2021; it featured virtual and in-person events with service members from seven participating nations as well as observers and participants from other nations. The 2021 iteration emphasized joint military training, civic action, humanitarian assistance, and disaster relief.²

The focus on disaster relief comes at a time when climate change is intensifying Thailand's natural hazard risks ranging from severe storms and floods, to heatwaves and drought. Rising sea levels are expected to worsen the impact of storms and flooding and lead to permanent inundation in some areas of the country. Low-lying Bangkok City is forecasted to become one of the world's worst affected capitals alongside Jakarta and Manila.³

To address these challenges, the Royal Government of Thailand (RTG) is strengthening the country's disaster management system built over the past forty years. The RTG has continued to strengthen the country's legal framework, policies, and operational systems for disaster risk management and disaster response. A robust network of Non-Government Organizations, charities, academic institutions, business and private enterprises, and community and citizen-led networks further bolster the state's disaster management system.

This Thailand Disaster Management Reference Handbook offers an operational understanding of both the country's disaster management capability and information on demographics, hazards, climate risks, organizational structure for disaster management, laws and policies, infrastructure, and other areas vital to a comprehensive disaster management knowledge base. It is hoped that individuals and organizations planning for or executing a disaster response operation in Thailand will benefit from this information to support the country's responders and affected communities in their times of need.



Sincerely,

A handwritten signature in black ink, appearing to read "Joseph D. Martin".

Joseph D. Martin, SES
Director

About the Center for Excellence in Disaster Management & Humanitarian Assistance

Overview

The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) is a United States (U.S.) Department of Defense (DoD) organization comprised of nearly 30 subject matter experts that provide academic research, civil-military coordination training, and operational insights to support decision making before, during, and after crises. The Center is designed to bridge understanding between humanitarians, civilian, and military responders. CFE-DM partners with a diverse group of governmental and nongovernmental actors, as well as academic institutions to increase collaborations and capabilities in humanitarian assistance and disaster response. While maintaining a global mandate, the Indo-Pacific region is our priority of effort and collaboration is the cornerstone of our operational practice. The Center is a direct reporting unit to U.S. Indo-Pacific Command (USINDOPACOM) and is located on Ford Island, Joint Base Pearl Harbor-Hickam, Hawaii.

Vision

The Joint Force, allies, and partners are fully prepared to conduct and support foreign humanitarian assistance.

Mission

CFE-DM builds crisis response capacity in U.S. and partner militaries, enhances coordination and collaboration with civilian and foreign partners, and strengthens those relationships to save lives and alleviate human suffering before, during, and after humanitarian crises.

Contact Information

Center for Excellence in Disaster Management and Humanitarian Assistance
456 Hornet Ave
JBPHH, HI 96860-3503
Telephone: +1 (808) 472-0518
<https://www.cfe-dmha.org>

EXECUTIVE SUMMARY

Thailand is exposed to flooding, landslides, drought, earthquakes, tsunamis, heat waves, forest fires, and epidemics. Thailand is also exposed to technological hazards such as chemical accidents.⁴ Flooding is the natural hazard with the most significant impact on human life, livelihoods, and the economy for the country.⁵ The occurrence of droughts has increased in recent years due to the effects of the El Niño-Southern Oscillation (ENSO) cycle, which brings drier-than-average rainfall conditions. Drought has adversely impacted the country's agriculture sector, which employs around one third of the country's workforce.⁶

Thailand's disaster management system has been built over the past four decades, with the enactment in 1979 of the Civil Threat Prevention Act as the country's first comprehensive disaster management law. In 2002, the Royal Thai Government (RTG) established the Department of Disaster Prevention and Mitigation (DDPM) under the Ministry of Interior (MOI), as the lead agency for Disaster Risk Management (DRM) and disaster response. In 2004, the Indian Ocean Tsunami had a catastrophic impact on Thailand's southern coastal communities. Following the disaster, the RTG further developed its disaster management system. In 2007, the RTG enacted the Disaster Prevention and Mitigation Act (DPM Act 2007) as the main statutory framework for DRM and disaster response. Additional regulations and a periodically updated National DRM Plan, which provides a blueprint for the country's DRM and response planning, support the legislation. In addition to the government-led system, a vast network of Non-Government Organizations (NGO), charities, academic institutions, business and private enterprises, and community and citizen-led networks support the country's disaster management capabilities.

Climate change is intensifying the natural hazards that Thailand faces, such as severe storms, flooding, and drought. Thailand's

agricultural sector stands to be impacted the most by climate-related hazards arising from changes in carbon dioxide availability, precipitation, temperature, and water scarcity. Experts estimate that loss of farmland value and output alone could exceed US\$94 billion under a high-emissions scenario by 2050.⁷

Sea level rise is another significant climate change risk for the country. Rising sea levels are expected to worsen the impact of storms and flooding and lead to permanent inundation in some areas of the country. Bangkok City, which stands only 1.5 meters (m) (4.92 feet (ft.)) above sea level, is expected to become one of the world's worst affected cities alongside Jakarta and Manila.⁸

The RTG recognizes climate change is a major challenge for the country, affecting livelihoods, economic growth, and the achievement of sustainable development. Since 2007 the RTG has incorporated climate change into its national economic and social development plans. Climate change is addressed at the highest level under the country's National Strategy 2018-2037, an overarching framework for sustainable development.⁹ The RTG has also developed the Climate Change Management Master Plan 2015-2050, which sets out mitigation, adaptation, and capacity building targets. Moreover, at the 26th United Nations (UN) Climate Change Conference of the Parties (COP26) held in 2021, Thailand pledged to reduce greenhouse gas emissions by 20% by 2030, or by 40% with further financial and technological assistance.¹⁰

Looking forward, key areas of priority for Thailand's DRM include water sustainability to meet current demands, addressing the high levels of poverty among vulnerable groups to strengthen resiliency, broadening the engagement of communities and schools in Disaster Risk Reduction (DRR) and strengthening the role of local governments in connecting national development priorities to locally-led action and resilience building.¹¹

COUNTRY OVERVIEW

Thailand is located in mainland Southeast Asia and shares a border with Myanmar (also known as Burma) to the west, Laos to the northeast, and Cambodia to the southeast, as well as Malaysia in the south.¹² Over the past four decades Thailand has achieved remarkable economic and social progress, transitioning to an upper middle-income country in 2011.¹³ Since 2003 Thailand has been an international aid donor providing technical cooperation and training assistance.¹⁴ Thailand is a founding member of the Association of Southeast Asian Nations (ASEAN) and has been a U.S. treaty ally since 1954.

History

Thailand, known as Siam until 1939, is one of the only countries in Southeast Asia never colonized by a European power. Thailand was invaded by the Burmese Empire in the 1800s during the Burmese-Siamese wars and was occupied by Japan during World War II. Thailand was ruled by an absolute monarchy until a revolution that was led by the military, with support from non-royal officers, transformed Thailand into a constitutional monarchy. The military subsequently contributed to a fundamental restructuring of power within the country. Although Thailand has been governed by constitutions that provide for elected parliaments, political authority has often been held by the military, which has taken power through coups.¹⁵

In 1954, Thailand became a U.S. treaty ally; it sent troops to Korea and later fought along the U.S. in Vietnam.¹⁶ Since 2005, Thailand has experienced political unrest. In 2006, the country went through a military coup, which ousted then Prime Minister Thaksin Shinawatra. This was followed by multiple large-scale street protests in 2008, 2009, and 2010 among opposing Thai political parties. In 2011, Yingluck Shinawatra, the younger sister of Thaksin Shinawatra, assumed power as the Prime Minister under the

Puea Thai Party but was removed from power in 2014 by the Constitutional Court after many large-scale anti-government protests in Bangkok. The Royal Thai Army (RTA) led by General Prayut Chan-o-cha declared martial law and staged a coup which removed the government and named General Prayut as Prime Minister.¹⁷

In October 2016, King PHUMIPHON Adunyadet (also spelled BHUMIBOL Adulyadej) passed away after ruling for 70 years. The King's only son, Wachiralongkon (also spelled Vajiralongkorn) Bodinthrathepphayawarangkun ascended to the throne in December 2016, and in April 2017 he signed a new constitution into place. The constitution signed in 2017 marks the 20th constitution the country has had since 1932. The April 2017 constitution limits the power of political parties during election time. It allows for a junta-appointed Upper House in Parliament, which includes six seats reserved for military representatives. There were also changes to the Constitutional Court, in order to make it simpler to impeach a civilian leader.¹⁸

Culture and Demographics

Thailand's population is estimated to be 70 million people in 2021, with an average annual rate of increase of 0.3%.¹⁹ The last population census was completed in 2010 and counted 65,981,659 persons residing in Thailand including 32,355,032 males and 33,626,627 females. The sex ratio is 96 males per 100 females.²⁰

Thailand has experienced a substantial fertility decline since the 1960s largely due to the nationwide success of its voluntary family planning program. The contraceptive prevalence rate increased from just 14% in 1970 to 58% in 1981 and has remained around 80% since 2000. Due to the country's low fertility rate, increasing life expectancy, and rising ageing population, Thailand will face growing labor shortages. The

median age of the population is 39 years, with a male median age of 37.8 and a female median age of 40.1 years.²¹ The working age population in 2021 is about 70.2% of the population, and people over 65 years make up 13.5% of the population. The proportion of the population under 15 years has shrunk dramatically and is 16.3% in 2021, while it is expected that the elderly population will continue to grow.²²

In 2019, Thailand’s Human Development Index (HDI) value was 0.77 (on a 10-point scale with 1 being lowest human development and 10 being highest human development). This score places the country in the high human development category – positioning it at 79 out of 189 countries assessed. Between 1990 and 2019, Thailand’s HDI value increased from 0.577 to 0.777, as shown in Figure 1, reflecting a 34.7% rise.²³ Between 1990 and 2019, Thailand’s life expectancy at birth increased by 6.9 years, mean years of schooling increased by 3.4 years, and expected years of schooling increased by 6.6 years. Thailand’s Gross National Income (GNI) per capita increased by about 153.4% between 1990 and 2019.²⁴

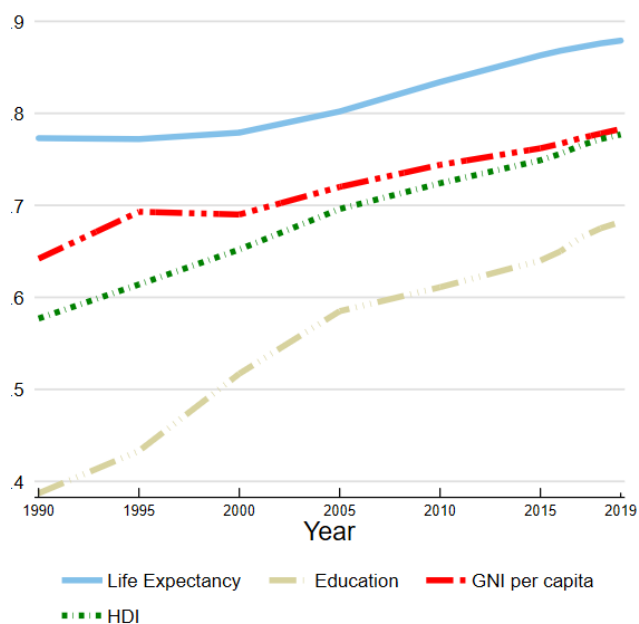


Figure 1: Thailand’s HDI Value from 1990 to 2019

Ethnic Makeup

The majority of the population belongs to the Thai ethnic group (97.5%). There is also a small Burmese ethnic population of 1.3%. Other ethnic groups comprise 1.1% of the population, and an unspecified number account for less than 1%.²⁵

Key Population Centers

Although the greater Bangkok metropolitan area remains the preeminent urban center in the country, there are other sizable cities, such as Chiang Mai in the North; Nakhon Ratchasima (Khorat), Khon Kaen, and Udon Thani in the Northeast; Pattaya in the Southeast; and Hat Yai in the far South.²⁶

The 2010 census found that 55.8% of the population resides in non-municipal areas and 44.2% resides in municipal areas. Among the regions, the Northeast was the most populous with 28.7% of the national population, followed by the Central region with 27.6%, the Northern region with 17.7%, the Southern region with 13.4%, and Bangkok with 12.6%.²⁷ The country has an annual rate of urbanization of 1.43%.²⁸

Language

The official language is Thai, which is spoken by 90.7% of the population. Other languages include Malay and Burmese. English is becoming a major secondary language.²⁹

Religion

The majority of the population identify as Buddhist (94.6%), followed by Muslim (4.3%) and Christian (1%). Other religions comprise less than 0.1% of the population. A negligible portion of the population follows no religion (less than 0.1%).³⁰

Vulnerable Groups

Thailand’s National Disaster Risk Management Plan 2015-2020 (National DRM Plan) defines a vulnerable group as a group of people who have limited capacity in coping with disasters and who require special attention and assistance. Such groups include but are not limited to children, the elderly, persons with

disability, persons suffering from serious illness, persons in exile, refugees, aliens, etc.³¹ In the event of emergencies, persons with disabilities, patients with special healthcare needs, the elderly, children, and women will be prioritized for evacuations.³² A new plan, for the period 2021-2026 has been prepared but has not yet been approved by the Cabinet at the time of writing.³³

Children

In Thailand, children and families living in unstable situations due to discrimination, poverty, and lack of education and opportunity are more vulnerable to the impacts of both natural and human-made disasters. During floods, children are at risk of drowning deaths and water borne diseases.³⁴ Drought and water stress can cause a fall in household incomes, under nutrition, and stunting. The Coronavirus Disease 2019 (COVID-19) pandemic has pushed families without adequate safety nets, access to paid work, and access to infrastructure, into crisis, adversely impacting the wellbeing of children.³⁵ Under Thailand's National DRM Plan, children are given priority in the event of a disaster-related evacuation and are required to be evacuated with their family as a group.³⁶ NGOs, such as Save the Children, are working to help disaster-affected children and families in disaster preparedness and risk reduction efforts.³⁷

Elderly

Thailand has the third most rapidly ageing population in the world. In 2021, Thailand will transition to an "aged" society, with those over 60 years of age accounting for 20% of the population.³⁸ By 2040, Thailand's population over 60 is expected to increase to 25%, and by 2050 the figure will be 37%.³⁹ In a disaster, older adults are usually more severely injured, have prolonged hospital length of stay, lower physical quality of life and psychological well-being, are slower to recover, and have a higher death rate compared with the younger groups.⁴⁰ In Thailand, the elderly have lower levels of disaster preparedness due to lack of awareness and comprehensive

plans, and older people are also more likely to be living with a form of disability affecting their daily activities. Under Thailand's National DRM Plan, the elderly are given priority in the event of a disaster-related evacuation.⁴¹

Persons with disability

Around 3% of Thailand's population (a little over 2 million people) have a disability card. The top three conditions for disability are mobility disabilities (about 50%), hearing impairments (around 18%), and visual impairments (approximately 10%). Other disabilities include physical impairments, psychological disorders, autism, and learning disabilities. Nearly 52% of the disabled population of Thailand are over 60, around 42% are 15-60 years of age, and almost 2% are 14 years or younger. The intersection of having a disability with other vulnerability factors such as advanced age, ill-health, or poverty, can make people living with a disability particularly vulnerable to disasters.⁴² In 2007, Thailand enacted the Persons with Disabilities Empowerment Act, which provides individuals who encounter limitations through an impairment the right to receive legal or personal assistance, sign language interpreters, medical services, house modifications for better accessibility, and education free of charge. In addition, qualifying individuals may receive tax exemptions, cheaper public transportation fees, loans without interest for self-employment, and a monthly allowance of 800 baht (US\$23.93).⁴³ Under Thailand's National DRM Plan, people with a disability are given priority in the event of a disaster-related evacuation.⁴⁴

Poverty-affected populations

The nexus between poverty and disaster means that those segments of the population living below the poverty line or who are highly vulnerable to poverty, are among the most adversely affected by hazards due to limited resources to prepare for, cope with, and recover from the impact of disasters. Recurrent exposure to disasters also affects the long-term stability of household economies, as can be

seen in the increasing debt held among the Thai population.⁴⁵ In 2020, 1.5 million people in the country were estimated to have fallen into poverty because of the COVID-19 pandemic. The World Bank defines the poverty line at a daily income of US\$5.50 (165 baht) per person. Thailand's poor totaled 3.7 million people in 2019, rising to an estimated 5.2 million people in 2020. However, this figure is expected to decline to 5 million in 2021, due to the government's COVID-19-focused economic recovery efforts.⁴⁶

Refugees, migrants, and aliens

Persons who are in exile, refugees, and aliens are defined as members of a vulnerable group for the purpose of Thailand's DRM Plan and, as such, require special attention and assistance. One particularly vulnerable group is conflict-affected people from Myanmar living in Thailand who have limited pathways to legal status and therefore face barriers to services as well as threats of abuse and exploitation. This population includes 99,800 refugees from Myanmar who are living in nine temporary shelters along the Thai-Myanmar border. In addition, this vulnerable population includes migrant workers, many of whom are conflict-affected people from Myanmar, and urban based refugees and asylum seekers mostly in Bangkok and the surrounding urban areas.⁴⁷ A study aimed at understanding how a DRR and preparedness lens can inform human trafficking prevention used the context of the humanitarian response to the 2011 floods in Thailand; it found that migrants experienced challenges prior to the floods with unregulated markets, barriers in language and economic status, and discrimination. Meanwhile, children from migrant and Thai families were more vulnerable following the floods. Children were perceived to be at increased risk due to separation from their parents, school closure, and exposure to unfamiliar adults.⁴⁸

Economics

Thailand has achieved remarkable economic progress in the past four decades, with sustained strong economic growth and significant poverty

reduction. This has facilitated Thailand's transition from a low-income to an upper middle-income country in less than a generation. Thailand's economy grew at an average annual rate of 7.5% in the boom years of 1960-1996 and 5% during 1999-2005 following the Asian Financial Crisis (1997-1998).⁴⁹ The IMF estimates Thailand's Gross Domestic Product (GDP) stands at US\$538.7 billion (April 2021), making it the largest economy in mainland Southeast Asia, second largest in ASEAN, and larger than some members of the Group of Twenty (G20).⁵⁰

Today, Thailand's economy is mainly driven by its agriculture, industrial and services, and tourism sectors.⁵¹ The agricultural sector remains the backbone of the country's labor force. In 2017, out of the 37.2 million people who were employed, 10.63 million were working in agriculture. While the share of agricultural employment has decreased significantly since 2012, during which 14.87 million people worked in the sector, agriculture remains the unofficial safety-net for many and helps to absorb those unemployed during financial crises and times of lower economic growth. Moreover, labor force mobility is common in Thailand, and those engaged in self-employment (or those dependent on seasonal wages) often switch to farm work in cropping and harvesting season.⁵²

On 22 September 2021, the RTG issued the 13th National Economic and Social Development Plan for 2023 to 2027. The plan includes five key goals:

- Restructuring of production into an economy based on innovation that aligns with technology trends and global trade, including promoting research and innovation;
- Developing people/ human resources to have the ability and quality of life suitable for the new world, including building essential skills for the 21st century;
- Creating a society of opportunity and fairness by reducing social inequality and increasing welfare for the people and for the underprivileged;
- Creating sustainability for the country by

taking into account the environment and ecosystem, solving environmental problems, and strengthening industry and the green economy;

- Preparing the country to cope with risks and changes in a new global context by developing transportation infrastructure throughout the country and upgrading government services with digital systems in all dimensions.⁵³

The 13th National Economic and Social Development is an overarching framework for Thailand's sustainable development and informs other sector plans.

Government

Thailand is a constitutional monarchy, governed by a parliamentary system of government. The reigning monarch is the chief of state. The head of government is the prime minister, who nominates a Council of Ministers (Cabinet) that is appointed by the monarch. A Privy Council advises the monarch. The reigning monarch is King Vajiralongkorn who ascended the throne in December 2016, following the death of his father, King Bhumibol, in October 2016. The current prime minister is Prayut Chan-o-cha, who was appointed interim prime minister in August 2014, three months after he staged the coup that removed the previously elected government of Prime Minister Yingluck Shinawatra. On 5 June 2019 Prayut was approved as prime minister by the parliament.⁵⁴

Thailand has a bicameral National Assembly, referred to locally as Rathhasapha. The Senate or Wuthissapha is comprised of 250 seats with members appointed by the Royal Thai Army (RTA) to serve five-year terms. The House of Representatives or Saphaphuthan Ratsadon is comprised of 500 seats, with 375 members directly elected in single-seat constituencies by simple majority vote and 150 members elected in a single nationwide constituency by party-list proportional representation vote. Members in the Saphaphuthan Ratsadon serve four-year terms.

The last Senate election was held on 14 May 2019 and the next election will be held in 2024. The election for the House of Representative was last held on 24 March 2019 and the next election will be held in 2023.⁵⁵

Thailand's sub-national administration comprises three tiers: central, provincial (and districts), and local administration (or sub-districts). Thailand is divided into 76 provinces and the Bangkok Metropolitan Region as a special administrative unit. Sub-national governance is further organized around six distinct regions: North, East, West, South, Central, and Northeast. A provincial governor, an appointed position under the MOI heads each of the provinces, while the Bangkok Metropolitan Administration, the authorized body for Bangkok administration, is headed by the Bangkok governor, elected by popular vote among the registered voters of Bangkok. Moreover, each province is divided into districts and Tambons (sub-units of districts), governed by district mayors (a bureaucratic position under MOI). Local administrative units (LGU), established as per the Decentralization Act of 1999, comprises Provincial Administrative Organizations (PAO), Tambon Administrative Organizations (TAO), and municipal bodies.⁵⁶

Thailand has a civil law system with some common law influences. The highest court in the country is the Supreme Court of Justice, comprising the court president, six vice presidents, and 60-70 judges. The court is further divided into ten divisions. In addition, the Constitutional Court of the Kingdom of Thailand currently exercises its jurisdiction on the provision of the Constitution of 2017 and consists of the President and eight Justices approved by the Senate and appointed by the King.⁵⁷ Furthermore, the Supreme Administrative Court has the authority and duty to perform judicial review of the legality of administrative acts. The court has the authority to try and adjudicate cases involving disputes between an administrative or State official and a private individual, or between an administrative agency and a State official.⁵⁸

Environment

Geography

Thailand is located in the center of mainland Southeast Asia bordering the Andaman Sea and the Gulf of Thailand, southeast of Myanmar (Burma). The country covers an area of 513,120 square kilometer (sq. km) (198,116.74 square miles (sq. mi)). Its geographical coordinates are 15 00 N, 100 00 E. Thailand's highest elevation point is Doi Inthanon at 2,565 m (8,415 ft.) and its lowest point is the Gulf of Thailand. The mean elevation is 287 m (941.6 ft.).⁵⁹

Borders

Thailand shares a 2,416 km (1,501.23 miles (mi)) border with Myanmar to the west; a 1,845 km (1,146.43 mi) border with Laos to the northeast; a 817 km (507.66 mi) border with Cambodia to the southeast, and a 595 km (369.72 mi) border with Malaysia in the south. Thailand further borders the Andaman Sea and the Gulf of Thailand, southeast of Myanmar.⁶⁰ A map of Thailand is shown in Figure 2.⁶¹

Climate

Located in the tropical climate zone, Thailand experiences two monsoonal seasons – the southwest monsoon and northeast monsoon. Warm humidity arising from the Indian Ocean during the southwest monsoon brings abundant rainfall over the country starting in May. Conversely, cold and dryer conditions brought by the northeast monsoon, starting in October, cause temperatures to drop in higher altitudes, but also bring abundant rain along the eastern coastline of the southern region. The Inter Tropical Convergence Zone (ITCZ) brings large amounts of rainfall, and tropical cyclones can occur from May onwards.⁶²



Figure 2: Map of Thailand

DISASTER OVERVIEW

Thailand is exposed to recurring hydro-meteorological hazards such as storms, floods, landslides, and droughts.⁶³ Thailand is also exposed to technological hazards, including large-scale industrial accidents, especially in areas characterized by widespread industrial activity.⁶⁴ Climate change is intensifying the adverse effects of natural hazards. Thailand has undergone observed changes in the seasons, characterized by the delayed onset of rainfall, which has further exacerbated the prevalence of flashfloods and landslides in some regions in the country due to heightened precipitation concentrated in a shorter time period. Contributing to landslide risks is increased deforestation in the river basin areas. The decline of flood retention and floodplains due to urbanization and intensification of the agricultural sector is contributing to flood risk. Moreover, water shortages in Bangkok have resulted in the over-pumping of groundwater leading to land subsidence, which increases the risk of floods even further.⁶⁵ Moreover, environmental risks induced by anthropogenic stressors, from air pollution and environmental degradation, to poor management of wastewaters and waste, further contribute to human-made risks that can affect society and the ecological systems.⁶⁶

Key areas of priority for DRM in the country include ensuring water sustainability to meet current demands; addressing the high levels of poverty among vulnerable groups to strengthen resiliency; broadening the engagement of communities and schools in DRR efforts to support preparedness; and strengthening the role of local governments in connecting national development priorities to locally-led action and resilience building.⁶⁷ Experts have further identified the need for better coordination of prevention, mitigation, and preparedness efforts within government, the community, and among relief organizations.⁶⁸

Climate Change

Climate change will lead to greater climate variability and exacerbate natural hazards in Thailand, such as heavy rainfall, floods, and droughts.⁶⁹ In addition, sea level rise will adversely impact the country's coasts, although coastal erosion is more prevalent in the Gulf of Thailand than the Andaman Sea coast. Coastal erosion will affect local fishing communities as well as major seaports and industrial estates situated along the country's coastline.⁷⁰

Studies of climate change in Thailand have observed increased temperatures and precipitation since the middle of the 20th century. Increases in daily maximum, mean, and minimum temperatures between 1970 and 2006 have been observed in some studies.⁷¹ Between 1955 and 2009, average annual temperatures in Thailand have increased by 0.95°C (1.71°F), significantly more than the global average of 0.69°C (1.24°F) during the same period.⁷² Additionally, sea levels in the Gulf of Thailand have risen approximately 3-5 millimeters (mm) (0.11-0.19 inches) annually, compared to the global average of 0.7 mm (0.027 inches) per year between 1993 and 2008. While precipitation has not shown significant change over the period of 1955-2014, Bangkok, the northeastern provinces, and the Gulf region have experienced increased rainfall.⁷³

Climate Change Future

The World Bank's multi-model predictive analysis for Thailand's climate future suggests mean average temperature will increase by 1.4-1.8°C (2.5-3.24°F) by the 2060s, and 3.0-3.8°C (5.4-6.84°F) by the 2090s. The projected rate of warming is similar in all seasons, but more rapid in the northern, interior regions of the country than in the southern, coastal regions. With regards to precipitation, the World Bank's analysis shows a range of changes in precipitation for Thailand, with projected change

ranging between 28% to 74% by the 2090s. The maximum increase is projected for the month of November and the February to May season.⁷⁴

Thailand's agricultural sector stands to be impacted the most by climate-related hazards due to the country's location in the tropics where agricultural productivity is particularly vulnerable.⁷⁵ Changes in carbon dioxide availability, precipitation, and temperatures can have a direct effect on crop productivity. Water resource availability and seasonality, soil organic matter transformation, soil erosion, changes in pest and disease profiles, the arrival of invasive species, and decline in arable areas due to the submergence of coastal lands and desertification are expected to have an indirect impact on agriculture production. Thailand is a major exporter of rice and cassava, the farming of which employs large segments of the population. Climate change impact on the agriculture sector is projected to have significant economic consequences. Some experts have estimated that loss of farmland value and output alone could exceed US\$94 billion under a high-emissions scenario by 2050 due to changes in temperature and precipitation.⁷⁶

Sea level rise will exacerbate the impact of storms and flooding and lead to permanent inundation in some areas of the country. Bangkok City, which stands only 1.5 m (4.92 ft.) above sea level, is expected to become one of the world's worst affected cities alongside Jakarta and Manila.⁷⁷ Land loss from sea level rise will impact sustainable land use for economic activities in tourism, import and export sectors, and industrial zones. Significant amounts of Thailand's critical infrastructure are located in areas likely to be adversely impacted by climate change.⁷⁸

Climate Change Response

Thailand ranks 67 out of 181 countries on the Notre Dame Global Adaptation Initiative (ND-GAIN) Index. The ND-GAIN Index ranks 181 countries using a score, which calculates a country's vulnerability to climate change and other global challenges, as well as their readiness

to improve resilience. The more vulnerable a country is the lower their score, while the more ready a country is to improve its resilience the higher their score.⁷⁹ Figure 3 shows a summary of Thailand's ND-GAIN Index rank and score including Thailand's ND-GAIN ranking since 1995.⁸⁰

The RTG recognizes climate change is a major challenge for the country, affecting livelihood, economic growth, and the achievement of sustainable development. Since 2007, the RTG has incorporated climate change into its national economic and social development plans. Climate change is addressed at the highest level under Thailand's National Strategy 2018-2037, an overarching framework for sustainable development.⁸¹ The Climate Change Management Master Plan 2015-2050 outlines climate change mitigation, adaptation, capacity building, and cross-cutting issues. Thailand has also set energy targets under the Power Development Plan (PDP 2018 Revision 1 2018-2037), the Alternative Energy Development Plan (AEDP 2018-2037), and the Energy Efficiency Plan (EEP 2011-2020). In addition, the Environmentally Sustainable Transport System Plan promotes a road-to-rail modal shift for both freight and passenger transport. The Waste Management Roadmap promotes waste-to-energy technologies. In 2016, Thailand introduced a vehicle tax scheme to promote low carbon vehicles.⁸² Furthermore, the Ministry of Energy has drafted the National Energy Plan 2022 with the goal to promote clean energy and reduce carbon dioxide emissions to zero by 2065.⁸³

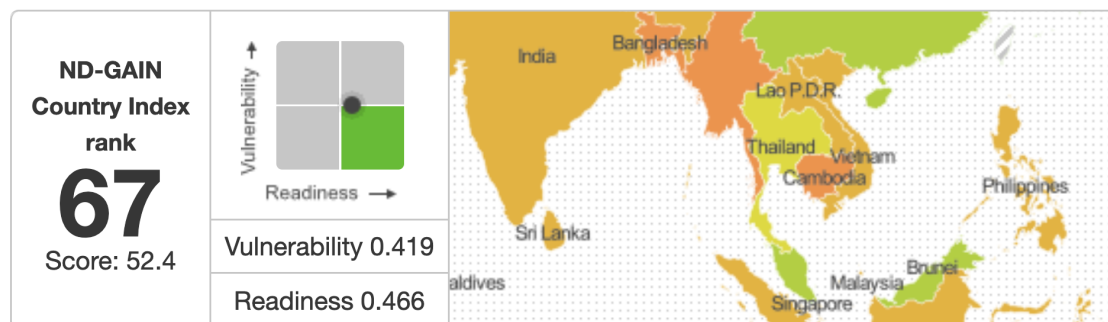
Thailand has developed a National Adaptation Plan to provide a framework towards a climate-resilient society with a focus on water management, agriculture and food security, tourism, health, natural resource management, and human settlement and security.⁸⁴

At the 2021 UN COP26 held in Glasgow, United Kingdom, nations agreed on the Glasgow Climate Pact, which states that carbon emissions will have to fall by 45% by 2030 to achieve the goal of keeping global temperature rise to no

GDP (PPP) per capita (2019): 18,527.10 Int. Dollar

Population (2019): 69,428,524

HDI (2019): 0.77



The low vulnerability score and high readiness score of Thailand places it in the lower-right quadrant of the **ND-GAIN Matrix**. Adaptation challenges still exist, but Thailand is well positioned to adapt. Thailand is the 91st least vulnerable country and the 66th most ready country.

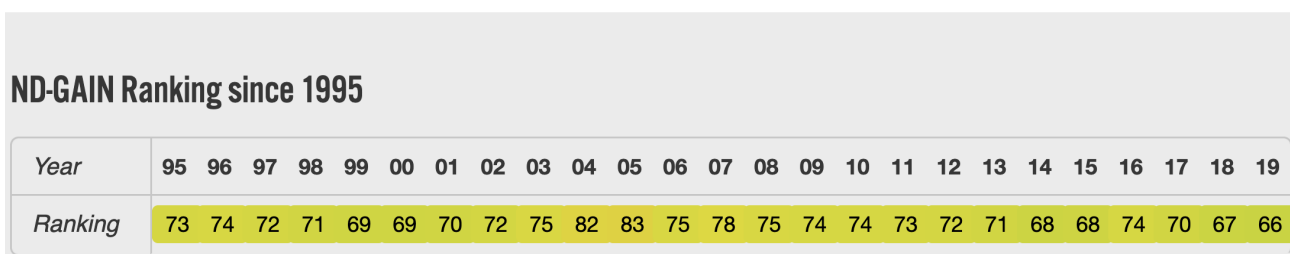


Figure 3: GAIN Ranking in 2021 and Annual Ranking since 1995

more than 1.5°C (2.7°F).⁸⁵ Towards this goal, Thailand has committed to achieving carbon neutrality by 2050 and net zero greenhouse gas emissions by 2065, alongside other nations.⁸⁶ Thailand has pledged to reduce greenhouse gas emissions by 20% by 2030, and by 40% with further financial and technological support.⁸⁷ However, Thailand alongside 100 other nations did not commit to stopping and reversing deforestation.⁸⁸ Nonetheless, Thailand promised to have 15 million electric vehicles by 2035 and to have 30% of domestic vehicle production devoted to electrical vehicles by 2030.⁸⁹ Towards this aim, in November 2021 the Bangkok Mass Transit Authority unveiled a plan to begin replacing the capital’s fleet of gas-powered buses with electric models.⁹⁰

Hazards

Thailand experiences the following hazards: flooding, landslides, droughts, earthquakes, tsunamis, heat waves, forest fires, and epidemics.

Floods

Thailand has extremely high exposure to flooding, including riverine, flash, and coastal flooding. Thailand also has exposure to hazards related to tropical cyclones.⁹¹ Flooding is the natural hazard with the most significant impact on human life, livelihoods, and the economy as shown in Figure 4.⁹² The World Bank Group (WBG) and the Asian Development Bank (ADB) in their 2021 Climate Risk Country Profile of Thailand estimate that the number of people affected by extreme river flooding could rise by over 2 million people by 2035-2044, and coastal flooding could affect a further 2.4 million people by 2070-2100.⁹³

Thailand experiences two monsoonal seasons, the southwest monsoon which generates warm humidity from the Indian Ocean and heavy rainfall from May; and the northeast monsoon, which brings cold and dryer conditions and abundant rainfall starting around October (more recently November). Tropical cyclones can be expected from May onwards.⁹⁴ In addition,

Impacts of Flooding

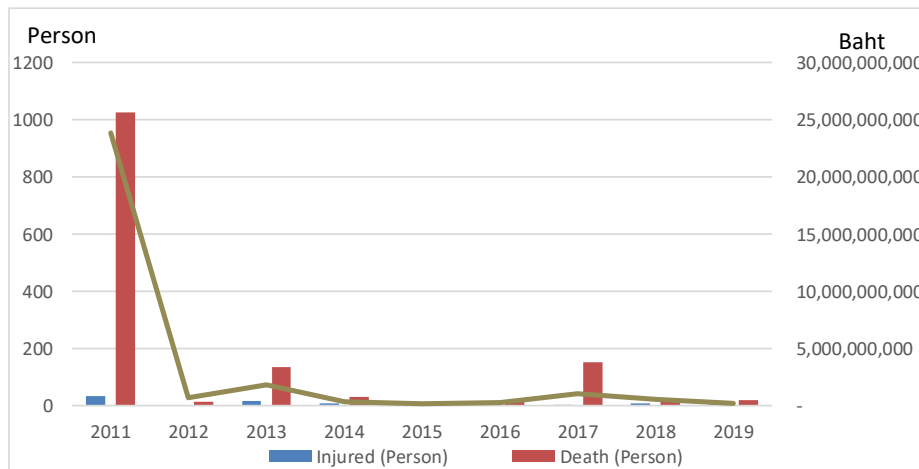


Figure 4: Impact of Flooding on Deaths, Injuries, and Economic Costs from 2011 to 2019

different parts of the country could experience local storms (or summer storms) during February to March.⁹⁵ Localized storms can occur in the southern region from March to November and in the northern region between April and October.⁹⁶

Thailand has 25 or so river basins, flood plain areas, and canal networks, which exposes residents and infrastructure in these locations to regular flooding.⁹⁷ A large part of the central region of Thailand is developed on the Chao Praya river basin, a flood plain.⁹⁸ The flood protection levels in Thailand are relatively low. Bangkok has a 1% probability of major floods over a period of 100 years (and in the countryside this probability is around 10%), which is relatively high compared to other large cities in the world.⁹⁹

Landslides

Landslides in Thailand generally occur during extreme rainfall. The hilly areas in the North and South of Thailand, with its steep and mountainous terrain, are highly vulnerable to landslides triggered by heavy rain.¹⁰⁰

Anthropogenic stressors from land-use to land clearing, cultivation, and deforestation contribute to damages in soil surfaces and reduced absorption capacity, making areas with high rates of ongoing soil erosion and loss of vegetative cover more vulnerable to landslides.¹⁰¹

Droughts

Thailand experiences significant drought exposure, with drought becoming more severe in recent years.¹⁰²

Droughts often occur in two distinct periods: between June and September following a delay in the onset of rainfall, or due to low precipitation during the dry season between October and May. The occurrence of drought in Thailand is increasingly

associated with the ENSO cycle, which brings drier-than-average rainfall conditions.¹⁰³ For example, between 2006 and 2010, Thailand experienced longer dry spells in the middle of the rainy season and more intense rain afterwards. Similarly, between 2015 and 2016, Thailand experienced a series of recurring, prolonged droughts, which caused water levels to drop to critical levels in reservoirs nationwide.¹⁰⁴

However, drought risks are also largely correlated with human activities. Areas covered by water reservoirs and extensive irrigation facilities suffer less from the impact of water scarcity during droughts than areas with less coverage. In addition, water demand can lead to water scarcity. In the North, higher water demand for rice cultivation during the dry seasons, combined with limited irrigation infrastructure, can exacerbate water scarcity.¹⁰⁵ Drought leads to the increased extraction of ground water, often beyond levels that can be replenished. The extraction can have a negative impact on nearby groundwater, which can lead to road collapses and land subsidence. The extraction also leads to water reservoirs running low and a decline in water resources. This forces rural consumers to rely on nearby groundwater sources, pressurizing the already depleted availability of water resources even more.¹⁰⁶

Earthquake

Thailand is located on 14 active fault lines, which extend through 22 provinces. Although seismic activity is possible throughout the country, the risk of earthquakes is high in the Northwestern region, as shown in Figure 5.¹⁰⁷ The last recorded earthquake occurred in the northernmost province of Chiang Rai in May 2014 and was 4.6 magnitudes. The epicenter of the earthquake was 9 km (5.6 mi) deep in Mae Lao district. And although aftershocks were felt across three districts (Mae Lao, Phan, and Mueang districts) no damage was caused.¹⁰⁸

Tsunami

The 2004 Indian Ocean Tsunami, which hit Thailand's southern coast, was the greatest natural disaster in the country's history.¹⁰⁹ On 26 December 2004, a powerful undersea earthquake struck off the coast of Sumatra island, Indonesia. The magnitude 9.1 quake ruptured a 1,448 km (900 mi) stretch of fault line where the Indian and Australian tectonic plates meet. The quake caused the ocean floor to suddenly rise by as much as 40 m (131.23 ft.), triggering a massive tsunami.¹¹⁰

The tsunami impacted six provinces along the Andaman Coast of Thailand, leaving more than 8,000 people dead, one-third of whom were foreigners. It affected 407 villages and completely destroyed 47, including well-known tourist destinations. Vulnerable fishing communities, ethnic groups, migrant workers, and workers in the tourism industry bore the brunt of the disaster. Communities were destroyed and

Seismic Hazard Map of Thailand

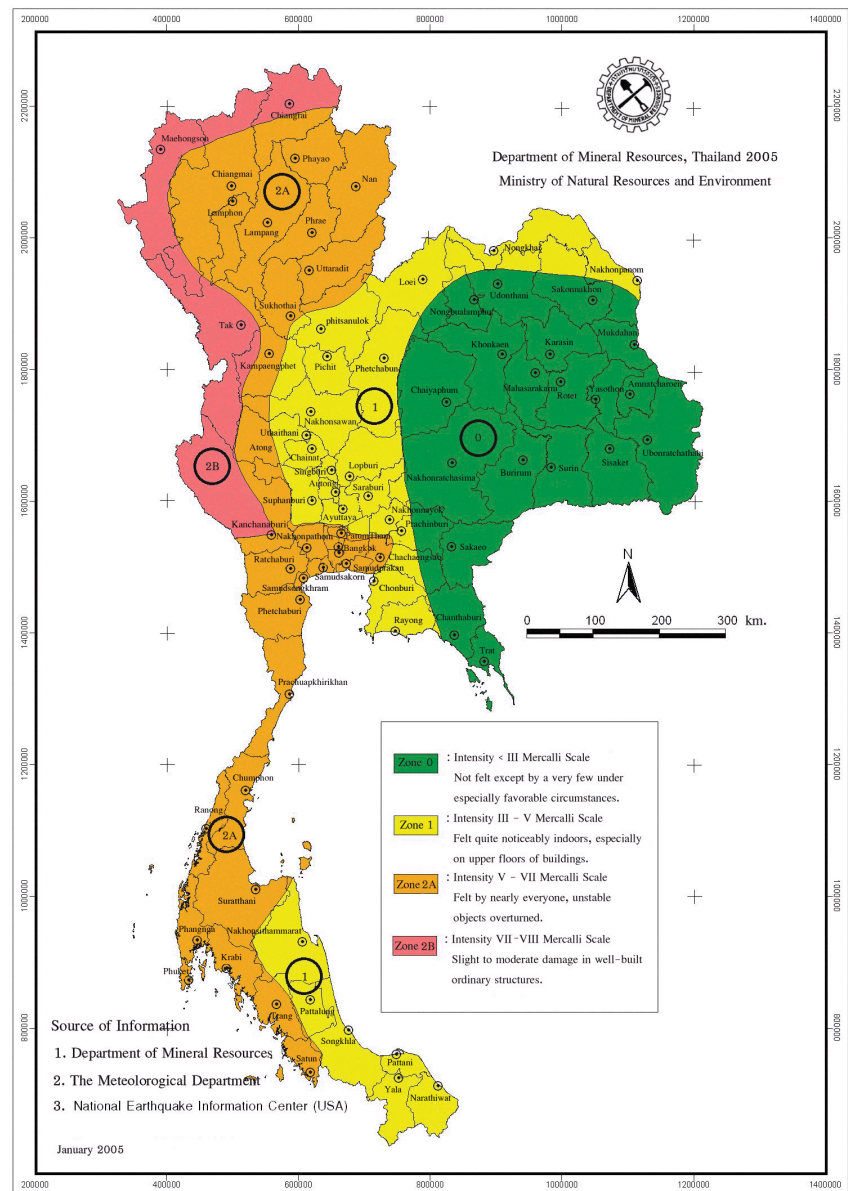


Figure 5: Seismic Map of Thailand

livelihoods lost, and survivors including children bore the psychological trauma of the disaster. The impact on the environment included damage to coral reefs and marine and coastal habitats, and saline intrusion affected water quality and agricultural land. The total financial impact of the tsunami is estimated at more than US\$2 billion, making Thailand the second most affected country in financial terms after Indonesia.¹¹¹

Thailand has strengthened its tsunami

warning system including warning towers, a network of detection buoys in the sea, and a public announcement system. However, the system requires further maintenance and upkeep to stay operational.¹¹²

Heat waves

Thailand regularly experiences high maximum temperatures, with an average monthly maximum of 31.6°C (88.88°F), and an average maximum of 35.1°C (95.18°F) in April, the hottest month of the year. Heat waves, defined as a period of three or more days where the daily temperature is above the long-term 95th percentile, have occurred in Thailand.¹¹³ In May 2016, Thailand experienced the highest temperature over the longest period in 65 years.¹¹⁴ Exposure to future heat waves is higher in the southern region than the northern region. The World Bank and ADB in their 2021 Climate Risk Profile of Thailand predicted that by the 2080s, Thailand will experience very significant increase in the number of days with temperatures higher than 35°C (95°F).¹¹⁵

Forest fires

During the dry season (November to May), forest fires are a regular occurrence in the northern region of Thailand. Climate-induced higher temperatures and water shortages are exacerbating forest fires. The government's zero-burn policy, prohibiting traditional controlled burning in forests, contributes to more fuel in the forest and more expansive fires.¹¹⁶ Forest fires can create significant air pollution, with some parts of northern Thailand measuring 40 times above international standards in terms of hazardous air quality.¹¹⁷ In 2020, northern Thailand experienced one of the worst fire seasons in recent history. Local residents, who normally would rely on the creeks on the mountains to serve as a fire barrier and a source of water to douse the flames, found that the creeks had dried up long before the official hot season began.¹¹⁸

Epidemics

In addition to the ongoing impact of the

COVID-19 pandemic in Thailand, the country is exposed to vector-borne diseases such as Middle East Respiratory Syndrome (MERS), Zika virus, tuberculosis, and dengue. Malaria risks are high at the borders of Myanmar, Malaysia, Cambodia, and Laos.¹¹⁹

Thailand's COVID-19 response has been effective. As of 3 December 2021, Thailand had a total of 2,130,641 COVID-19 cases, and 20,880 deaths since the first confirmed case in the country was reported on 13 January 2020.¹²⁰ Thailand's response to COVID-19 demonstrates strong public health interventions, community engagement, and effective governance, which helped to limit local transmission of the virus. The country's response reflects 40 years of investment in, and political commitment to, strong primary healthcare services, universal health coverage, and public health preparedness for pandemics.¹²¹

Chemical accidents

Although rare, Thailand has been affected by chemical accidents. For example, in July 2021 a massive explosion at a chemical factory on the outskirts of Bangkok killed at least one person, injured dozens more, and damaged around 70 homes. The factory produced expandable polystyrene foam, which is highly flammable. Residents nearby were evacuated as a precaution, and other residents were warned against drinking potentially contaminated rainwater and to close doors and windows to avoid inhaling fumes.¹²² Other chemical related explosions causing death or injury have occurred in Chiang Mai in 2014 and in 1999.¹²³

History of Natural Disasters

The following is a list of natural disasters in Thailand in the past ten years.

Floods – December 2021

From 23 November to 3 December 2021, heavy rain caused floods and flash floods and resulted in rivers overflowing in nine provinces

in southern Thailand. More than 44,300 households were affected across the provinces of Phetchaburi, Prachuap Khiri Khan, Chumphon, Surat Thani, Nakhon Si Thammarat, Krabi, Phatthalung, Songkhla, and Trang.¹²⁴

Tropical Storm Dianmu – October 2021

Tropical Storm Dianmu brought heavy rain, which caused flooding across 27 provinces in northeastern and central Thailand and affected 58,977 households. Some of the affected areas had already seen flooding earlier in the same month after a period of heavy rain from 16 September brought by the Southwest Monsoon.¹²⁵

Floods and landslides – August 2021

A low-pressure cell located over southern Vietnam together with the Southwest Monsoon that prevails over the Andaman Sea and the Gulf of Thailand, brought heavy rains from 27-31 August. This caused flash floods in 10 provinces (Tak, Kamphaeng Phet, Nakhon Ratchasima, Prachinburi, Chon Buri, Rayong, Chanthaburi, Sa Kaeo, Singburi, and Samut Prakan), impacting 65,088 households and an estimated 325,440 persons.¹²⁶

Floods – November-December 2020

Heavy rain from 21 November to 4 December brought floods and triggered landslides in southern Thailand. Over 300,000 households across 67 districts in the seven southern provinces of Thailand were affected (Surat Thani, Krabi, Nakhon Si Thammarat, Trang, Phatthalung, Songkhla, and Yala). Landslides were reported in several districts of Yala and Narathiwat. A team from the RTA was deployed to make repairs to a severely damaged bridge in Than To District, Yala Province.¹²⁷

Floods – December 2020

Floods in southern Thailand impacted 300,000 households. At least eight people died in flash floods in Nakhon Si Thammarat province.

Floods – October 2020

Heavy rain caused flooding, landslides, and storm damage in 28 provinces. One fatality was reported, and 25,546 households were affected. In Nakhon Ratchasima, one of the affected provinces, water discharge from the Lam Phra Phloeng Dam swamped areas of Pak Thong Chai district. This was followed by the collapse of the walls of the Hin Ta Ngo reservoir, which caused further flooding in Pak Thong Chai.

Tropical Storm Sinlaku – August 2020

Heavy rain caused flooding in the northern provinces, including in Nan (224 households affected), Nong Bua Lam Phu (250 households affected), Udon Thani (100 households affected), and Loei province, which was the most affected with 680 homes damaged across three districts (Muang, Chiang Khan, and Pak Chom). The Mekong River in Chiang Khan district of Loei province rose by 70 centimeters (cm) (27.5 inches).¹²⁸

Floods - June-July 2020

During June to July 2020, the influence of Tropical Storm Nuri in the upper South China Sea combined with the Southwest Monsoon over the Andaman Sea and mainland Thailand, caused severe weather including wind, storms, high waves, and heavy rain, which affected several provinces in northern, central, and eastern Thailand. The worst hit was Lampang province, where 108 households were affected, and Pathum Thani province, with 100 households affected. Other affected provinces were Phetchabun, Nakhon Ratchasima and Chon Buri. Heavy rain triggered flash flooding in Nong Phai district in Phetchabun province damaging 50 homes. Flooding also affected Ko Sichang, Chon Buri Province. Strong winds caused damage in the northern provinces of Phayao, Uttaradit, Loei, Udon Thani, and Kalasin and the southern province of Surat Thani. Over 300 homes were damaged in total, with 1,600 people affected.¹²⁹

Drought – 2020

In 2020, Thailand experienced its worst drought in 40 years. In 2019, the monsoon season, which usually runs from May to October, arrived two weeks late and ended three weeks early, leaving Thailand with less rainfall than usual.¹³⁰ This contributed to a drought, which dried up farms, threatened electricity supply from hydropower dams, and caused economic loss of 46 billion Thai Baht (equivalent to approximately US\$1,359,378,660) or 0.27% of GDP.¹³¹

Tropical storm and tropical depression – August 2019

Tropical Storm Podul and Tropical Depression Kajiki caused widespread flooding which affected 32 provinces, 184 districts, 836 sub-districts, 7,293 villages, and 419,988 households. Forty-one people were killed, 23,000 evacuated, and 418,000 affected. At least 4,000 houses and 325,000 ha of crops were destroyed.¹³² The most impacted province was Ubon Ratchathani, as shown in Photo 1.¹³³

Tropical Storm Pabuk – January 2019

On 4 January 2019, Tropical Storm Pabuk made landfall in the province of Nakhon Si Thammarat in southern Thailand. Three people died, one person went missing, and over 200,000 people were affected. Nakhon Si Thammarat was the hardest hit province, with almost 180,000 residents in 23 districts affected by the storm. Other affected provinces include Pattani, Surat Thani, Songkhla, Chumphon, Yala, Phatthalung, and Narathiwat. Almost 35,000 people were evacuated from their homes in Nakhon Si Thammarat and around 10,000 in Pattani, Surat Thani, and Songkhla.¹³⁴

Flash floods – December 2018

Heavy rain caused flooding in several southern provinces of Thailand including in Nakhon Si Thammarat. One person died and one person was reported missing. Flooding and heavy rain affected 377 villages across 17 districts in Nakhon Si Thammarat province. Soldiers and rescue workers carried out evacuations in Muang



Photo 1: Floods in Ubon Ratchathani, August 2019

district. Schools were closed in affected areas.¹³⁵

Heavy rain caused flash floods and landslides in Sop Moei district in Mae Hong Son province in northern Thailand after heavy rain. Affected areas included the Baan Mae La Oun refugee camp close to the Myanmar border, which houses about 13,000 refugees from Myanmar. At least one person died and seven people were reported missing.¹³⁶

Floods – November 2017

Floods occurred in 23 provinces as a result of a tropical depression that also affected parts of Vietnam. Several rivers in Thailand overflowed, including the Yom, Nan, Chao Phraya, Tha Chin, Chi, and Mun rivers. Discharge from the Chao Phraya Dam also caused flooding for communities downstream. More than 120,000 households were affected across 78 districts of the 23 provinces. At least 10 people died.¹³⁷

Floods – December 2016

Severe flooding affected 10 provinces in southern Thailand, killing 11 people, with two people reported missing. Flooding affected 300,000 people. Flooding further caused major disruption to train travel in the South of the country.¹³⁸

Floods – October 2016

Heavy rain caused flooding in 14 Central, North, and Northeastern provinces. Three were killed in Nakornsawan province, large areas of farmland were submerged, and 27,000 houses inundated. Furthermore, flooding affected up to 61 districts, 358 communities, and 2,087 villages. 68,000 houses have been damaged by floodwater among the 14 affected provinces.¹³⁹

Floods – June 2016

Heavy rain caused flooding in 36 areas of Bangkok City. The flooding brought traffic to a standstill and forced some schools and businesses to close. Although the rain was short lived, the rainfall was as much as 200 mm (7.87 in), which was, at the time, the highest level for over 25 years.¹⁴⁰

Drought – 2015 and 2016

Thailand was hit by severe droughts in 2015 and 2016, particularly in the upper-middle part of the country, causing irrigation problems in many areas.¹⁴¹ The drought affected 22 provinces. The situation was so severe that at the Ubolrat dam in northeastern Thailand steps were taken to use “dead storage,” being the last 1% in the bottom of the reservoir.¹⁴²

Earthquakes – 2014

In May 2014, an earthquake of magnitude 6.3 hit the North of Thailand, causing more than 180 aftershocks. The epicenter of the earthquake was located on the upper part of the Phayao fault line, 7km (4.3 mi) underground in Chiang Rai’s Phan district.¹⁴³

Floods – 2011

The major floods of 2011 (July-December) along the Chao Phraya and Mekong river basins affected almost 14 million people, with 65 out of 76 provinces and the Bangkok area affected. It left 680 people dead and two missing.¹⁴⁴ It also resulted in an estimated damage of around US\$46 billion.¹⁴⁵

Country Risks

Country Risk Profile

Risk calculation takes into account exposure to hazards, vulnerability, and institutional coping capacity, all of which are important factors in DRM. The Index for Risk Management (INFORM) Global Risk Index (GRI) measures the risk of humanitarian crisis and disasters in 191 countries. The INFORM GRI supports a proactive crisis management framework. INFORM GRI is helpful for establishing an objective allocation of resources for disaster management as well as for coordinating actions focused on anticipating, mitigating, and preparing for humanitarian emergencies. The INFORM GRI model is based on risk concepts published in scientific literature with three dimensions of risk: Hazards & Exposure, Vulnerability, and Lack of Coping Capacity. The

first dimension measures the natural and human hazards that pose the risk. The second and third dimensions cover population factors that can mitigate against or exacerbate the risk. The vulnerability dimension considers the strength of individuals and households relative to a crisis while the lack of coping capacity dimension considers factors of institutional strength.¹⁴⁶

The INFORM GRI model is split into different levels to provide a quick overview of the underlying factors leading to humanitarian risk. INFORM gives each country a risk score of 1-10 (1 being the lowest and 10 the highest) for each of the dimensions, categories, and components of risk, as well as an overall risk score.¹⁴⁷ The higher the score the more at risk a country is to disasters.

According to the 2022 INFORM GRI,

Thailand had an overall risk of 3.8/10, which INFORM categorizes within the “medium” risk class. The Hazards and Exposure dimension score takes into account a combination of both natural and human hazards, and Thailand rated 4.6/10. Thailand’s Vulnerability dimension score was 3/10, and the Lack of Coping Capacity dimension score was 3.9/10. Physical exposure to floods, at a score of 8.8/10, was the highest risk in the Hazards & Exposure dimension, with uprooted people measuring at 5.5/10 risk for the vulnerability dimension. Institutional capacity was rated 5.1/10 in the Lack of Coping Capacity dimension. Figure 6 graphically depicts Thailand’s risk scores across the three dimensions (Hazard & Exposure, Vulnerability, Lack of Coping Capacity), the main categories within those dimensions, and selected indicators.¹⁴⁸

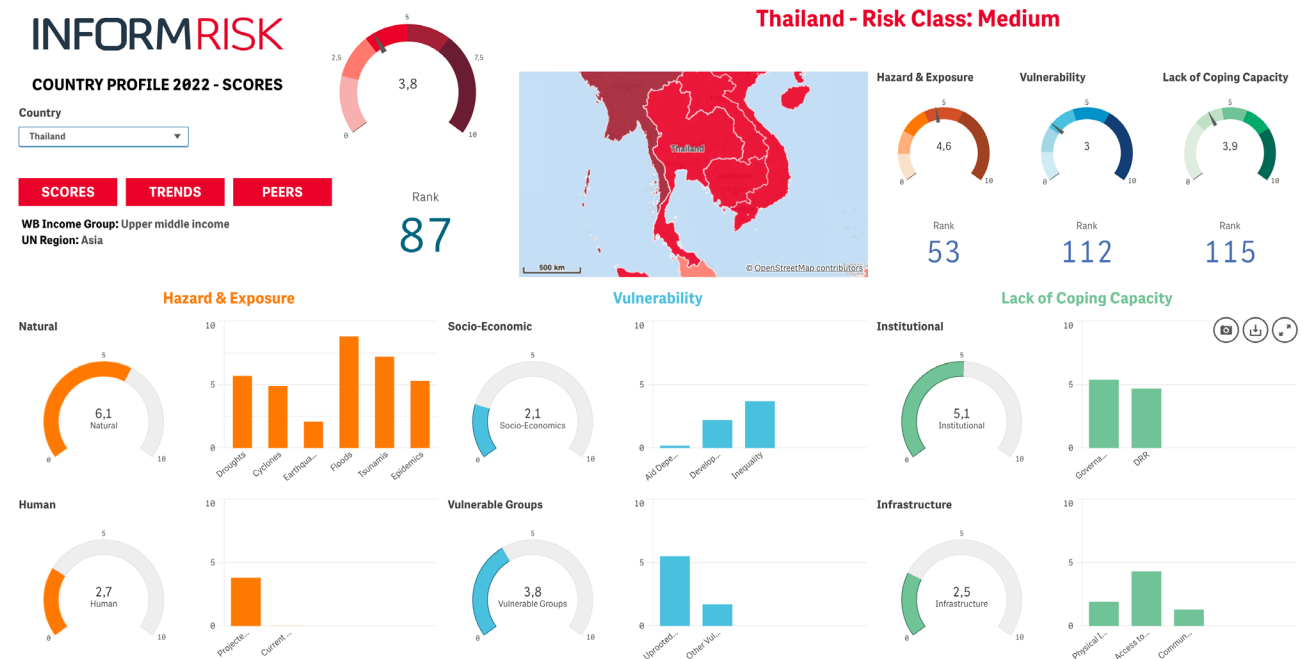


Figure 6: INFORM RISK Index

ORGANIZATIONAL STRUCTURE FOR DISASTER MANAGEMENT

Disaster management in Thailand has evolved from a historically civil defense posture and emergency management orientation. The first comprehensive disaster management law was the Civil Threat Prevention Act passed in 1979. The law covered all hazards including fires, wind, storms, floods, military air attacks, and terrorism.¹⁴⁹ Following the 2004 Indian Ocean tsunami, which had a catastrophic impact on Thailand's southern coastal region, the RTG further developed a systematic and comprehensive disaster management policy that incorporates all disasters in addition to military threats. The RTG enacted the Disaster Prevention and Mitigation Act (DPM Act 2007), effective 7 September 2007, which sets out the main statutory framework for DRM and disaster response in Thailand.¹⁵⁰

In addition to the government-led system, a vast network of NGOs, charities, academic institutions, business and private enterprises, and community and citizen-led networks support the country's disaster management capabilities.

Lead Government Agencies in Disaster Response

Thailand's disaster management system is comprised of policy-level and operational-level agencies. At the policy-level, the inter-ministerial National Disaster Prevention and Mitigation Committee (NDPMC), chaired by the Prime Minister or Deputy Prime Minister, is the top policy body for DRM. The Department of Disaster Prevention and Mitigation (DDPM) under the MOI is the secretariat for the NDPMC.¹⁵¹ In addition, the National Safety Council is responsible for national safety policy.¹⁵²

At the operational-level the following agencies are responsible for responding to a disaster:

- National Disaster Command Headquarters;
- Central Disaster Management Center;
- Provincial Disaster Management Centers;
- Bangkok Metropolitan Disaster Management Center;
- District Disaster Management Centers;
- Pattaya City Disaster Management Center;
- Municipal Disaster Management Center;
- Subdistrict Administrative Organization disaster Management Center.¹⁵³

Figure 7 depicts the disaster management chain of command, chain of communication, and key responsibilities of both policy-level and operational-level agencies.¹⁵⁴

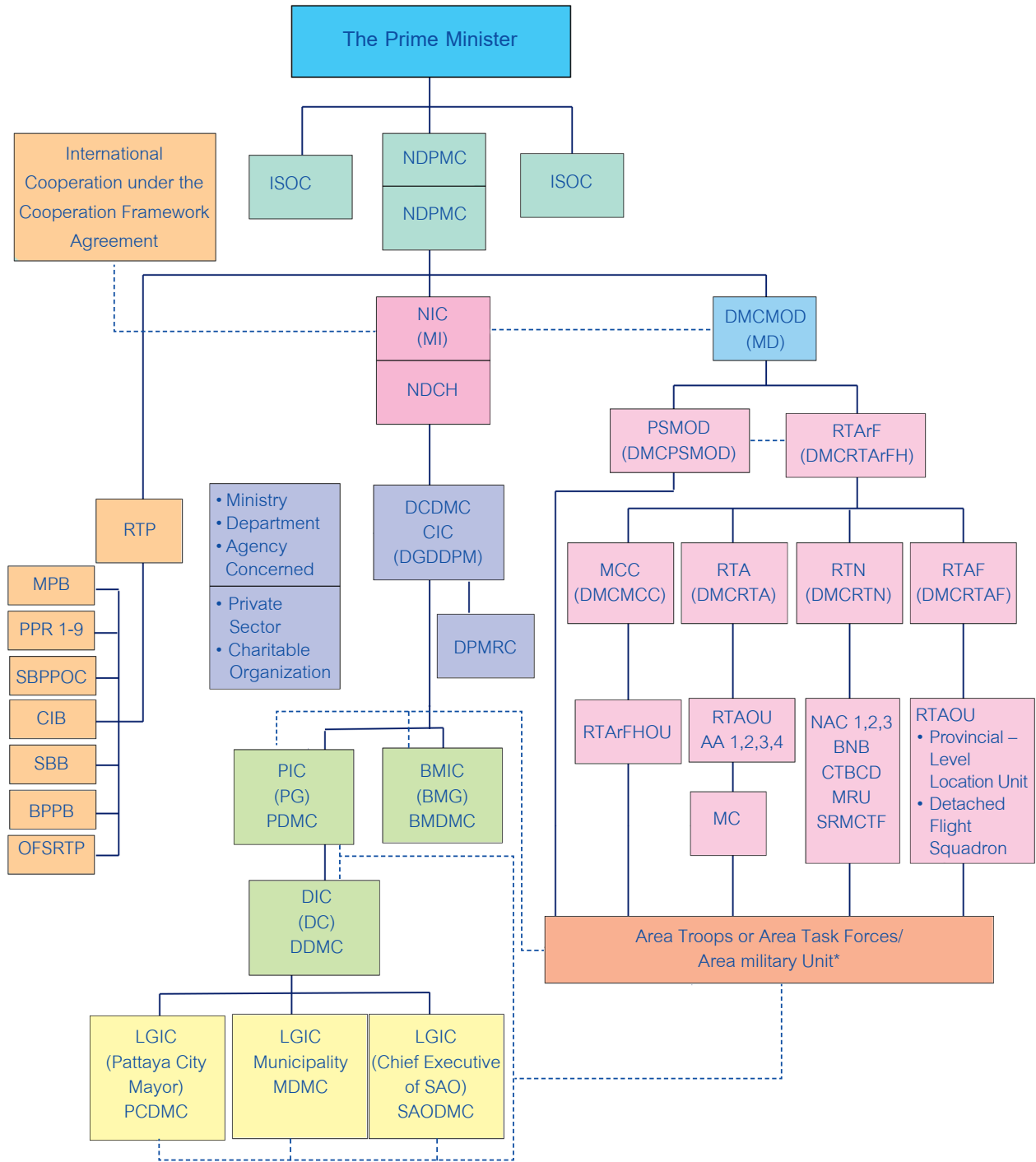
National Disaster Prevention and Mitigation Committee (NDPMC)

The NDPMC is the lead DRM policymaking body chaired by the Prime Minister or designated Deputy Prime Minister. The Director General of the DDPM is the Secretary.¹⁵⁵ The NDPMC consists of around 34 members and various sub-committees. The inter-ministerial sub-committees provide technical and managerial support for the implementation of activities.¹⁵⁶ Figure 8 depicts the composition of the NDPMC.¹⁵⁷

The NDPMC leads on disaster management policy development in four priority areas:

1. Improve and promote DRR by boosting the efficiency of disaster prevention and preparedness. Reduce the impacts of disasters by creating safe communities and promoting community involvement in improving disaster management practices to build resilience and foster adaptation to the effects of disaster events towards sustainable development;

ORGANIZATIONAL STRUCTURE FOR DISASTER MANAGEMENT



N.B.

— Chain of Command

- - - Chain of Communication

* Division of work and areas of responsibility need to be done in accordance with Disaster Mitigation Plan of Ministry of Defence and Memorandum of Understanding on Disaster Management Operations between the Provincial Incident Commander and the Area Commandant

Figure 7: Disaster Management Chain of Command, Chain of Communication, and Key Responsibilities

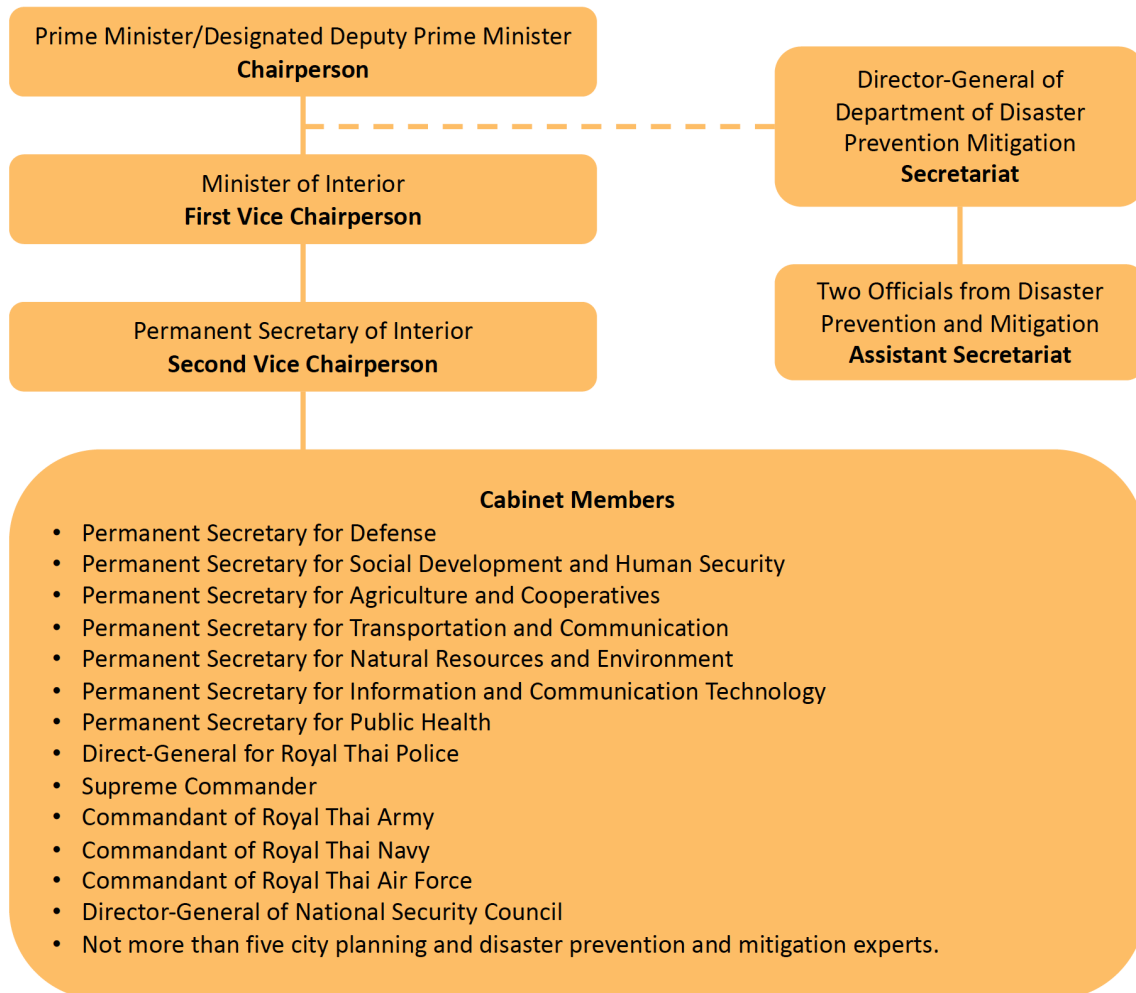


Figure 8: NDPMC Composition

2. Synergize multi-sectorial partnership efforts to develop and enhance the capacities necessary for more effective, efficient, and coherent emergency management; for equitable, timely, and impartial distribution of relief supplies to disaster victims; and to mitigate disaster impacts;
3. Develop a disaster recovery system that ably handles the demand for recovery assistance by disaster victims in a timely and impartial manner and the needs for rapid rehabilitation and reconstruction of disaster devastated areas to its former state or building back better and safer;
4. Develop and promote standards on international cooperation for DRR between and among partnerships and networks at both national and international levels to increase effectiveness and efficiency.

Department of Disaster Prevention and Mitigation (DDPM) of the MOI

Since 2002, the DDPM under the MOI has been the lead agency for DRM in Thailand.¹⁵⁸ The DDPM is responsible for all disaster- and accident-related administration that used to be under the supervision of the Civil Defense Division of the Department of Local Administration of the MOI and the National Safety Council, Office of the Permanent Secretary of the Office of the Prime Minister.¹⁵⁹

The DDPM comprises one central office with 16 bureaus and units, 18 regional centers, and provincial offices in 76 provinces (apart from Bangkok, which has a self-administered DRM unit under the Bangkok Metropolitan Administration). In addition, the Disaster Prevention and Mitigation Academy of the DDPM provides trainings and capacity building

for DDPM officials and other disaster-relevant government agencies.¹⁶⁰ Photo 2 is the office of the DDPM in Bangkok, and Figure 9 is an organizational chart of the DDPM.¹⁶¹

The DDPM has the mandate to undertake the following responsibilities:

- Formulate policy, guidelines, and measures on disaster prevention and mitigation;
- Study, analyze, research, and develop systems on disaster prevention, disaster warning, and disaster mitigation;
- Develop information technology on disaster prevention and mitigation;
- Promote community participation in disaster management activities;
- Build disaster risk awareness;
- Provide training to build capacity and

improve skills on disaster management and disaster relief;

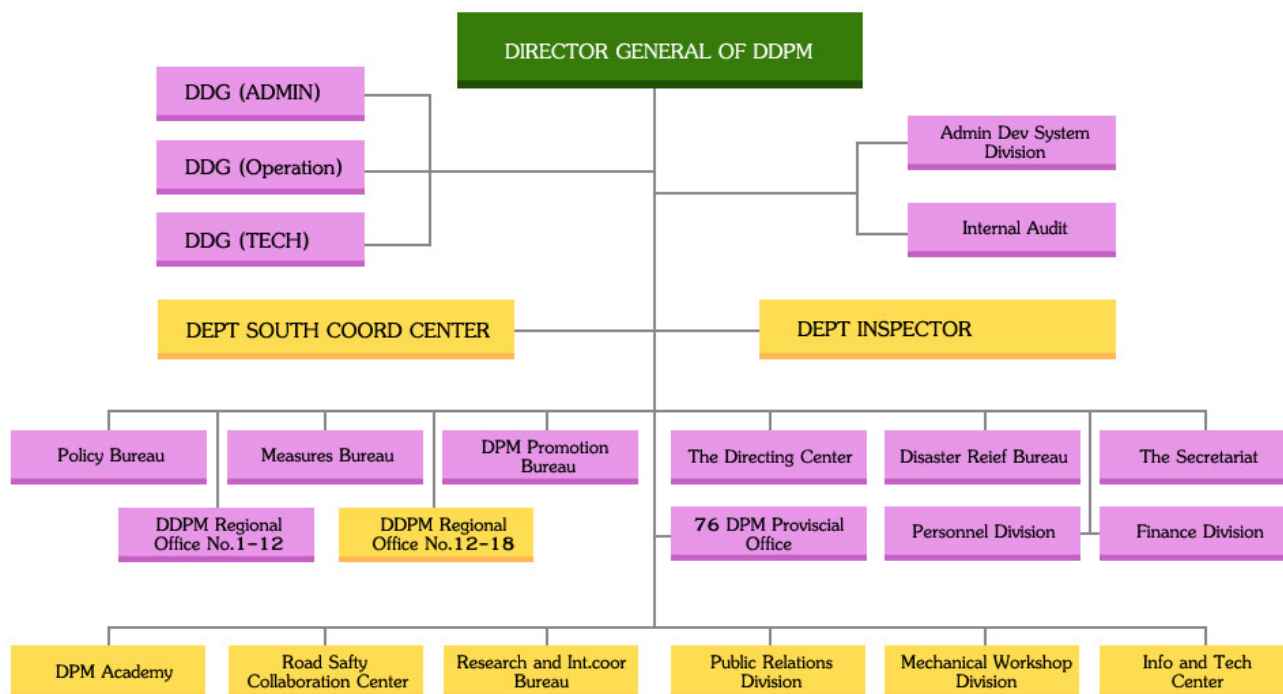
- Promote, support, and implement programs to assist disaster victims and disaster recovery;
- Direct and coordinate operations to assist disaster victims in large-scale disasters;
- Coordinate with domestic and international agencies/organizations.¹⁶²

National Safety Council of Thailand (NSCT)

The National Safety Council of Thailand (NSCT) was created in 1982 and is responsible for responding to human-made and technological disasters. The primary functions of the NSCT are to help mitigate traffic accidents, chemical and work-related accidents, accidents



Photo 2: DDPM of the Thailand MOI



HQ: 5 BUREAUS, 3 DIV, 2 GROUP, 12 CENTERS,(INT) 6 CENTERS PROV. 76 PROVINCES

Figure 9: Organizational Chart of the DDPM

in private residences and public settings, and to mitigate fires in high-rise buildings. The Prime Minister chairs the NSCT, and the DDPM is a member and the secretariat of the NSCT.¹⁶³

Provincial Disaster Prevention and Mitigation Committees (PDPMC)

At the provincial level, the governor is responsible for DRM within the province and serves as the chairperson of the Provincial Disaster Prevention and Mitigation Committee (PDPMC) of their province. Each PDPMC has three chairpersons including the deputy governor, the commander of the army circle or commander of the provincial army-base or their representative, and the provincial administrator. In addition, other members may include representatives from provincial government services appointed by the provincial governor, seven representatives from local administration, including two persons from municipalities and five persons from the Tambon administration (the local government unit in a sub-district of a province), and representatives from public charities.¹⁶⁴ The provincial chief officer of the DDPM or provincial representative from the DDPM serves as a secretary to the PDPMC.¹⁶⁵

The governor as the head of the PDPMC has the following responsibilities with regards to DRM:

- Formulating the Provincial Disaster Risk Management Plan (Provincial DRM Plan) in accordance with the National DRM Plan;
- Overseeing and training all volunteers of local administration in the province;
- Overseeing all local administration on preparing for disaster prevention and mitigation equipment, materials, vehicles, and other related hardware for their own use in accordance with the Provincial DRM Plan;
- Operate as a government service unit at the local administration level to provide basic support to disaster-affected people, and other activities related to disaster prevention and mitigation;
- Support local administrations on activities

related to disaster prevention and mitigation;

- Perform other duties as may be required by the Commander in Chief or the Central Director.¹⁶⁶

Bangkok Metropolitan Administration (BMA) Disaster Prevention and Mitigation Committee

The Bangkok Metropolitan Administration (BMA) disaster risk management mission includes the provision of immediate and long-term disaster relief and emergency assistance. BMA undertakes various tasks to fulfill this mission, including emergency evacuation support; disaster sheltering; distribution of food and basic daily necessities; the provision of public health services; conducting efforts to restore peace and order, communications system management, and public utility services; undertaking action necessary to deal with disaster incidents, and to procure disaster-related supplies, equipment, and services in conformity with the BMA DRM Plan. The BMA is required to prepare an annual operating budget to cover its DRM mission.¹⁶⁷

Disaster Relief and Emergency Response

Different authorities, depending on the level of risk, may declare a disaster event in Thailand. For small-scale and medium-scale disasters (level 1 and 2) the provincial incident commander (provincial governor) or if the disaster is in Bangkok, the Bangkok Metropolitan Incident Commander (Chief Executive of the BMA), may declare an emergency. For a large-scale disaster (level 3) the national incident commander is the Minister of the Interior. In the event of a catastrophic disaster (level 4), the Prime Minister or Deputy Prime Minister as assigned by the Prime Minister is the National Incident Commander.¹⁶⁸ Table 1 shows the authorities that can declare a disaster, and Figure 10 shows the chain of command, chain of communication, and areas of responsibility of key agencies under the National DRM Plan.¹⁶⁹

ORGANIZATIONAL STRUCTURE FOR DISASTER MANAGEMENT

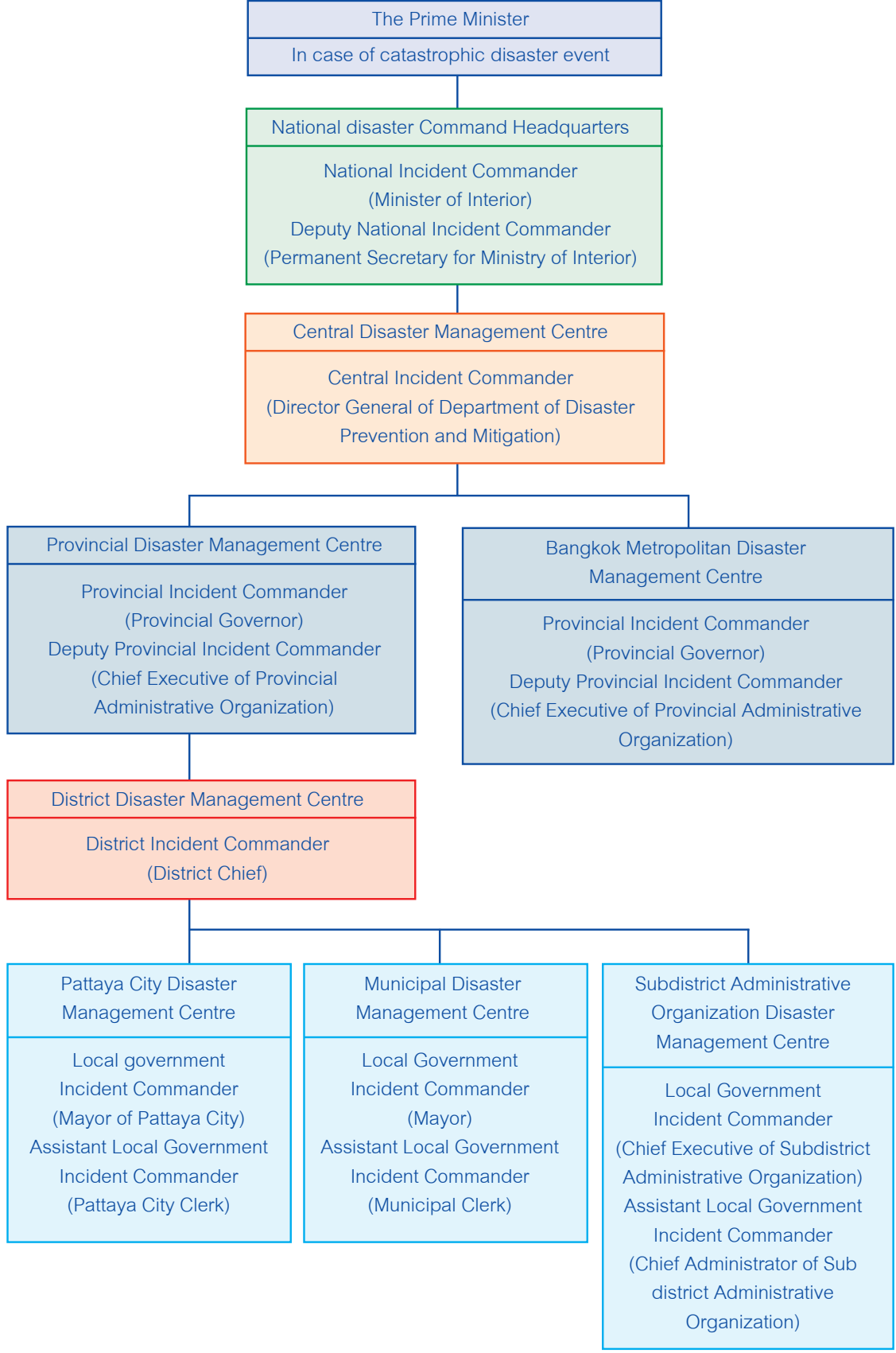


Figure 10: Thailand Disaster Response Structure

Level	Description	Person Legally Authorized to Make Declaration of Disaster Areas
1	Small-Scale Disaster	Provincial Incident Commander/Bangkok Metropolitan Incident Commander
2	Medium-Scale Disaster	Provincial Incident Commander/Bangkok Metropolitan Commander
3	Large-Scale Disaster	National Incident Commander
4	Catastrophic-Scale Disaster	The Prime Minister or Deputy Prime Minister when assigned by the Prime Minister

Table 1: Authorities Who Can Declare a Disaster

Provincial Disaster Management Centers (PDMC)

Provincial Disaster Management Centers (PDMC) are responsible for directing, controlling, and supporting the coordination of DRM efforts within their respective provincial jurisdiction. The provincial governor serves as the provincial incident commander, supported by the vice-governor as deputy incident commander, the chairman of the provincial administrative organization, the provincial police chief, the provincial representative of the MOD, provincial medical officer, representatives from educational institutions, representatives from charities working within the province, etc.

The PDMCs are responsible for the following DRM activities:

- Developing the Provincial Multi-Hazard Specific Action Plan on DRM in conformity with the Provincial DRM Plan;
- Setting forth the guidelines to be observed by provincial, district, and local administrative organization disaster management centers in specific localities, in undertaking DRM and disaster preparedness activities;
- Monitoring and conducting disaster situation analysis and assessment. And when a disaster actually occurs or is likely to occur, in the case of a medium-scale (level 2) disaster, PDMCs are required to make recommendations to the provincial incident commanders in the context of setting up the provincial emergency operations centers to undertake emergency response interventions;
- Collecting data and establishing data bank of disaster-related resources required to carry out DRM activities within the respective provincial jurisdiction;

- Promoting and supporting cooperation between public and private agencies and neighboring provinces through mutual aid agreement/the mutual sharing of personnel, equipment, and other resources for disaster risk management;
- Perform other functions and responsibilities as assigned by relevant authorities.¹⁷⁰

Bangkok Metropolitan Disaster Management Center (BMDMC)

The Bangkok Metropolitan Disaster Management Center (BMDMC) is tasked with directing, controlling, and coordinating DRM efforts within its jurisdiction. The BMDMC is also responsible for developing an action plan based on its vulnerability and exposure to specific hazards in line with the Bangkok Metropolitan DRM Plan and provides technical assistance and support for the implementation of DRM activities. Furthermore, the BMDMC functions as an emergency response unit when an actual disaster occurs within its jurisdiction. The governor of the BMA is the incident commander for the BMDMC. The BMDMC is responsible for similar DRM activities to the PDMCs.¹⁷¹

District Disaster Management Centers (DDMC)

District Disaster Management Centers (DDMC) are responsible for directing, providing support for, and coordinating disaster management efforts of local administrative organizations located in its jurisdiction, as well as performing any function as assigned by the provincial governor or by the PDMC. The chief district officer heads the DDMC as the district incident commander and

is supported by the deputy district chief, superintendent of the district police station, representative of the Ministry of Defence, district chief medical officer, executives of Local Government Organizations (LAO) in the district, representative of the chief officer of the government agency committee affiliated with the central administration department located in district locality, representatives from district education institutions, representatives from charitable organizations working in the district, etc.

The DDMCs are responsible for the following DRM activities:

- Developing the District DRM Plan and other relevant plan for the purpose of directing, coordinating, and providing support for disaster management efforts of the LAO, in accordance with the Provincial DRM Plan;
- Setting forth guidelines to be observed by district and LAOs;
- Undertaking disaster risk management and disaster preparedness activities as well as undertaking post-disaster recovery interventions;
- Monitoring and conducting disaster situation analysis and assessment. When a disaster actually occurs, or is very likely in its jurisdiction, the DDMC is required to make recommendations to the district incident commander in the context of setting up the district emergency operation center to take responsibility for the command and control of incidents;
- Collecting data and establishing a data bank of disaster related resources required to carry out DRM activities within district jurisdiction;
- Performing other functions and responsibilities as assigned by the provincial governor or the PDMC.¹⁷²

Pattaya City Disaster Management Center

The Pattaya City Disaster Management Center (Pattaya DMC) is responsible for directing, providing support for, and coordinating DRM efforts within Pattaya City. The Pattaya City

DMC also functions as an emergency response unit during an actual disaster. In addition, the Pattaya DMC is responsible for developing the Pattaya City DRM Action Plan in line with the provincial DRM Plan and the district DRM Plan. Furthermore, the DMC provides support and assistance to the provincial incident commander and the district incident commander as required, including the provision of disaster-related assistance and support to neighboring or adjacent local administrative organizations upon their requests. The mayor of Pattaya City is the local government incident commander.¹⁷³

Municipal Disaster Management Centers

There are three types of municipalities in Thailand: city municipality, town municipality, and sub-district municipality. Each has its own disaster management center (DMC). The municipal DMC is responsible for directing, providing support for, and coordinating DRM efforts within the respective municipal jurisdiction. The DMC also functions as an emergency response unit during an actual disaster. The DMC provides support to the provincial incident commander and district incident commander, including the provision of assistance and support to neighboring or adjacent local administrative organizations upon their requests. The municipal mayor is the local government incident commander.¹⁷⁴

Armed Forces Role in Disaster Relief

The Royal Thai Armed Forces (RTArF) is comprised of three branches, the Royal Thai Army (RTA), Royal Thai Navy (RTN), and Royal Thai Air Force (RTAF). The Ministry of Defence (MOD) manages the administration of the RTArF.

The RTArF Headquarters (formerly Supreme Command Headquarters) is the main operational component of the MOD. It acts as the Supreme Command Unit of the RTArF with the mission to prepare the branches for combat readiness to defend the Kingdom. The Commander-in-Chief of each of the armed forces is directly responsible

to the Supreme Commander. Although the three branches are equal under law, the RTA is the dominant armed service. Senior army officers have traditionally held key positions in the high command structure and cabinets of military regimes. However, senior officers from the navy, air force, and police are occasionally appointed to a few key ministries.¹⁷⁵

Since 1954, Thailand has implemented a conscription system for males 21 years and older through a public lottery held annually in April. Men who draw a red card during a lottery in their local neighborhood are conscripted to serve in one of the armed services for two years. If a black card is drawn, then the individual is exempt.¹⁷⁶ In 2021, Thailand launched a voluntary military enlistment program, a development in step with removing military conscription, a move which has gained public support in recent years.¹⁷⁷

The National DRM Plan establishes the following responsibilities for the RTArF under the MOD:

- To provide support and provide assistance to national efforts for disaster prevention and to address disaster situations in conformity with Article 8 (3) of the Ministry of Defence Administrative Arrangements Act B.E. 2551 (2008);
- To disseminate information and disaster warnings to DMCs in the locality and the

civilian government agencies located in the areas at risk, in case of imminent threat of war or airstrike or sabotage actions.¹⁷⁸

The MOD oversees two offices for disaster response:

- Office of the Permanent Secretary for Defence (OPSD) Disaster Relief Center (DRC)
- RTArF Disaster Relief Center (DRC)

The OPSD DRC is in charge of the policy and procedures associated with RTArF deployments for humanitarian assistance missions on behalf of the MOD DRC. The OPSD DRC coordinates with multiple government agencies and civilian organizations to develop policies and guidelines. It also oversees disaster-related activities, activates and integrates military assets and resources into the disaster response, implements the unification of disaster management, and maintains effective command and control.

Figure 11 shows the MOD DRC organizational structure.¹⁷⁹

The RTArF DRC is comprised of one DRC for each of the branches of the military and a DRC at Headquarters.

The Royal Thai Police (RTP) is integrated into the disaster management system. However, the mandate for the RTP during disasters does not extend beyond law enforcement and maintaining

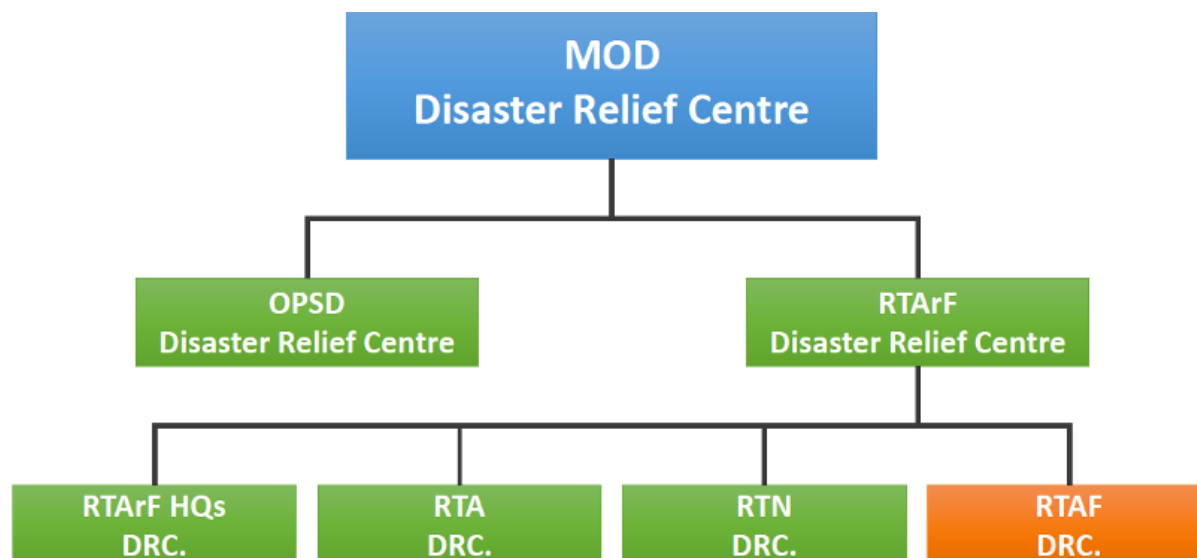


Figure 11: MOD Disaster Relief Centre Structure

public order. The RTP falls under the direct command of the Prime Minister. The National DRM Plan states the RTP shall perform the following duties in a disaster response under the relevant director:

- To keep the peace and maintain law and order with a view to ensure the safety of people who still live in disaster-stricken areas as well in the nearby areas;
- To prevent and suppress crime through implementing relevant control measures and enforcing the laws;
- To manage dead bodies after disasters, conduct dead human body identification, search for missing persons, and conduct repatriation;
- To direct the traffic flow in disaster affected areas and in the nearby areas;
- To be prepared for rapid deployment of highly specialized teams to support emergency operations and management effort, which includes a search and rescue

team, demining team, canine search team, etc.;

- To support the National Disaster Command Headquarters and local DMCs' efforts in managing disastrous situation through providing personnel, vehicles, equipment, and other resources.¹⁸⁰

Disaster Management Partners

Multilateral and Bilateral Partners

In 2003 Thailand transitioned from being an aid recipient to an aid donor.¹⁸¹ Thailand advanced to an upper middle-income country in 2011.¹⁸² Thailand continues to cooperate with multilateral and bilateral partners on areas of national strategic priority and regional cooperation including DRM efforts. Table 2 shows some of the multilateral and bilateral partners involved in disaster-related activities in Thailand.^{183, 184, 185, 186, 187, 188, 189, 190}

	<p>The Asian Development Bank (ADB) Country Partnership Strategy for Thailand (2021-2025) focuses on two main objectives: 1) strengthening competitiveness and connectivity by supporting new engines of growth through digital technologies, start-up ecosystems, transformative shifts in agriculture, smart cities, and low-carbon societies. It will also seek to strengthen economic, social, and geographic connectivity within Thailand and the region; 2) strengthening resilience and sustainability through building inclusive climate and disaster resilience, enhance environmental sustainability, and strengthen regional public goods in both urban and rural areas. More information can be found at the ADB's website: https://www.adb.org/countries/thailand/main</p>
	<p>A new Thailand–World Bank Group Country Partnership Framework (CPF) FY2019-2022 is currently being implemented to support Thailand's 20 Year National Strategy (2017-2036) that is focused on six objectives: 1) improving the business environment through promotion of competition and innovation; 2) strengthening fiscal and economic institutions; 3) enhancing the quality of infrastructure investments; 4) addressing climate change and water resources management; 5) promoting quality education; 6) supporting inclusion of vulnerable groups, particularly in the fragile, conflict-affected areas of Southern Thailand. More information can be found at the World Bank's website: https://www.worldbank.org/en/country/thailand</p>

Table 2: Multilateral and Bilateral Partners Involved in Disaster-Related Activities in Thailand

 <p>Australian Government Department of Foreign Affairs and Trade</p>	<p>The Australian Government Department of Foreign Affairs and Trade (DFAT) supports regional development assistance programs focused on human trafficking, labor rights, health, disaster management, and economic integration, that includes the cooperation of Thailand. Australia also provides some support to Thailand as part of efforts to strengthen the capacity of regional organizations such as ASEAN and Asia-Pacific Economic Cooperation (APEC). In 2019, Australia became a Joint Development Partner to the Thai-led Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS) to assist with development needs in the Mekong sub-region. Australia is also working closely with Thailand to implement the Mekong-Australia Partnership, launched in November 2020. For more information about Australia-Thailand cooperation see DFAT’s website: https://www.dfat.gov.au/geo/thailand/thailand-country-brief</p>
	<p>Thailand graduated from USAID assistance in 1995, and in 2003 USAID opened a regional mission in Bangkok that serves the Asia-Pacific. Drawing upon Thai expertise, USAID works on cross-border issues of concern to Thailand and the region. The bulk of USAID activities in Thailand address transnational challenges through regional programs, including support to ASEAN, the APEC forum, the Lower Mekong Initiative, and other regional forums. These efforts are leading to greater regional economic integration and cooperation on issues of mutual interest to the United States and Thailand. More information can be found at USAID’s website: https://www.usaid.gov/thailand</p>
 <p>EUROPEAN COMMISSION</p>	<p>The Delegation of the European Commission to Thailand was opened in 1979. Starting from 1 December 2009 with the Lisbon Treaty entering into force, the Delegation of the European Commission was transformed into the Delegation of the European Union (EU) to Thailand. The Delegation in Bangkok is one of over 140 EU Delegations around the world. The Delegation’s mandate includes the following: to promote the political and economic relations between Thailand and the EU by maintaining extensive relations with governmental institutions and by increasing awareness of the EU, its institutions, and its programs; to inform the public of the development of the EU and to explain and defend individual EU policies; and to participate in the implementation of the EU’s assistance programs. More information about EU-Thailand cooperation can be found on the EU website: https://eeas.europa.eu/delegations/thailand_en</p>

Table 2: Multilateral and Bilateral Partners Involved in Disaster-Related Activities in Thailand (cont.)




	<p>The Japan International Cooperation Agency (JICA) focuses on three priority areas in Thailand: 1) sustainable development of the economy and coping with a maturing society; 2) coping with common issues in ASEAN countries; and 3) providing support for third countries. In order to intensify international competitiveness, JICA continues to assist development of infrastructure and supports development of human resources for industries, which can contribute to enhancing productivity and to creating value-added goods and services. In terms of the environment, JICA supports various efforts at the local and national level and also cooperates with Thailand to address climate change. In addition to these activities, JICA continues efforts with Thailand to tackle problems related to development, such as the ageing issue. More information about Japan-Thailand cooperation can be found at JICA’s website: https://www.jica.go.jp/thailand/english/index.html</p>
	<p>The Global Facility for Disaster Risk Reduction and Response (GFDRR) provides analytical and technical assistance and capacity building to help vulnerable nations improve resilience and reduce risk. GFDRR produces knowledge products focused on national DRM and disability inclusive DRM in Thailand. More information can be found at GFDRR’s website: https://www.gfdr.org/thailand</p>
	<p>The United Nations (UN) works together with the RTG and people of Thailand to support inclusive and sustainable development, based on national priorities and plans. The UN Country Team consists of 21 UN agencies that have specific programs and activities being carried out in Thailand.</p> <p>The UN Country Team in Thailand signed the UN Partnership Framework (UNPAF) 2017-2021 with the RTG in July 2017. The UNPAF describes the collective response of the UN system to national development priorities. The UNPAF 2017-2021 articulates outcomes (results to be achieved) for five years and UN agencies’ responsibilities that are agreed by the Government. The outcomes in the UNPAF are linked to the 12th National Economic and Social Development Plan for 2017-2021. In September 2021, the RTG released the 13th National Economic and Social Development Plan for 2023-2027, and it is anticipated the UNPAF will be updated to address the targets. See UN in Thailand website for more information: https://thailand.un.org/en/about/about-the-un</p>

Table 2: Multilateral and Bilateral Partners Involved in Disaster-Related Activities in Thailand (cont.)

National and International NGOs, charities, and academic institutions

Following the 2004 Tsunami, around 393 organizations responded (of the total 291 were domestic organizations). In Thailand, a wide range of national and international NGOs, non-profit organizations, charities, academic

institutions, and businesses and private sector enterprises are involved in supporting DRM and disaster response efforts. Table 3 shows some of the international and national NGOs, charities, and academic institutions working on disaster-related activities in Thailand.^{191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203}




	<p>The Asian Disaster Preparedness Center (ADPC) is an international organization that works to build the resilience of people and institutions to disasters and climate change impacts in Asia and the Pacific. Established in 1986, it provides comprehensive technical services to countries in the region across social and physical sciences to support sustainable solutions for risk reduction and climate resilience. ADPC supports countries and communities in Asia and the Pacific in building their DRR systems, institutional mechanisms, and capacities to become resilient to numerous hazards, such as floods, landslides, earthquake, cyclones, droughts, etc. The ADPC is governed by its nine founding member countries comprising Bangladesh, Cambodia, China, India, Nepal, Pakistan, the Philippines, Sri Lanka, and Thailand. The ADPC has its headquarters in Bangkok, Thailand. More information can be found at the ADPC’s website: https://www.adpc.net/igo/Default.asp</p>
	<p>The Adventist Development and Relief Agency (ADRA) in Thailand provides disaster relief response, for example, distributing food and water to families impacted by Tropical Storm Podul in September 2019. For more information see ADRA’s website: https://adrathailand.org/</p>
	<p>CARE’s work in Thailand began in 1979, initially responding to the Cambodian refugee influx along Thailand’s borders. The Raks Thai Foundation (the local name of CARE in Thailand) became a member of CARE International in January 2003, becoming the first CARE member from a developing country. Today, Raks Thai’s work focuses on: environment and natural resources; health and HIV/AIDS; livelihoods and micro-enterprise development; education; and disaster preparedness and emergency response. For more information see CARE’s website: https://stage.care-international.org/where-we-work/thailand</p>

Table 3: International NGOs, National NGOs, and Charities Involved in Disaster-Related Activities


	<p>Oxfam in Thailand has been working with partners at the local and national levels to build an enabling environment for sustainable agricultural production of food and income security (including land reform, forest and coastal resources management, and climate change adaptation) since 2001. Oxfam’s work in Thailand focuses on the following priorities: the development of model communities to provide evidence and impetus for scaling up; strengthening community organizations and networks to scale up and increase local influencing; support for national level influencing by community organizations and networks aimed at government and public agencies as well as limited private sector engagement; research and investigations by national level research institutions to support policy and legislative advocacy. More information about Oxfam’s work in Thailand can be found at Oxfam International’s website: https://www.oxfam.org/en/what-we-do/countries/thailand</p>
<p>Rajaprajanugroh Foundation</p>	<p>The Rajaprajanugroh Foundation was established after a typhoon devastated the southern province of Nakhon Si Thammarat in 1962. King Bhumibol Adulyadej mobilized a nationwide appeal through the mass media to provide relief for the storm’s victims. Money left over from relief efforts formed the working capital for a relief foundation, which was registered on 23 August 1963. The Rajaprajanugroh Foundation was established to provide relief to victims of natural and other disasters. In April 2021, King Maha Vajiralongkorn accepted the Rajaprajanugroh Foundation under his royal patronage. Under the National Plan the Foundation has the following responsibilities: to provide disaster relief and emergency assistance to disaster affected people nationwide; to provide educational assistance, scholarship, and assistance to care for orphans and destitute children whose families have been affected by disaster; to provide support to DRM efforts nationwide; and to provide relief assistance to people who have suffered or encountered hardships.</p>
<p>Ruamkatunyu Foundation</p>	<p>The Ruamkatunyu Foundation is a nonprofit organization with a long history of emergency response in Thailand. The Foundation performs several functions such as first aid, rescue, firefighting, body collection, and food distribution. It also has facilities and equipment necessary for disaster response such as 40 emergency and body collecting vans, three ambulances, firefighting trucks and equipment, and equipment for search and rescue in a flood disaster. More information about the Foundation can be found on the Foundation’s Facebook page: https://www.facebook.com/ruamkatanyufoundation/</p>

Table 3: International NGOs, National NGOs, and Charities Involved in Disaster-Related Activities (cont.)

 <p>Save the Children</p>	<p>Save the Children’s work in Thailand focuses on DRR and humanitarian response. Save the Children works to help disaster-affected children and families prepare better for future disasters and is implementing a DRR program in four disaster-prone provinces of Thailand based on its experiences in the 2004 Tsunami. Save the Children produced a child-friendly DRR booklet, ‘Alert Little Tun’ to teach children to be aware of and prepare for disaster risks in flood-prone areas. Save the Children supports disaster-affected children to have access to nutritious food, clean water, safe spaces to play and learn, and health services. Due to its coordinated and effective emergency relief assistance, the RTG views Save the Children as a trustworthy disaster response partner. With strong partnerships with Thailand’s corporate sector, Save the Children also prepositions stocks of essential relief items ready to be mobilized at any time.</p>
 <p>TDPF TNDR Thai Network for Disaster Resilience</p>	<p>The Thai Network for Disaster Resilience (TNDR) is a project implemented by the Thailand Disaster Preparedness Foundation (TDPF). The TNDR is a group of academics focused on disaster management from at least 16 leading education institutions in Thailand as shown in Figure 12. Its mission is to strengthen Thailand’s risk and disaster management capability through an Innovation, Collaboration, Communication, and Capacity Building approach, referred to as ICCC. “Innovation” — to promote and encourage the implementation of technological innovations for disaster risk reduction such as the Disaster Expert Inventory of Thailand. “Collaboration”—to integrate cross disciplinary studies through joint research projects. “Communication”— for example through online webinar or using digital media tactics. “Capacity Building”—developing and conducting training programs for government, private sector, and other stakeholders. More information about the TNDR can be found at its website: https://tndr-tdpf.info/</p>
 <p>สภากาชาดไทย The Thai Red Cross Society</p>	<p>The Thai Red Cross Society (TRCS) is a national charitable organization undertaking humanitarian activities in keeping with the fundamental principles of the International Red Cross and Red Crescent Movement. TRCS’s work in Thailand is focused on four key areas: medical and health services, disaster preparedness and response, blood transfusion services, and quality of life promotion. More information about TRCS can be found on the TRCS website at: https://english.redcross.or.th/</p>
 <p>World Vision</p>	<p>The World Vision Foundation of Thailand is a Christian charitable organization and a global network partner of World Vision. The Foundation’s main project is the Child Sponsorship Program. In addition, the Foundation also supports children to be protected from disasters through the operation ‘Safe school in Thailand,’ and to establish a disaster prevention network in communities.</p>

Table 3: International NGOs, National NGOs, and Charities Involved in Disaster-Related Activities (cont.)

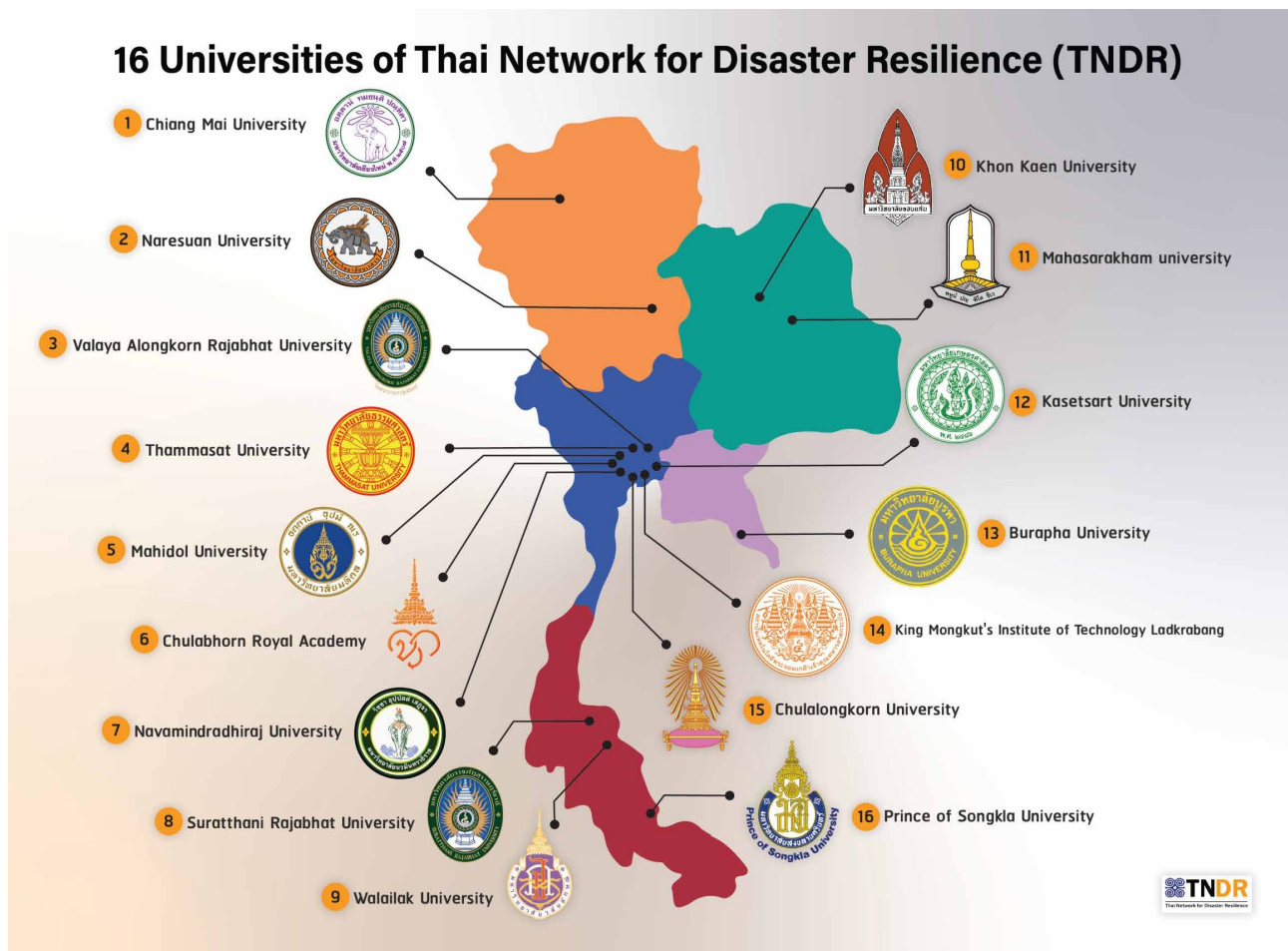


Figure 12: TNRD Network of 16 Partner Academic Institutions

The International Red Cross and Red Crescent Movement

International Committee of the Red Cross

The International Committee of the Red Cross (ICRC) is a private, independent humanitarian organization, headquartered in Geneva, Switzerland. The ICRC bases its activities on the provisions of International Humanitarian Law, and it is neutral in politics, religion, and ideology. The ICRC assists with the protection of civilian victims of armed conflict and internal strife and their direct results. Within these roles, it may take any humanitarian initiative as a neutral and independent intermediary.²⁰⁴ More information can be found at ICRC's website: <https://www.icrc.org/en>

International Federation of Red Cross and Red Crescent Societies

The International Federation of Red Cross and Red Crescent Societies (IFRC) is a humanitarian organization that provides assistance and promotes humanitarian activities carried out by the National Societies, with a view to preventing and alleviating human suffering. IFRC was founded in 1919 and includes 192 National Societies. The IFRC carries out relief operations to assist people affected by disasters and combines this with development work to strengthen the capacities of its member National Societies.²⁰⁵

The IFRC's Country Cluster Delegation for Thailand, Cambodia, Laos, and Vietnam is based in Bangkok, Thailand. The Cluster Delegation coordinates international humanitarian and

development assistance to the National Societies in the four Mekong countries and supports them to become stronger local humanitarian actors. The four countries face common challenges and emerging risks including rapid urbanization, climate change, rising inequalities, migration, health risks, gender discrimination, and now COVID-19.²⁰⁶

The IFRC also supports the National Societies to leverage their auxiliary role and influence regional, national, and subnational processes to ensure more effective laws and policies for climate, DRM, and emergency preparedness and response, including for public health emergencies. This is done to make communities safer, facilitate humanitarian assistance, and to improve the protection and inclusion of the most vulnerable when faced with crisis. The focus areas are: (1) Climate and environmental crises; (2) Evolving crises and disasters; (3) Growing gaps in health and wellbeing; (4) Migration; and (5) Values, power, and inclusion.²⁰⁷ More information about IFRC’s work can be found on its website: <https://www.ifrc.org/>

Thailand Red Cross Society

The Thai Red Cross Society (TRCS) operates as the primary humanitarian organization in Thailand. TRCS was founded in 1893 and was formally recognized by the ICRC in 1920. TRCS was recognized as a member of the IFRC the following year, in 1921.²⁰⁸ Today, the TRCS is a national charitable organization undertaking humanitarian activities in keeping with the fundamental principles of the International Red Cross and Red Crescent Movement. The Society’s work in Thailand is focused on four key areas: medical and health services (as shown in Photo 3), disaster preparedness and response, blood transfusion services, and quality of life promotion.²⁰⁹

TRCS is designated as a primary responder under Thailand’s disaster management system, and the role and functions of the TRCS are included in the National DRM Plan. Additionally, the national mandate requires that the TRCS maintain frequent contact with the



Photo 3: TRCS Medical and Health Services

Thai military through their active involvement in exercises, conferences, and other events intended to enhance relationships and to promote understanding and discussions.²¹⁰

The administration of the TRCS includes His Majesty King Vajiralongkorn as Royal Patron of the Society, Her Majesty Queen Sirikit the Queen Mother as President, and Her Royal Highness Princess Maha Chakri Sirindhorn as Executive Vice President. The TRCS Council is responsible for controlling and supervising the activities of the TRCS. The Council is comprised of the President of the Council, the Executive Vice President, and 25 members, as well as 12 representatives of the Provincial TRCS Chapters in 12 regions. The Council holds at least three meetings a year.²¹¹

The TRCS Executive Committee is comprised of the Executive Vice President, the Secretary General, the Treasurer, and four members of the Disaster Relief Center (DRC) Council who are appointed by the Executive Vice President. The Committee is responsible for supervising the activities of TRCS that have been assigned by the Council. It is also authorized to give approval in lieu of the Council at times when the Council does not hold a meeting. The Committee holds meetings once a month.²¹²

The TRCS Management Committee is comprised of the Secretary General of TRCS, the Treasurer, Assistant Secretaries General, and

the directors of all the bureaus of the TRCS. The Committee is responsible for conducting all the activities of TRCS according to the Acts, rules, and regulations of the Council and the Executive Committee. It is authorized to give consent in lieu of the Executive Committee in matters specified in the regulations of the Executive Committee and other regulations issued by the Executive Committee. The Management Committee holds a meeting once every month. Figure 13 is an organizational chart of the TRCS.²¹³

In 2020, vulnerable Thai households experienced a spike in humanitarian need due to the outbreak of COVID-19 in the early part of the year and periodic heavy rainfall throughout the country between August and December that led to persistent flooding and flash flooding. Many communities were isolated by the COVID-19 pandemic and severe weather.

With support from USAID's Bureau for Humanitarian Assistance (USAID/BHA) and the IFRC, TRCS distributed more than 415,287 COVID-19 relief kits (as of 15 December 2021)—including food and essential water, sanitation, and hygiene items—to people in 73 provinces in Thailand as shown in Figure 14.^{214, 215}

IFRC and TRCS facilitated their humanitarian relief efforts through a mobile application called Phonphai, developed with USAID/BHA support. In collaboration with 19 government disaster response agencies in Thailand, including the DDPM, the Ministry of Public Health, and the Department of Public Works, TRCS ordered and processed relief kits using Phonphai, and coordinated with frontline responders and community members to deliver them to vulnerable households. Healthcare volunteers in rural communities are also using Phonphai to support vulnerable people in quarantine at home to conduct primary health screenings. Volunteers are able to order relief kits through Phonphai that are then delivered directly to households in need.²¹⁶ More information about TRCS's work can be found at its website: <https://english.redcross.or.th/>

U.S. Government Agencies in Thailand

U.S. Embassy Bangkok

The U.S. and Thailand established relations in 1818 and signed a Treaty of Amity and Commerce in 1833, formalizing diplomatic relations. The Treaty of Amity and Commerce of 1833 began a partnership that has developed and strengthened over time. In 2012, the U.S. and Thailand signed a Joint Vision statement reaffirming their defense alliance. Today the U.S. and Thailand cooperate on a wide range of programs across a vast range of issues, including education and culture, public health, business and trade, democracy, as well as security and military cooperation.²¹⁷

U.S. Embassy Bangkok contact information:
95 Wireless Road
Bangkok, Thailand 10330
Tel: +66-2-205-4000

U.S. Consulate General Chiang Mai

The U.S. Consulate General in Chiang Mai provides services to American citizens, assists with non-immigrant visa adjudication, and promotes educational and cultural exchanges, environmental partnerships, and efforts to combat trafficking in persons. Outside of Bangkok, the U.S. Consulate General in Chiang Mai is the sole U.S. consular presence. Staff from the Department of State, the Drug Enforcement Administration, and the U.S. Air Force's Technical Application Center are stationed in Chiang Mai associated with the Consulate.²¹⁸

U.S. Agency for International Development, Regional Development Mission for Asia (USAID/RDMA)

Thailand graduated from USAID assistance in 1995, and in 2003 USAID opened a regional mission in Bangkok that serves the Asia-Pacific. Drawing upon Thai expertise, USAID works on cross-border issues of concern to Thailand and the region. The bulk of USAID activities in Thailand address transnational challenges

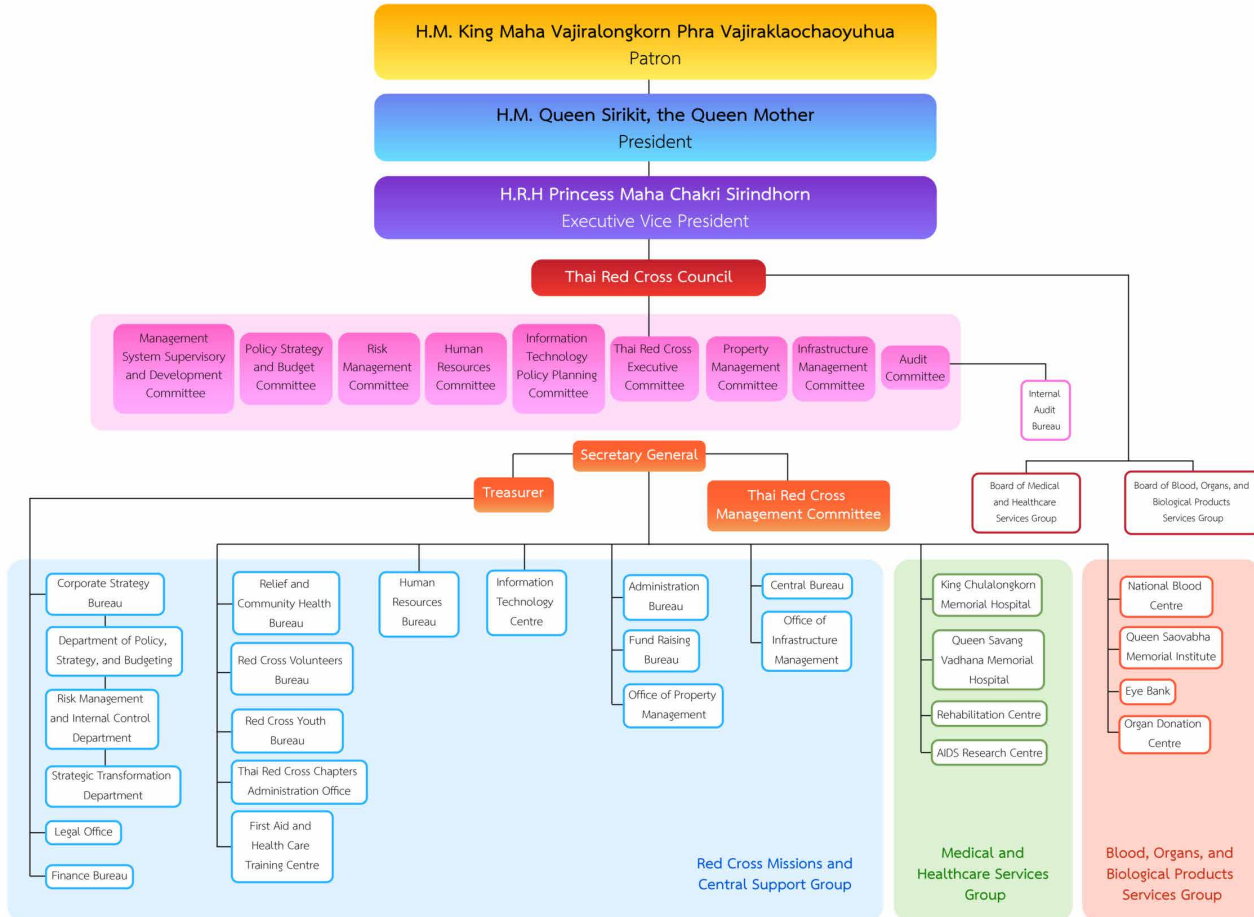


Figure 13: Thai Red Cross Society (TRCS) Organization Chart

Report Summary

In order to alleviate the hardships presented by the COVID-19 pandemic, the Thai Red Cross Society is providing assistance to people in quarantine at home who lack food and are adversely affected by restricted circumstances and who are not covered by other organizations.

By the Thai Red Cross Society via the Provincial Red Cross Chapters
During 27 March 2020 – 5 January 2022

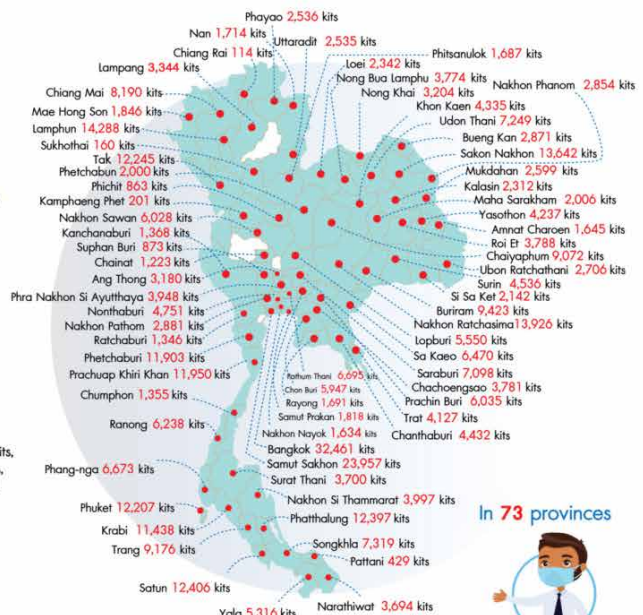
2
● **Distribution of Relief Kits** and drinking water to combat COVID-19
417,382 relief kits with total value of **275,472,120** Thai Baht,

including 42,209 kits distributed to migrant workers (Samut Sakhon 16,077 kits, Nakhon Pathom 909 kits, Bangkok 2,391 kits, Surat Thani 710 kits, Sa Kaeo 226 kits, Phang-nga 1,923 kits, Samut Prakan 271 kits, Chiang Rai 634 kits, Prachuap Khiri Khan 157 kits, Tak 7,108 kits, Nakhon Si Thammarat 75 kits, Kancharaburi 1,368 kits, Ranong 425 kits, Rayong 334 kits, Chon Buri 465 kits, Nong Khai 118 kits, Chiang Mai 1,371 kits, Nonthaburi 1,692 kits, Pattani 429 kits, Loei 203 kits, Chumphon 120 kits, Phuket 2,416 kits, Mae Hong Son 1,090 kits, Pathum Thani 652 kits, Songkhla 63 kits, Ratchaburi 180 kits, Chanthaburi 165 kits, Trat 674 kits and Chachoengsao 385 kits)

Update as of 5 January 2022

* Village health volunteers (Or Sor Mor) conducted the survey and screening with support from

+ C IFRC USAID on the development of Use "PhonPhai" App. Fast report, rapid help.



In 73 provinces

Figure 14: Summary of TRCS COVID-19 Relief Assistance

through regional programs, including support to ASEAN, the APEC forum, the Lower Mekong Initiative, and other regional forums. These efforts are leading to greater regional economic integration and cooperation on issues of mutual interest to the United States and Thailand.²¹⁹

USAID's contact information includes:

Mission Contact

Steve Olive, Mission Director
USAID Regional Development Mission for Asia,
Athenee Tower, 25th Floor,
63 Wireless Road, Lumpini, Patumwan
Bangkok, 10330
Thailand
Phone: +66 (2) 257-3000
Email info-rdma@usaid.gov

USAID Contact

Melissa Kennison, Desk Officer
USAID Regional Development Mission for Asia,
Asia Bureau, Office of East Asian Affairs
1300 Pennsylvania Avenue, NW
Washington, DC 20523
United States
Phone: + 1 (202) 712-4521
Email mkennison@usaid.gov

Joint US Military Advisory Group Thailand (JUSMAGTHAI)

The Joint United States Military Advisory Group Thailand (JUSMAGTHAI) was established on 22 September 1953. The Chief of JUSMAGTHAI also serves as the Senior Defense Official and Defense Attaché to Thailand. As a Security Cooperation Organization, JUSMAGTHAI supports a variety of missions to include a robust Joint Combined Bilateral Exercise Program (averaging over 60 exercises a year), foreign military sales, and humanitarian demining missions. JUSMAGTHAI is located on a RTArF military compound approximately 2 km (1.24 mi) from the U.S. Embassy, on Sathorn Tai Road.²²⁰

Armed Forces Research Institute of Medical Sciences (AFRIMS)

The mission of the U.S. Army Medical Directorate of the Armed Forces Research Institute of Medical Sciences (USAMD-AFRIMS) is to conduct state of the art medical research and disease surveillance to develop and evaluate medical products, vaccines, and diagnostics to protect U.S. Department of Defense (DoD) personnel from infectious disease threats—many of which also endanger the men, women, and children of Southeast Asia. First formed following the 1958 cholera epidemic as the Southeast Asia Treaty Organization (SEATO) Cholera Research Project, AFRIMS' scope was broadened in 1960 with a mandate to contribute to the eradication of other infectious diseases. USAMD-AFRIMS resides at the RTA Medical Center in Bangkok and is a directorate of the Walter Reed Army Institute of Research (WRAIR) under the U.S. Army Medical Research and Materiel Command (USAMRMC).²²¹

Centers for Disease Control (CDC)

CDC has worked closely with the Thailand Ministry of Public Health for more than 35 years, strengthening local capacity to detect, prevent, and control diseases. HIV/AIDS, emerging infectious diseases, influenza, tuberculosis, malaria, non-communicable diseases, and refugee and migrant health are the main focus of its work in Thailand and the Southeast Asia region. CDC programs also improve public health workforce skills in areas like laboratory, epidemiology, and management science. USAID is an important partner in HIV/AIDS, malaria, tuberculosis, and emerging infectious disease control.²²²

Laws, Policies, and Plans on Disaster Management

Thailand's disaster management framework includes the following laws, policies, and plans:

- Disaster Prevention and Mitigation Act of 2007 (DPM Act 2007);

- National Disaster Risk Management Plan 2015-2020 (National DRM Plan);
- Provincial and District DRM Plans;
- DRM Annual Action Plans.

Table 4 summarizes the scope and purpose of the key legal and policy instruments that make up Thailand’s disaster management framework.²²³

Disaster Prevention and Mitigation Act 2007

The Disaster Prevention and Mitigation Act of 2007 (DPM Act 2007), effective 7 September 2007, set outs the main statutory framework for DRM and disaster response in Thailand. The law covers three major categories of disasters: 1) man-made and natural disasters, 2) disasters resulting from air raids during wartime, and 3) disasters resulting from sabotage or a terrorist attack.²²⁴ The law establishes the National Disaster Prevention and Mitigation Committee (NDPMC) as the top policy body for DRM. The law also establishes the Department of Disaster Prevention and Mitigation (DDPM) under MOI as the secretariat for the NDPMC.²²⁵ The DPM Act 2007 is supported by the following six

regulations:

1. Ministerial Regulation Prescribing Criteria and Method for Permissible Compensation Payable to Person(s) Injured While Performing Disaster-Related Duties Assigned B.E. 2554 (2011);
2. Regulation of MOI on Criteria for Appointment of Disaster Prevention and Mitigation Officials and Their Performance of Assigned Duties B.E. 2553 (2010);
3. Regulation of MOI on Civil Volunteer Affairs B.E. 2553 (2010);
4. Regulation of MOI on Disaster Prevention and Mitigation Official Uniforms, Insignia, and Identification Card B.E. 2554 (2011);
5. Regulation of MOI on Criteria for Issuance of Reference and Verification Letter to Disaster Affected People or Owner or Possessor of Property for Establishing Entitlement to Disaster Relief Assistance or Other Services B.E. 2552 (2009);
6. Notification of Department of Disaster Prevention and Mitigation on Disaster Affected People Verification Form.²²⁶

Implementation	Plan/Policy	Scope	Purpose
Department of Disaster Prevention and Mitigation	Disaster Prevention Mitigation Act (2007)	National, Provincial, District, Sub-District, Local Community	Aims to streamline disaster management systems of Thailand by clarifying roles and coordination among stakeholders. Includes provisions for DRR.
Department of Disaster Prevention and Mitigation and Other Agencies	National Disaster Prevention and Mitigation Plan (2015-2020)	National, Provincial, Local	Outlines strategic focus areas for DRM interventions, aligned with the Sendai Framework for Disaster Risk Reduction. Intended to cater for all levels of the government, alongside relevant stakeholders.
Sub-District Administration Unit	DRM Action Plan (updated annually)	Local	Guides the implementation of risk management activities at the local level. Intended for the respective sub-district authorities.
Provincial Authorities	Provincial and District Disaster Prevention and Mitigation Plans	Provincial	Guides the implementation of DRM activities at the provincial level, implemented by province governance and supporting stakeholders.

Table 4: Key Laws, Policies, and Plans, and Implementing Authorities

National Disaster Risk Management Plan 2015-2020

The National Disaster Risk Management Plan 2015-2020 (National DRM Plan) is a blueprint for DRM, DRR, emergency management, disaster recovery, and international cooperation. It also outlines a process for implementation, including promoting a common understanding of key principles and concepts, applying an integrated and coordinated approach, allocating resources for implementation, and monitoring and evaluation.²²⁷

The National DRM Plan outlines four key policy areas:

1. Improving and promoting disaster risk reduction by means of boosting the efficiency of disaster prevention, preparedness, and reducing disaster impacts through creating safe communities and promoting community and local involvement in improving disaster management practices in order to build resilience and foster adaptation to the effects of disaster events towards sustainable development;
2. Synergizing multi-sectorial partnerships' efforts to develop and enhance the capacities necessary for more effective, efficient, and coherent emergency management as well as for equitable, timely, and impartial distribution of relief supplies to disaster victims and mitigating disaster impacts;
3. Developing disaster recovery system that ably handles the demand for recovery assistance of disaster victims in a timely and impartial manner and the needs for rapid rehabilitation and reconstruction of disaster devastated areas to previous state or building back better and safer;
4. Developing and promoting the standards on international cooperation for disaster risk reduction between and among partnerships and networks at both national and international levels to be more efficient and effective.²²⁸

The National Plan sets out four key strategies for DRM:

- Strategy 1: Focusing on disaster risk reduction;
- Strategy 2: Applying integrated emergency management system;
- Strategy 3: Strengthening and enhancing the efficiency of sustainable disaster recovery;
- Strategy 4: Promoting and strengthening international cooperation on disaster.²²⁹

Figure 15 depicts Thailand's DRM strategy under the National DRM Plan.²³⁰ The five-year plan is regularly revised, and a 2021-2026 plan has been prepared and is pending approval by the RTG Cabinet.²³¹

Provincial and District Disaster Prevention and Mitigation Plans

To support the realization of the National DRM Plan, PDMCs and the BMADMC have developed Provincial DRM Plans, implemented through a budget allocation for DRM from the national budget.²³² Likewise, the district DMCs are responsible for the development of the district DRM plan, to support the respective provincial DRM plan.

DRM Action Plans

To support implementation of the provincial DRM plan, the provincial DMC is responsible for preparing district multi-hazard specific DRM action plans pursuant to the provincial DRM plan. For example, the BMA is required to develop an action plan based on its vulnerability and exposure to specific hazards in line with the BMA DRM plan.²³³

Other Disaster-Relevant Legal Instruments

A number of different legal instruments are relevant to different types of hazards in Thailand. Table 5 is a summary of the key laws, regulations, and directives, supporting specific hazard DRM in the country.²³⁴

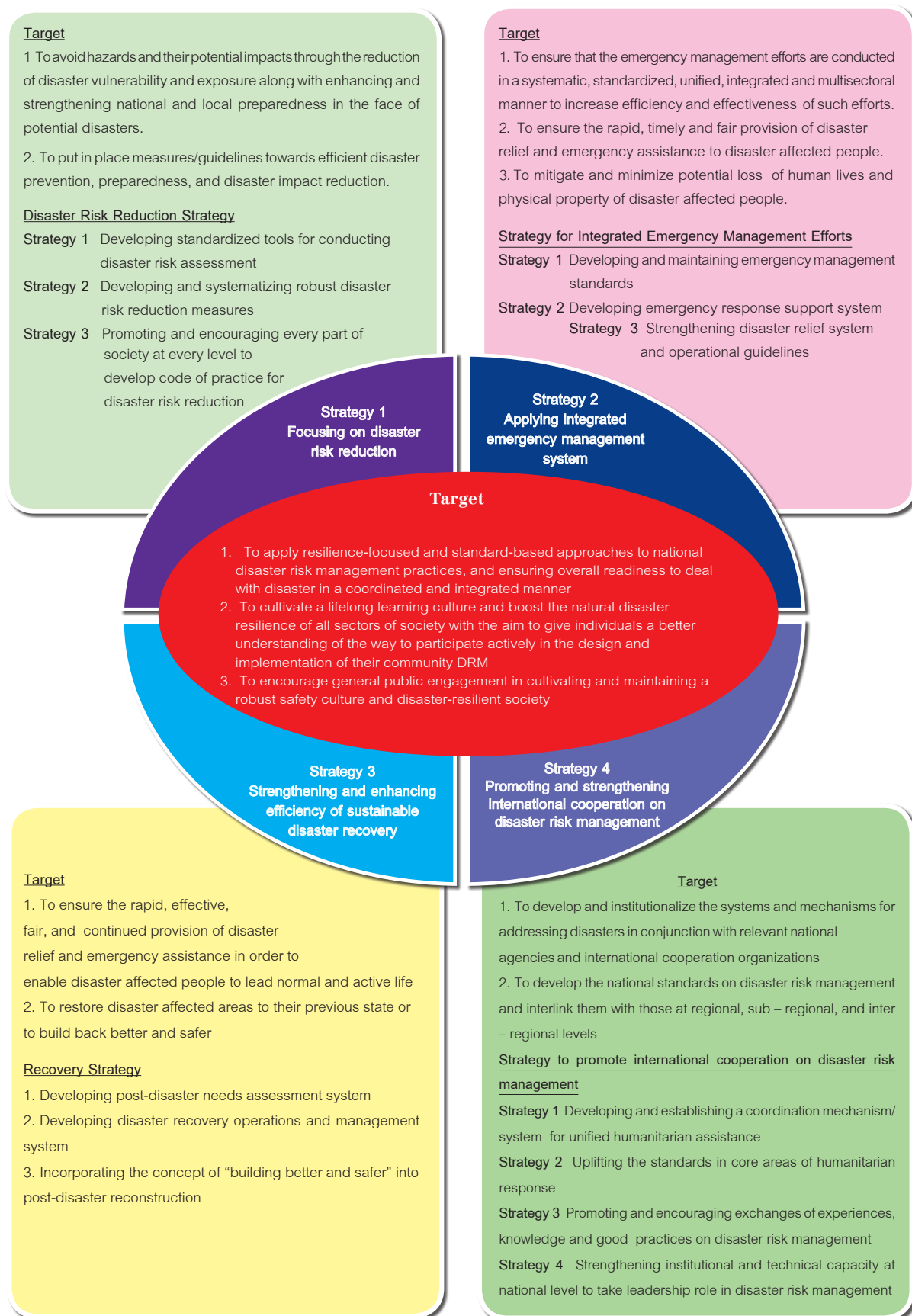


Figure 15: Disaster Risk Management Strategy

Type of Disaster	Main Disaster Risk Management Legislation	Law/Regulation/Notification/Directives Supporting Disaster Risk Management Efforts	Other Law/Regulation/Notification/Directives Applicable to All Types of Disaster
Earthquake/ Building Collapse	Disaster Prevention and Mitigation Act B.E. 2550 (2007) and its six subordinate regulations.	<p>1.1) Building Control Act B.E. 2522 (1979)</p> <p>1.2) Ministerial Regulation on Stipulation of Criteria for Granting Permission for Retrofitting Existing Buildings to Improve Seismic Resistance Capacity B.E. 2555 (2012)</p> <p>1.3) Ministerial Regulation on Stipulation of Criteria for Earthquake Resistance Design of Structures B.E. 2550 (2007)</p>	<p>Other laws/ regulations/ notification specified in</p> <p>-item 3.6.2 (1.3) – (1.8), (1.10), (1.11)</p> <p>-item 3.6.2 (2.1) – (2.3)</p>
Floods	Disaster Prevention and Mitigation Act B.E. 2550 (2007) and its six subordinate regulations.	<p>2.1) State Irrigation Act B.E. 2485 (1942)</p> <p>2.2) The Navigation in Thai Waters Act B.E. 2456 (1913)</p> <p>2.3) Royal Decree on Provision of Financial Assistance to People Affected By Floods B.E. 2555 (2012)</p>	<p>-item 3.6.2 (3) – (4)</p> <p>-item 3.6.2 (6) (6.1)-(6.11), (6.18) should be applied to manage disaster as the case may be</p>
Fire	Disaster Prevention and Mitigation Act B.E. 2550 (2007) and its six subordinate regulations.	<p>3.1) Building Control Act B.E. 2522 (1979)</p> <p>3.2) Occupational Safety, Health an Environment in Work Place Act B.E. 2554 (2011)</p> <p>3.3) Ministerial Regulation on Stipulation of Category of Buildings and Security System Therein to Be Used for Operating Evening Entertainment Business B.E. 2555 (2012)</p> <p>3.4) Ministerial Regulation on Permitting the Use of Building for Operating Theatrical Business, Category of Theatrical Premise and Security System Installed Therein and the Permit Fee B.E. 2550 (2007)</p> <p>3.5) Ministerial Regulation on Stipulation of Type and Category of Buildings that Owner or Possessor or Business Operator Necessary to Arrange Liability as Required by Law to Life, Body, and Property of Third Parties B.E. 2548 (2005)</p> <p>3.6) Notification of Department of Energy Business on Criteria and Method For Provision of Damage Insurance to Person Injured or Died As a Result of Operations of Regulated Business Category 3 B.E. 2549 (2006)</p> <p>Etc.</p>	<p>Other laws/ regulations/ notification specified in</p> <p>-item 3.6.2 (1.3) – (1.8), (1.10), (1.11)</p> <p>-item 3.6.2 (2.1) – (2.3)</p> <p>-item 3.6.2 (3) – (4)</p> <p>-item 3.6.2 (6) (6.1)-(6.11), (6.18) should be applied to manage disaster as the case may be</p>

Table 5: Summary of Key Laws, Regulations, and Directives Relevant to Specific Hazard DRM

Type of Disaster	Main Disaster Risk Management Legislation	Law/Regulation/Notification/Directives Supporting Disaster Risk Management Efforts	Other Law/Regulation/Notification/Directives Applicable to All Types of Disaster
Chemical Hazards/ Hazards Associated with Hazardous Substances	Disaster Prevention and Mitigation Act B.E. 2550 (2007) and its six subordinate regulations.	4.1) Hazardous Substance Act B.E. 2535 (1992) 4.2) Atomic Energy for Peace Act B.E. 2504 (1961) 4.3) Firearms, Ammunition, Explosives, Fireworks, and the Equivalent of Firearms Act B.E. 2490 (1947) Etc.	Guides the implementation of DRM activities at the provincial level, implemented by province governance and supporting stakeholders.
Maritime Disasters - Maritime Accident - Marine Pollution Caused by Oils - Sea Rescue	Disaster Prevention and Mitigation Act B.E. 2550 (2007) and its six subordinate regulations.	5.1) The Navigation in Thai Waters Act B.E. 2456 (1913) 5.2) Authorizing Naval Officials to Suppress Specified Maritime Offences Act B.E. 2490 (1947) and Addendum 5.3) The Offences Relating to Marine and Offshore Petroleum Production Facilities Act B.E. 2530 (1997) 5.4) Increasing the Authority of Police to Prevent and Suppress Maritime Offences Act B.E. 2496 (1953) 5.5) The Enhancement and Conservation of the National Environmental Quality Act B.E. 2535 (1992) 5.6) Public Administration Act B.E. 2534 (1991) and Addendum 5.7) Regulation of the Prime Minister office on Prevention and Elimination of Maritime Oil Pollution B.E. 2547 (2004) 5.8) Notification of Marine Department No. 477/2543 (2000) Regarding Criteria For the Safe Transportation of Petroleum and Chemical Products 5.9) Notification of Marine Department No. 412/2543 (2000) Regarding Guidelines for Formulation of Action Plan on the Elimination of Pollution at a Port for Transporting Dangerous Goods	
Human Communicable Disease Hazard	Disaster Prevention and Mitigation Act B.E. 2550 (2007) and its six subordinate regulations.	6.1) Communicable Disease Act B.E. 2523 (1980) 6.2) Public Health Act B.E. 2535 (1992) Etc.	

Table 5: Summary of Key Laws, Regulations, and Directives Relevant to Specific Hazard DRM (cont.)

Type of Disaster	Main Disaster Risk Management Legislation	Law/Regulation/Notification/Directives Supporting Disaster Risk Management Efforts	Other Law/Regulation/Notification/Directives Applicable to All Types of Disaster
Animal Epidemic Hazard	Disaster Prevention and Mitigation Act B.E. 2550 (2007) and its six subordinate regulations.	7.1) Animal Epidemic Act B.E. 2499 (1956) 7.2) Pathogen and Animal Toxin Act B.E. 2525 (1982) 7.3) Rabies Act B.E. 2535 (1992) Etc.	

Table 5: Summary of Key Laws, Regulations, and Directives Relevant to Specific Hazard DRM (cont.)

Disaster Management Communications

Early Warning Systems

There are numerous initiatives and technology-based mechanisms in place in Thailand to improve the coverage and delivery of early warning for a range of hazards. The National Disaster Warning Center (NDWC) plays a key role in monitoring all hazard risks. The Thai Meteorological Department (TMD) plays an important role in monitoring hydro-meteorological hazards from day-to-day weather forecasts to longer-term seasonal forecasts and storm tracking. The Earthquake Observation Division of the TMD monitors seismic activities with its network of automatic earthquake monitoring stations around the country. The Department of Water Resources' Early Warning System (EWS) monitors rainfall volumes and water levels in real-time to be utilized in flashflood and landslide alerts.²³⁵

National Disaster Warning Center (NDWC)

The NDWC was formed in 2007 in the aftermath of the 2004 Tsunami, which killed or resulted in the disappearance of more than 8,000 people in Thailand. The NDWC was designed to process information on seismic activity in the region and issue warnings, particularly for tsunamis that may hit the country's Andaman Sea coastline. The NDWC put in place 79 warning towers in coastal provinces and launched a U.S.-funded deep-sea buoy in the

Indian Ocean to detect tidal waves as shown in Figure 16.²³⁶

At the time of its establishment, the NDWC was under the oversight of the Prime Minister's Office and the Meteorological Department of the Ministry of Information and Communication Technology.²³⁷ Since 2016, the NDWC has been under the authority of the DDPM of the MOI.²³⁸ The NDWC is responsible for analyzing disaster information from both domestic and international sources, evaluating the potential impact of the disaster, and issuing warning to the public. It is also required by law to provide recommendations on loss reduction, risk avoidance and evacuation, and disaster relief to government officials and related agencies so that they have information to help potentially-affected populations.²³⁹ Figure 17 depicts the NDWC's concept of operation and Figure 18 is a depiction of the NDWC's role in Thailand's disaster EWS.²⁴⁰



Figure 16: Thailand Tsunami Buoy

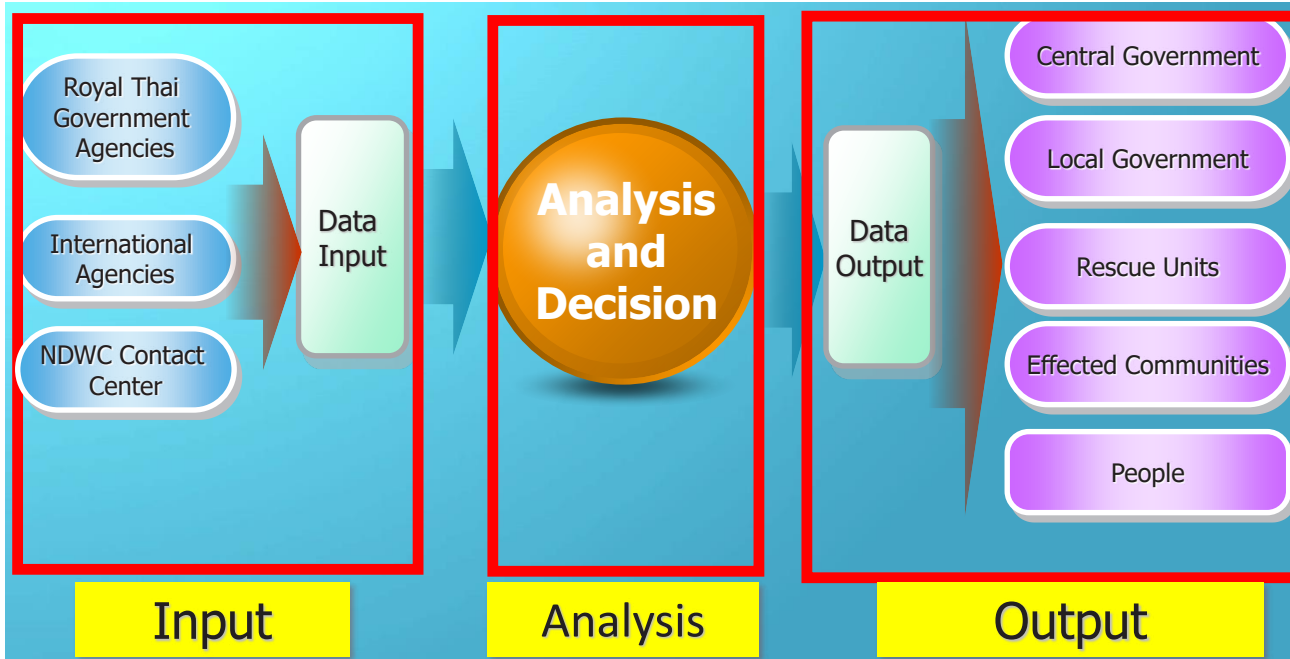


Figure 17: NDWC Concept of Operation

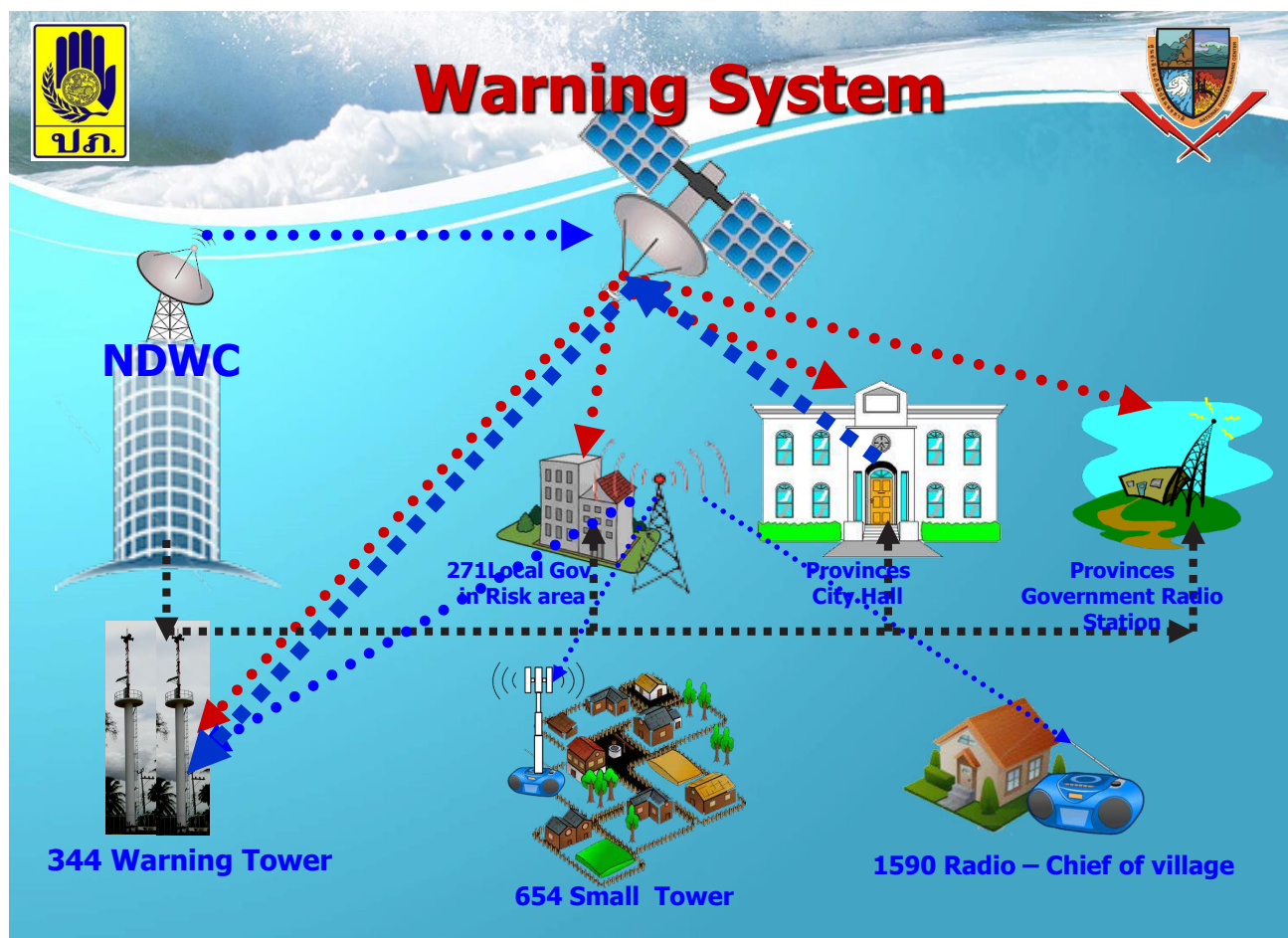


Figure 18: NDWC’s Role in Thailand Disaster EWS

Before the 2004 Tsunami, Thailand did not have early warning systems in place for tsunami hazards, although the RTG started shifting its emphasis on relief and rehabilitation in 2002 to a more proactive approach of mitigation and disaster preparedness.²⁴¹ Few countries in the affected region had EWS and support tools at that time. Following the tsunami, Thai officials created the NDWC to strengthen the national tsunami and earthquake warning system. The NDWC, in partnership with the U.S. Trade and Development Agency (USTDA) and USAID, contracted the Pacific Disaster Center (PDC) to help automate the dissemination of disaster information in support of early warning. This resulted in the development of a multi-hazard early warning and decision support tool known as “ThaiAWARE”, which is based on the DisasterAWARE platform.²⁴²

Thai Meteorological Department (TMD)

The responsible agency for flood and storm warnings in Thailand is the TMD. TMD was created and has been authorized to perform the following five duties:

- To supply weather forecasts for the entire country and publicize disaster warnings to fulfill the requirement from administration and management in natural disaster mitigation;
- To build the people’s awareness toward natural disasters; enable them to perform correct surviving practices; and reduce effects from natural disasters by using modern technologies together with IT services;
- To become the meteorological IT data and service center at the national level for users in any ventures;
- To improve and develop the TMD’s research works;
- To strengthen the TMD’s roles in international cooperation concerning meteorology and environment with the purpose of profound comprehension on the changing world situation.²⁴³

Hazard warnings can be found on the TMD website: https://www.tmd.go.th/list_warning.php

Earthquake Observation Division of the TMD

The Earthquake Observation Division of the TMD monitors seismic activities with a network of automatic earthquake monitoring stations, ground acceleration stations, stations for measuring the earth’s crusts, and sea level measurement stations.²⁴⁴ More information can be found on the Earthquake Observation Division’s webpage: <https://earthquake.tmd.go.th/>

Community-level EWS

At the community level, EWS have been developed for the purposes of delivering alerts to the ‘last mile’ with a focus on flash flooding and landslides. In hilly areas and riverbank checkpoints, rain gauges have been installed to provide the community with information as soon as signs of potential landslides are detected. Volunteer networks and designated individuals with the responsibility to disseminate alerts in communities have been established since 2012 across the country with the support of the Department of Water Resources (DWR), DDPM, TMD, and local administrative units.

Some regions have also received support from international assistance partners to improve local EWS. For example, in southern Thailand, the United Nations Development Programme (UNDP) and the ADPC have worked with the DDPM to implement a community-based multi-hazard warning system. Sea-level gauge stations located at Ko Taphao, Ko Miang, and Similian Islands (alongside numerous other multi-purpose gauges) are improving the capacity to monitor sea levels and storm surges, to improve the accuracy of tsunami detection, and climate change monitoring.²⁴⁵

Dissemination of Warning Messages

Under Thailand’s National DRM Plan, there are five levels of disaster warning. Figure 19 depicts the color codes and description of the level of warning and action required by the general public.²⁴⁶






- Red  denotes a situation where the likelihood of hazardous event is most imminent. It is recommended to remain or stay in completely safe place and follow the advice or instruction of the authorities.
- Orange  denotes a situation where the likelihood of hazardous is imminent. The government officials are attempting to bring emergency situation under control. Take immediate action to evacuate to designated safety place and follow the guidelines set forth.
- Yellow  denotes a situation where there has been an increased likelihood of hazardous event. It is advised to be prepared to cope with potential disaster and to conform to the current advice.
- Blue  denotes a situation where an activation of disaster surveillance system is needed. Take all required steps to closely keep track of disaster information on a 24 hour basis.
- Green  denotes non – emergency situation. It is advised to keep track of relevant information on a regular basis.

Figure 19: Disaster Warning Levels for the General Public

Information Sharing

Understanding how to overcome the information challenges that civilian and military agencies experience during a typical disaster response mission is important. Knowing what the available humanitarian assistance and disaster response (HADR) resources are will assist Joint Task Force leaders and staff during mission planning.²⁴⁷ Sharing information is critical since no single responding entity, NGO, International Governmental Organization (IGO), assisting country government, or the host government can be the source of all the required information.²⁴⁸

Collaboration, information sharing (IS), and networking have been the backbone of successful disaster response and preparation. Disseminating information not only to those in-country and threatened by disaster, but also to those responding to assist in the emergency has been crucial to timely, efficient, and effective disaster response. Recent technology has advanced to aid predicting and alerting of disasters around the world, which has resulted in early warning and evacuation measures as well as opportunities to react and prepare for

incoming threats to countries. The following are some of the ways in which information regarding DRM and response are shared. Managing information is central to the overall mechanisms within disaster preparedness and response. There are many resources, stakeholders, and components to consider with IS before, during, and after a natural disaster. This section will discuss country-specific, humanitarian, regional, government, and DoD information sources.

Thailand Information Sources:

Thai Red Cross Society (TRCS)

The TRCS is designated as a primary responder under Thailand’s disaster management system, and the role and functions of the TRCS are included in the National DRM Plan. Additionally, the national mandate requires that the TRCS maintain frequent contact with the Thai military through their active involvement in exercises, conferences, and other events intended to enhance relationships and to promote understanding and discussions.²⁴⁹ Website: <https://english.redcross.or.th/>

Humanitarian Information Sources

United Nations Office for the Coordination of Humanitarian Affairs (OCHA) Regional Office for Asia and the Pacific (ROAP)

UN OCHA's ROAP seeks to optimize the speed, volume, and quality of humanitarian assistance and coordinates emergency preparedness and response in the world's most disaster-prone region in support of national governments. ROAP covers 41 countries, partnering with them for coordinated and effective international responses to emergency situations.

Website: <https://www.unocha.org/roap>

For OCHA situation reports, click on "Subscribe" button on bottom of page.

ReliefWeb

ReliefWeb is a service of OCHA that consolidates information and analysis from organizations, countries, and disasters for the humanitarian community.

Website: <https://reliefweb.int/>

PreventionWeb

PreventionWeb is provided by the UN Office for Disaster Risk Reduction (UNDRR formerly UNISDR) to consolidate disaster risk reduction information into an online, easy to understand platform.

Website: <https://www.preventionweb.net/english/>

International Federation of Red Cross and Red Crescent Societies (IFRC)

IFRC is the world's largest humanitarian organization, comprised of its 192-member National Societies, a secretariat in Geneva, Switzerland, and over 60 delegations around the world. The IFRC carries out relief operations to assist victims of disasters and combines this with development work to strengthen the capacities of its member National Societies. IFRC's work focuses on four core areas: promoting humanitarian values, disaster response, disaster preparedness, and health and community care.²⁵⁰

Website: <https://media.ifrc.org/ifrc>

International Committee of the Red Cross (ICRC)

ICRC is an impartial, neutral, and independent organization whose exclusively humanitarian mission is to protect the lives and dignity of victims of armed conflict and other situations of violence and to provide them with assistance. It also works to prevent suffering by promoting and strengthening humanitarian law and universal humanitarian principles. ICRC, together with IFRC and the 192 Red Cross Red Crescent Societies, make up the Red Cross Red Crescent Movement.²⁵¹

Website: <https://www.icrc.org/en>

Humanitarian Response

Humanitarian Response is a platform providing the humanitarian community a means to aid in coordination of operational information and related activities.

Website: <https://www.humanitarianresponse.info>

Global Disaster Alert and Coordination System (GDACS)

GDACS is a cooperation framework between the United Nations, the European Commission, and disaster managers worldwide to improve alerts, information exchange, and coordination in the first phase after major sudden-onset disasters.

Website: <https://www.gdacs.org/alerts/>

Virtual OSOCC

The Virtual On-Site Operations Coordination Centre (OSOCC) is a real-time online coordination tool for disaster response professionals from urban search and rescue (USAR) teams, national authorities, as well as regional and international organizations at a global level.

Website: <https://vosocc.unocha.org/>

The latest alerts can be found here: <http://www.gdacs.org/Alerts/default.aspx>

To subscribe: <http://www.gdacs.org/About/contactus.aspx>

Consider other information resources, such as:

Think Hazard!

ThinkHazard! is an online tool that provides a general overview of the hazards for a given location that should be considered in project design and implementation to promote disaster and climate resilience. The tool highlights the likelihood of different natural hazards affecting project areas (very low, low, medium, and high), provides guidance on how to reduce the impact of these hazards, and where to find more information. The hazard levels provided are based on published hazard data, provided by a range of private, academic, and public organizations. Information is provided on Thailand regarding hazards, country assessments, projects, early warning systems, and other resources.

Website: <http://thinkhazard.org>

Humanitarian Country Teams (HCT)

HCT is a strategic and operational decision-making and oversight forum established and led by the Humanitarian Coordinator in each country. It is generally comprised of representatives from UN agencies including the International Organisation for Migration (IOM), international NGOs, and the IFRC as well as the respective National Society in the country. During a disaster response, HCTs often produce a Situation Report (SitRep), usually in conjunction with OCHA.

Most HCT SitReps can be found through ReliefWeb: <https://reliefweb.int/>

Humanitarian Data Exchange (HDX)

HDX is an open platform for sharing data across crises and organizations launched in 2014 with the goal of centralizing humanitarian data for easy access and analysis. HDX is managed by OCHA's Center for Humanitarian Data in The Hague.

Website: <https://data.humdata.org/>

Regional Information Sources

Association of Southeast Asian Nation (ASEAN) Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre)

The AHA Centre is an intergovernmental organization which aims to facilitate cooperation and coordination among ASEAN Member States and with the UN and international organizations for disaster management and emergency response in the ASEAN region.

The ASEAN Disaster Information Network (ADINET) is a repository of information concerning hazards and disasters that have occurred in the region. The platform is open to the public and allows for members of the public to submit information about any hazard and disaster to the AHA Centre. The AHA Centre will verify and validate submitted information as well as adding new information from its sources. ADINET has been recording disaster information in the region since the AHA Centre became operational in 2012.

Website: <https://ahacentre.org/disaster-information-management/>

Changi Regional HADR Coordination Centre (RHCC)

Changi RHCC was launched in September 2014 to support the military of a disaster-affected state in coordinating assistance with assisting foreign militaries. It aims to provide open, inclusive, and flexible platforms that allow both regional and extra-regional militaries to work together effectively in a multinational disaster response. Changi RHCC manages the OPERA CIS web portal to broadcast the updated situation status of multinational military responses to disasters to minimize duplication and gaps in the provision of foreign military assistance.

Website: <https://www.changirhcc.org/>

To subscribe to RHCC Weekly and Spot Reports, email: Changi_RHCC@defence.gov.sg

U.S. Government (USG) Sources

U.S. Agency for International Development (USAID)

USAID is committed to responding to crises around the world to help people and places most in need. They aim to:

- Promote Global Health
- Support Global Stability
- Provide Humanitarian Assistance
- Catalyze Innovation and Partnership
- Empower Women and Girls

USAID produces a monthly newsletter called USAID Newsletter which is available digitally at <https://www.usaid.gov/news-information/newsletter>.

More information and updates from USAID are available via their blog, IMPACT, at <https://blog.usaid.gov/> and on Facebook, Instagram, Twitter, and YouTube. Website: <https://www.usaid.gov/>

USAID's Bureau for Humanitarian Assistance (BHA) is responsible for leading and coordinating the U.S. Government's response to disasters overseas. BHA responds to an average of 75 disasters in 70 countries every year. BHA fulfills its mandate of saving lives, alleviating human suffering, and the reduction of the social and economic impact of disasters worldwide in partnership with USAID functional and regional bureaus and other U.S. government agencies. BHA works with the international population to assist countries to prepare for, respond to, and recover from humanitarian crises.²⁵²

USAID/BHA products include situation reports and maps, which are available via email mailing lists as well as Reliefweb.org. Information products (HA Updates/Fact Sheets, etc.) are also available on USAID.gov (<https://www.usaid.gov/humanitarian-assistance>)

For BHA updates on a disaster response, ask the BHA representative for the respective DoD Geographic Combatant Command to add you to the email list, if you have a U.S. government email address:

- BHA.INDOPACOM@usaid.gov
- BHA.SOUTHCOM@usaid.gov
- BHA.NORTHCOM@usaid.gov
- BHA.AFRICOM@usaid.gov
- BHA.SOCOM@usaid.gov
- BHA.CENTCOM@usaid.gov
- BHA.EUCOM@usaid.gov

Pacific Disaster Center (PDC) Global

Pacific Disaster Center (PDC) Global has trademarked an early warning and decision support system called DisasterAWARE®. DisasterAWARE is primarily for disaster management practitioners and senior decision makers. It supports disaster risk reduction and best practices throughout all phases of disaster management from early warning to multi-hazard monitoring. It has a collection of scientifically verified, geospatial, data and modeling tools to assess hazard risks and impacts. A restricted version of DisasterAWARE is the EMOPS (Emergency Operations) system, which is specifically for the disaster management community, including government agencies and humanitarian assistance organizations serving at local, state, federal, and regional levels.²⁵³

PDC also provides a public version, Disaster Alert, which offers open access to a world map documenting 18 hazard types.²⁵⁴ Disaster Alert also has a free, early-warning app to receive customizable maps-based visual alerts of active hazards. The app offers a global notification system covering natural and man-made hazards. It is available on both iPhone and Android.²⁵⁵ Website: <https://www.pdc.org/> and <https://www.pdc.org/apps/disasteraware/> Emergency Operations (EMOPS) system (request account): <https://emops.pdc.org/emops/>

All Partners Access Network (APAN)

APAN is the Unclassified Information Sharing Service for the DoD. APAN provides the DoD and mission partners community space and collaboration tools to leverage information to effectively plan, train, and respond to meet their business requirements and mission objectives. Importantly, APAN's technology team has been

supporting HADR operations for over 15 years.²⁵⁶ APAN has played an integral role in the success of disaster responses, such as the 2015 California Wildfire Response and the 2013 Typhoon Haiyan Response in which they provided organizations and militaries a centralized location to share information, increase situational awareness, and decrease response time and duplicated efforts for best practices in HADR services.²⁵⁷
 Website: <https://www.apan.org/>

Note: The Multinational Communications Interoperability Program (MCIP) has an APAN site used in planning exercises and real world HADR information sharing.

Joint Typhoon Warning Center

JTWC provides advanced warning for U.S. Government agencies and organizations in relevant areas.
 Website: <https://www.metoc.navy.mil/jtwc/jtwc.html>

Daniel K. Inouye Asia-Pacific Center for Security Studies (DKI-APCSS)

DKI-APCSS is a U.S. DoD institute that addresses regional and global security issues, inviting military and civilian representatives of the U.S. and Asia-Pacific nations to its program of executive education and workshops.
 Website: <https://apcss.org/>

The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM)

The CFE-DM is a U.S. DoD organization that was established by U.S. Congress in 1994 and is a direct reporting unit to U.S. Indo-Pacific Command. CFE-DM provides training and education to help U.S. and foreign military personnel navigate complex issues in disaster management and humanitarian assistance. They produce country focused disaster management reference handbooks, after action reports, best practices, and lessons learned for advancement in response coordination. CFE-DM also works to improve cross-coordination

and reduce duplication of efforts and promote U.S. involvement in civ-mil consultations and dialogues with relevant HADR parties such as the AHA Center, OCHA, and the Changi RHCC. CFE-DM provides resources and updates at its website, as well as via their Facebook and Twitter accounts.
 Website: <https://www.cfe-dmha.org/>
 Facebook: <https://facebook.com/cfedmha>
 Twitter: <https://twitter.com/cfedmha>

Disaster Management Reference Handbooks are available for download at: <https://www.cfe-dmha.org/DMHA-Resources/Disaster-Management-Reference-Handbooks>

CFE-DM Disaster Information Reports are available for download at: <https://www.cfe-dmha.org/Publications/Reports>

Civil-Military Coordination in Foreign Disaster Relief Missions: Best Practices for Information Sharing is available here: <https://www.cfe-dmha.org/Publications>

COVID-19 Information Sharing Sources

Johns Hopkins Coronavirus Resource Center

The John Hopkins University (JHU) provides two key resources on COVID-19 information:

- JHU Coronavirus Resource Center provides a Daily COVID-19 Data in Motion report, which shares critical data on COVID-19 from the last 24 hours. Website: <https://coronavirus.jhu.edu/>
- Data repository operated by the JHU Center for Systems Science and Engineering (JHU CSSE) and supported by ESRI Living Atlas Team and the Johns Hopkins University Applied Physics Lab (JHU APL). Website: <https://github.com/CSSEGISandData/COVID-19>

INFORM's COVID-19 Risk Index

The INFORM COVID-19 Risk Index is a composite index that identifies “countries at risk from health and humanitarian impacts

of COVID-19 that could overwhelm current national response capacity, and therefore lead to a need for additional international assistance.”²⁵⁸ Figure 20 shows the INFORM COVID-19 Risk Formula.²⁵⁹

The INFORM COVID-19 Risk Index is primarily concerned with structural risk factors, i.e., those that existed before the outbreak. It can be used to support prioritization of preparedness and early response actions for the primary impacts of the pandemic and identify countries where secondary impacts are likely to have the

most critical humanitarian consequences.²⁶⁰

The main scope of the INFORM COVID-19 Risk Index is global and regional risk-informed resource allocation, i.e., where comparable understanding of countries’ risk is important. It cannot predict the impacts of the pandemic in individual countries. It does not consider the mechanisms behind secondary impacts - for example how a COVID-19 outbreak could increase conflict risk.²⁶¹

Website: <https://data.humdata.org/dataset/inform-covid-19-risk-index-version-0-1-4>

Risk	INFORM COVID-19 RISK					
Dimension	RISK FORMULA					
	Hazard & Exposure		Vulnerability		Lack of Coping Capacity	
Category	P2P		GEOMETRIC AVERAGE		GEOMETRIC AVERAGE	
	ARITHMETIC AVERAGE		INFORM Vulnerability	Covid-19 Vulnerability	INFORM Lack of Coping Capacity	Covid-19 Lack of Coping Capacity
	WaSH	Population				

Figure 20: INFORM COVID-19 Risk Formula

INFRASTRUCTURE

The 2019 World Economic Forum's (WEF) Global Competitiveness Report ranked Thailand 40th out of 141 countries globally for economic competitiveness. Thailand's overall competitiveness is based on a ranking at 71 out of 141 countries for quality of infrastructure.²⁶² Thailand's transport infrastructure received a score of 53 out of 100 (with 0 being the worst, and 100 being the best). Thailand is assessed to have relatively good road connectivity, quality of road infrastructure and efficiency of air transport services. Table 6 is a summary of Thailand's scores and ranking among 141 countries globally for quality of transport infrastructure.²⁶³

Thailand's utility infrastructure received a score of 78.9 out of a 100 due to broad electricity access (100% of the population) and quality of electricity supply (98.1% of output), but relatively poor quality of drinking water with 52.7% of the population exposed to unsafe drinking water. Table 7 is a summary of Thailand's scores and ranking among 141 countries globally for quality of utility infrastructure.²⁶⁴

Thailand is investing around 1.9 trillion baht (approximately US\$56 billion) under the Transport Infrastructure Development Plan 2015-2022 and Urgent Transport Action Plan 2015. Key infrastructure projects include: 1) intercity rail network development, 2) public transportation network development to solve traffic problems in Bangkok and its suburbs, 3) increase of highway capacity to connect the country's key production bases with those of neighboring countries, 4) marine transport network development, and 5) enhancement of air transport service capacity.²⁶⁵

Transport

The Ministry of Transport (MOT) oversees the state enterprises that manage the various transport systems in Thailand. Table 8 shows the different government authorities that manage transportation in Thailand.²⁶⁶

Airports

Thailand has 11 international airports, with the majority operated by Airport of Thailand Public Limited Company (AOT). The Samui International Airport is privately owned and operated by Bangkok Airways, and the U-Tapao International Airport in the Eastern Special Development Zone is operated by the Royal Thai Navy.

Table 9 is a summary of the international airport locations, International Air Transport Association (IATA)/ International Civil Aviation Organization (ICAO) Codes, maximum runway length and runway surface, and websites for the airports, where available.^{267, 268, 269, 270, 271, 272, 273, 274}

Domestic Airports

Thailand has around 29 domestic airports operated by the Thailand Department of Airports (DOA), with the exception of Sukhothai Airport and Trat Airport, which are privately owned and operated by Bangkok Airways.²⁷⁵ Table 10 is a summary of the domestic airport locations, IATA/ICAO Codes, maximum runway length and runway surface, and websites for the airports, where available.^{276, 277, 278}

Seaports

Thailand has a total coastline of 3,219 km (2,000 mi). The major seaports in Thailand are located in the following areas:

- Bangkok or Klong Toey;
- Laem Chabang;
- Map Ta Phut;
- Prachuap Port;
- Si Racha.²⁷⁹

The Klong Toey or Bangkok Port is located on the west side of the Chao Phraya River and can handle approximately 1.5 million twenty-foot equivalent units (TEU) per annum.²⁸⁰ Laem Chabang is Thailand's main container port and can handle about 11.1 million TEU/year. The port covers an area of around 2,536 acres.²⁸¹ The

Transport infrastructure	WEF Score	WEF Score range	Ranking (out of 141)
Road connectivity	80	1-100 (best)	54
Quality of road infrastructure	4.4	1-7 (best)	55
Railroad density	8.7	km/1000 square km	55
Efficiency of train services	2.8	1-7 (best)	75
Airport connectivity	670,386.8	Not available	9
Efficiency of air transport services	5	1-7 (best)	48
Liner shipping connectivity	48	0-100 (best)	35
Efficiency of seaport services	4.1	1-7 (best)	73

Table 6: Transport Infrastructure Scores and Ranking under 2019 WEF Global Competitiveness Index

Transport infrastructure	WEF Score	WEF Score range	Ranking (out of 141)
Electricity access	100	% of population	2
Electricity supply quality	5.8	% of output	31
Exposure to unsafe drinking water	52.7	% of population	107
Reliability of water supply	5.2	1-7 (best)	60

Table 7: Utility Infrastructure Scores and Ranking under 2019 WEF Global Competitiveness Index

Transport	Government Department /State Enterprise	Website
Airport	The Airports of Thailand Public Company Limited (AOT)	http://www.airportthai.co.th/main/en
Seaports	MOT, Port Authority of Thailand (PAT)	http://www.port.co.th/cs/internet/internet/History.html
Roads	MOT, Department of Highways and Department of Rural Roads, and the Expressway Authority of Thailand (EXAT)	http://www.doh.go.th/ ; http://www.drr.go.th/ ; http://www.exat.co.th/index.php/en_US
Railway	State Railway of Thailand (SRT)	http://www.railway.co.th/
Mass Transit System	Mass Transit Authority of Thailand (MRTA)	http://www.mrta.co.th/en/

Table 8: Transport Authorities in Thailand

International Airports

Airport Name	Location	IATA/ ICAO Code	Maximum Runway Length	Runway Surface	Notes/Website
Suvarnabhumi Airport	Bangkok (Bang Phli, Samut Prakan) 37 km (23 mi)	BKK/	4,000 m (13123.36 ft)	Asphalt	Website: https://www.bangkokairportonline.com/
Don Mueang International Airport	Bangkok 25 km (15.5 mi)	VTBS	3,700 m (12,139 ft)	Asphalt	Website: https://www.donmueangairport.com/
Chiang Mai International Airport	Chiang Mai 6 km (3.7 mi)	DMK/	3,400 m (11,154.86 ft)	Asphalt	Website: https://www.chiangmaiairportonline.com/
Mae Fah Luang Chiang Rai International Airport	Chiang Rai 8 km (5 mi)	VTBD	3,000 m (9,842.52 ft)	Asphalt	Website: https://www.chiangraiairport.com/
Hat Yai International Airport	Songkhla 41 km (25.5 mi)	CNX/	3,050 m (10,006.56 ft)	Asphalt/ Concrete	Website: https://www.airportthai.co.th/en/contact-aot/hat-yai-international-airport/
Phuket International Airport	Phuket 32 km (20 mi)	VTCC	3,000 m (9,842.52 ft)	Concrete	Website: http://phuket.thailandairportshub.com/th/category-view/airport-information
Samui International Airport	Samui Island	CEI/	2,100 m (6,889.76 ft)	Unknown	Privately owned and operated by Bangkok Airways. Website: https://www.samuiairportonline.com/
Krabi International Airport	Krabi 12 km (7.5 mi)	VTCT	3,000 m (9,842.52 ft)	Unknown	Website: https://www.airports.go.th/th/download/324.html
Surat Thani International Airport	Surat Thani 30 km (18.6 mi)	HDY/	3,000 m (9,842.52 ft)	Asphalt	Website: https://minisite.airports.go.th/suratthani/content1820.html?Action=view&DataID=197
Udon Thani International Airport	Udon Thani	VTSS	3,048 m (10,000 ft)	Concrete	Website: https://minisite.airports.go.th/udonthani/about2567.html
U-Tapao International Airport	Rayong 48 km (30 mi)	HKT/	3,500 m (11,482.94 ft)	Concrete	Managed by the Royal Thai Navy. The airport is one of the key infrastructure projects of the Eastern Special Development Zone (ECC).

Table 9: International Airports

Domestic Airports

Airport Name	Location	IATA/ ICAO Code	Maximum Runway Length	Runway Surface	Notes/Website
Lampang Airport	Lampang 1.5 km (1 mi)	LPT/ VTCL	1,975 m (6479.66 ft)	Asphalt	Website: https://minisite.airports.go.th/lampang/
Nan Nakhon Airport	Nan 3.5 km (2 mi)	NNT/ VTCN	2100 m (6889.76 ft)	Asphalt	Website: https://minisite.airports.go.th/lampang/
Mae Hong Son Airport	Mae Hong Son	HGN/ VTCH	2,000 m (6561.68 ft)	Asphalt	Website: https://minisite.airports.go.th/maehongson/
Pai Airport	Mae Hong Son 106 km (66 mi)	PYY/ VTCL	900 m (2952.76 ft)	Asphalt	Website: https://minisite.airports.go.th/pai/
Phitsanulok Airport	Phitsanulok 7.5 km (4.6 mi)	PHS/ VTPP	3,000 m (9,842.52 ft)	Unknown	Website: https://minisite.airports.go.th/phitsanulok/
Phrae Airport	Phrae 2.7 km (1.7 mi)	PRH/ VTCP	1,500 m (4921.26 ft)	Asphalt	Website: https://minisite.airports.go.th/phrae/
Tak Airport	Tak 17.6 km (11 mi)	TKT/ VTPT	1,500 m (4921.26 ft)	Unknown	Website: https://minisite.airports.go.th/tak/
Phetchabun Airport	Phetchabun 32.5 km (20.2 mi)	PHY/ VTPB	2,100 m (6,889.76 ft)	Unknown	Website: https://minisite.airports.go.th/phetchabun/
Ubon Ratchathani International Airport	Ubon Ratchathani	UBP/ VTUU	3,000 m (9,842.52 ft)	Unknown	Website: https://minisite.airports.go.th/ubonratchathani/about1617.html
Khon Kaen Airport	Khon Kaen 8km (5 mi)	KKC/ VTUK	3,050 m (10,006.5 ft)	Asphalt	Website: https://minisite.airports.go.th/khonkaen/about1430.html
Loei Airport	Loei 5km (3 mi)	LOE/ VTUL	2,100 m (6,889.76 ft)	Unknown	Website: https://www.airports.go.th/th/download/324.html
Roi Et Airport	Roi Et 13.5 km (8.4 mi)	ROI/ VTUV	2,100 m (6,889.76 ft)	Unknown	Website: https://minisite.airports.go.th/roiet/about2277.html
Buriram Airport	Buriram 30 km (18.6 mi)	BFV/ VTUO	2,100 m (6,889.76 ft)	Unknown	Website: https://www.airports.go.th/th/download/324.html
Nakhon Phanom Airport	Nakhon Phanom 18 km (11 mi)	KOP/ VTUW	2,500 m (8,202.01 ft)	Unknown	Website: https://www.airports.go.th/th/download/324.html
Sakon Nakhon Airport	Sakon Nakhon 10 km (6.2 mi)	SNO/ VTUI	2,600 m (8,530.18 ft)	Asphalt	Website: https://minisite.airports.go.th/sakonnakhon/about1705.html
Nakhon Ratchasima Airport	Nakhon Ratchasima 32 km (20 mi)	NAK/ VTUQ	2,100 m (6,889.76 ft)	Asphalt	Website: https://minisite.airports.go.th/nakhonratchasima/about294.html

Table 10: Domestic Airports

Airport Name	Location	IATA/ ICAO Code	Maximum Runway Length	Runway Surface	Notes/Website
Hua Hin Airport	Prachuap Khiri Khan 104 km (64.6 mi)	HHQ/ VTPH	2,100 m (6,889.76 ft)	Asphalt	Website: https://minisite.airports.go.th/huahin/about1421.html
Nakhon Si Thammarat Airport	Nakhon Si Thammarat 16 km (10 mi)	NST/ VTSF	2,100 m (6,889.76 ft)	Unknown	Website: https://www.airports.go.th/th/download/324.html
Narathiwat Airport	Narathiwat 13 km (8 mi)	NAW/ VTSC	2000 m (6,561.68 ft)	Asphalt	Website: https://minisite.airports.go.th/narathiwat/content112.html?Action=view&DataID=119
Ranong Airport	Ranong 25 km (15.5 mi)	UNN/ VTSR	2,000 m (6,561.68 ft)	Asphalt	Website: https://minisite.airports.go.th/ranong/about2293.html
Pattani Airport	Pattani 17 km (10.6 mi)	PAN/ VTSK	1,400 m (4,593.18 ft)	Unknown	Website: https://minisite.airports.go.th/pattani/about126.html
Mae Sot Airport	Tak 90 km (56 mi)	MAQ/ VTMP	2,000 m (6,561.68 ft)	Asphalt	Website: https://minisite.airports.go.th/maesot/
Sukhothai Airport	Sukhothai 25 km (15.5 mi)	THS/ VTPO	2100 m (6,889.76 ft)	Asphalt	Privately owned and operated by Bangkok Airways. Website: https://www.bangkokair.com/pages/view/sukhothai-airport
Chumphon Airport	Chumphon 37 km (23 mi)	CJM/ VTSE	2,100 m (6,889.76 ft)	Unknown	Website: https://www.airports.go.th/th/download/324.html
Trang Airport	Trang 7 km (4.3 mi)	TST/ VTST	2,100 m (6,889.76 ft)	Asphalt	Website: https://minisite.airports.go.th/trang/about2454.html
Trat Airport	Trat 35 km (21.7 mi)	TDX/ VTBO	1,800 m (5,905.52 ft)	Unknown	Privately owned and operated by Bangkok Airways. Website: https://www.bangkokair.com/tha/pages/view/trat-airport

Table 10: Domestic Airports (cont.)

Sriracha Harbour Deep Seaport was the first port in Thailand able to accommodate vessels up to 100,000 deadweight tonnage (dwt). The location of Sriracha Harbour ensures that it is accessible and fully usable for 95% of the year. Map Ta Phut is the main facility for regasifying Liquefied Natural Gas (LNG).²⁸²

A new deep-sea port is being constructed in the Dawei Special Economic Zone. In 2008 Thailand and Myanmar signed a memorandum of understanding (MOU) to develop the Dawei Special Economic Zone, followed by another

MOU in 2012. On 30 January 2015, Japan agreed to participate in the project to provide financial and technical assistance, and will have equal partnership in the investment with Thailand and Myanmar. The Dawei Special Economic Zone deep-sea port will have a capacity to hold 250 million tons of cargo, within an economic zone covering some 200 sq. km (77.22 sq. mi).

The Port Authority of Thailand (PAT) governs seaports and river ports. The PAT is a public utility state enterprise under the general supervision of the MOT. The main duties of PAT

are as follows:

- providing services and facilities to vessels and cargo;
- conducting dredging operations and maintenance of the bar channels and basins;
- supervising stevedoring, handling, moving, storing, and delivering of cargo;
- cooperating and coordinating with other government agencies concerned and international ports;
- developing the organization to cope with economic changes.²⁸³

Waterways

Thailand has 4,000 km (248.54 mi) of waterways, with 3,701 km (2,299.66 mi) navigable by boats with drafts up to 0.9 m (2.95 ft.).²⁸⁴ The three major river ports are:

- Chiang Saen Port;
- Chiang Khong Port;
- Ranong Port.²⁸⁵

The Chiang Saen Port is situated alongside the Mekong River at Chiang Saen District, Chiang Rai province, and covers an area of around 3.6 acres. The port can handle 120,000 tons per year. The Chiang Khong Port is situated at Chiang Khong sub-district, of Chiang Rai province. The port upgraded the efficiency of import-export services and promotes border trade with Laos, and Myanmar. The port can handle 15,000 tons per year. Moreover, the Ranong Port is situated on the eastern bank of the Kra Buri River, Pak Num sub-district, Muang district, Ranong province, and covers an area of about 126 acres. It has a container berth that is able to accommodate one cargo vessel of 12,000 DWT at a time. The PAT also governs river ports.²⁸⁶

Roads

Thailand has one of the most extensive road transportation networks in all of Southeast Asia with more than 390,026 km (2,42350.92 mi) of roads, of which 384,176 km (2,38715.9 mi) or 98.5% is concrete or asphalt paved. Of this total, 66,266 km (41,175.783 mi) forms a national highway network connecting each region of the

country.²⁸⁷

All major cities in Thailand are accessible by land, with all-weather highways and intercity roads linking them to the road network covering the whole country, as well as the Asian Highway and the road networks of neighboring countries at border crossings.²⁸⁸

The Greater Mekong area road network includes the southern economic corridor connecting Thailand, Cambodia, and Vietnam; the east-west economic corridor linking Myanmar, Thailand, Laos and Vietnam; the north-south economic corridor which runs from southern China through Laos, and Myanmar, and into Thailand; and the southern coastal economic corridor also connecting Thailand, Cambodia, and Vietnam.²⁸⁹

The following are basic highway rules in Thailand:

- The Thai highway network follows left-hand lane traffic rules;
- A single digit number indicates one of the major highways connecting Bangkok to outlying regions;
- A two-digit number indicates a main highway for a particular region;
- A three-digit number indicates a secondary highway;
- A four-digit number indicates an intra-province highway connecting the provincial capital to outlying districts, or to important sites in the province.²⁹⁰

Mass Transit System

Thailand's mass transit system includes buses, trains, and boats.²⁹¹ Bangkok has approximately 250 bus lines providing service for a total of 5,000 km (3106.86 mi) in every area of Bangkok and its suburbs. The Bus Rapid Transit (BRT) system in Bangkok opened on 29 May 2010 with a total distance of 15.9 km (9.88 mi) with 12 stations between Sathon to Ratchaphruek. In the provinces, hundreds of private operators service Bangkok-suburb routes and other routes nationwide. There are three main bus terminals: the Northern and Northeastern Terminal, the Southern Terminal, and the Eastern Terminal.²⁹²

Within Bangkok, the Bangkok Transit System (BTS) or Skytrain is the raised metro system operated by Bangkok Mass Transit System Public Company. The structure encompasses two lines with a collective distance of 36.3 km (22.5 mi) and 30 stations. The Sky Trains connect to the subway or the Mass Rapid Transit (MRT) system. Currently, the MRT in Bangkok comprises four lines totaling 84.9 km (52.7 mi). Two private corporations operate the system under separate concession contracts. Bangkok Metro Public Company operates the underground blue line with a distance of 20 km (12.4 mi) and 18 stations. State Railway of Thailand (SRT) operates the airport rail link, totaling 28.5 km (17.7 mi) and 8 stations.²⁹³

Railways

Thailand’s rail system spans 4,952 km (3,077 mi) of railways that constitute a vital link in the transportation chain.²⁹⁴ About 84 km (52.2 mi) is standard gauge, and 4,043 km (2,512.2 mi) is narrow gauge.²⁹⁵ SRT under the MOT is responsible for building, operating, and maintaining Thailand’s railway tracks.

There are various railway projects in planning. According to Thailand’s Board of Investment, the government plans to develop four high-speed train routes by 2022, through public-private partnerships (PPP). The four routes comprise about 1,039 km (645.6 mi) of high-speed rail, connecting Bangkok with the provinces of Nakhon Ratchasima, Rayong, Hua Hin, and Phitsanulok as shown in Figure 21.²⁹⁶

In March 2021 Thai transport authorities and Chinese construction corporations signed a construction agreement to build the first phase of the Thailand-China High Speed Rail, signally a step forward for the long-awaited

rail project linking the two countries. The first 250 km (155.34 mi) connecting Bangkok and Nakhon Ratchasima (also known as Korat), in northeastern Thailand, is expected to be completed and open to traffic in 2026. The railway project will eventually connect Kunming city in China’s southwestern Yunnan province with Bangkok.²⁹⁷

Another planned project is the Bangkok-Chiang Mai High-Speed Railway Project also known as the Northern High-Speed Railway. The high-speed railway will be built alongside the current Northern Line in Thailand. Japan has proposed building the railway in partnership with Thailand, and the line will be similar to Japan’s well-known Shinkansen bullet train. The length of the railway would be 670 km (416.32 mi) with 12 stations. The top speed will be 300kph (186.41 mph), and the trip will take about three and a half hours. For comparison, the current line is 755 km (469.13 mi), and the journey takes from 11 hours to 14 hours and 20 minutes.²⁹⁸

At the same time, the MOT is considering decommissioning the central Hua Lamphong Railway Station in the heart of Bangkok’s Chinatown. The proposal aims to ease traffic congestion and will make the new Bang Sue Grand Station the capital’s main train terminus.²⁹⁹

High Speed Train

4 Routes in 2022



* Open for Public-Private Partnership (PPP)



Figure 21: Planned High Speed Rail Routes

Schools

The Ministry of Education (MOE) in Thailand is responsible for promoting and overseeing the provision of education at all levels, including basic and higher education, as well as non-formal and informal education. Formal education is divided into two levels: basic and higher education. Basic education in Thailand refers to six years of primary education (Grades 1-6), three years of lower secondary (Grades 7-9) and three years of upper secondary education (Grades 10-12). Vocational education comprises three tiers: upper secondary level leading to lower vocational certificates; post-secondary level leading to higher vocational certificates; and tertiary vocational education leading to bachelor's degrees. Higher education is provided at a diploma or associate degree level, ranging from bachelor's degrees to doctoral degrees. Figure 22 shows Thailand's formal and non-formal or informal education system.³⁰⁰

Since 2009, the MOE has implemented a 15-year free basic education program. The program covers tuition, uniform, textbooks, learning materials, and extra-curricular activities free of charge for pre-primary, primary (elementary) and secondary pupils in public schools. The National Policy on Educational Provision for Disadvantaged Children (2005) ensures that this policy applies equally to Thai and non-Thai citizens, including stateless children and children of migrants and ethnic minorities who lack relevant registration documents for citizenship verification. Promoting universal and quality education is a strategy for Thailand to overcome the middle-income trap and is seen as a key strategy to promote Thailand's transition to a high-income economy.³⁰¹

Disaster Risk Reduction in the Education Sector

Since 2007, the Office of the Basic Education Commission (OBEC) under the MOE has been working with DDPM and other organizations to promote school safety. In 2011, Thailand committed to improve the safety of 32,000 schools as part of the UN One Million Safe

Schools and Hospitals Campaign.³⁰²

A standing order for mainstreaming DRR in education has been issued that emphasized the production and dissemination of textbooks and teachers' guides, and the training of teachers on disaster education. This is reinforced by the country's Compulsory Action Plan as stated in their Strategic National Plan for Disaster Risk Reduction, which requires the provision of knowledge on hazards and DRR at all educational levels.

The Thailand School Safety Network (TSSN) is jointly led by UNICEF in Thailand, the MOE and OBEC to promote coordination, collaboration, and mutual capacity building among the network members, towards implementation of the Comprehensive School Safety Framework (CSSF) in Thailand. The CSSF is an initiative of the ASEAN Safe School Initiative (ASSI). The CSSF has three pillars, which Thailand is implementing and includes: safe school facilities, school disaster management, risk reduction and resilience education. Members of TSSN include: DDPM, OBEC and MOE, UNICEF, UNDRR, Plan International, Save the Children, World Vision, Raks Thai Foundation, Right to Play, Thailand Red Cross Society, and IFRC. Since 2012, TSSN has convened bi-monthly meetings. One of TSSN's outputs is the DRR Teacher Manual that is now used by teachers nationwide.

Communications

Fixed line and Cellular Mobiles

Mobile cellular usage in Thailand continues to rise, while fixed landline subscription declines. In 2020, mobile cellular subscription was 167 out of 100 people in Thailand, a rise from 106.74 out of 100 people in 2010 and 46.56 out of 100 people in 2005.³⁰³ Whereas, fixed line subscription in 2020 is at 7.17 out of 100 people, down from the peak rate of 14.38 out of 100 people in 2017.³⁰⁴

Thailand's top mobile service provider is Advanced Info Service (AIS), followed by True Corporation and Total Access Communication. The major state-run agencies, CAT Telcom and TOT, plan to merge to become the National Telecom (NT) company.³⁰⁵

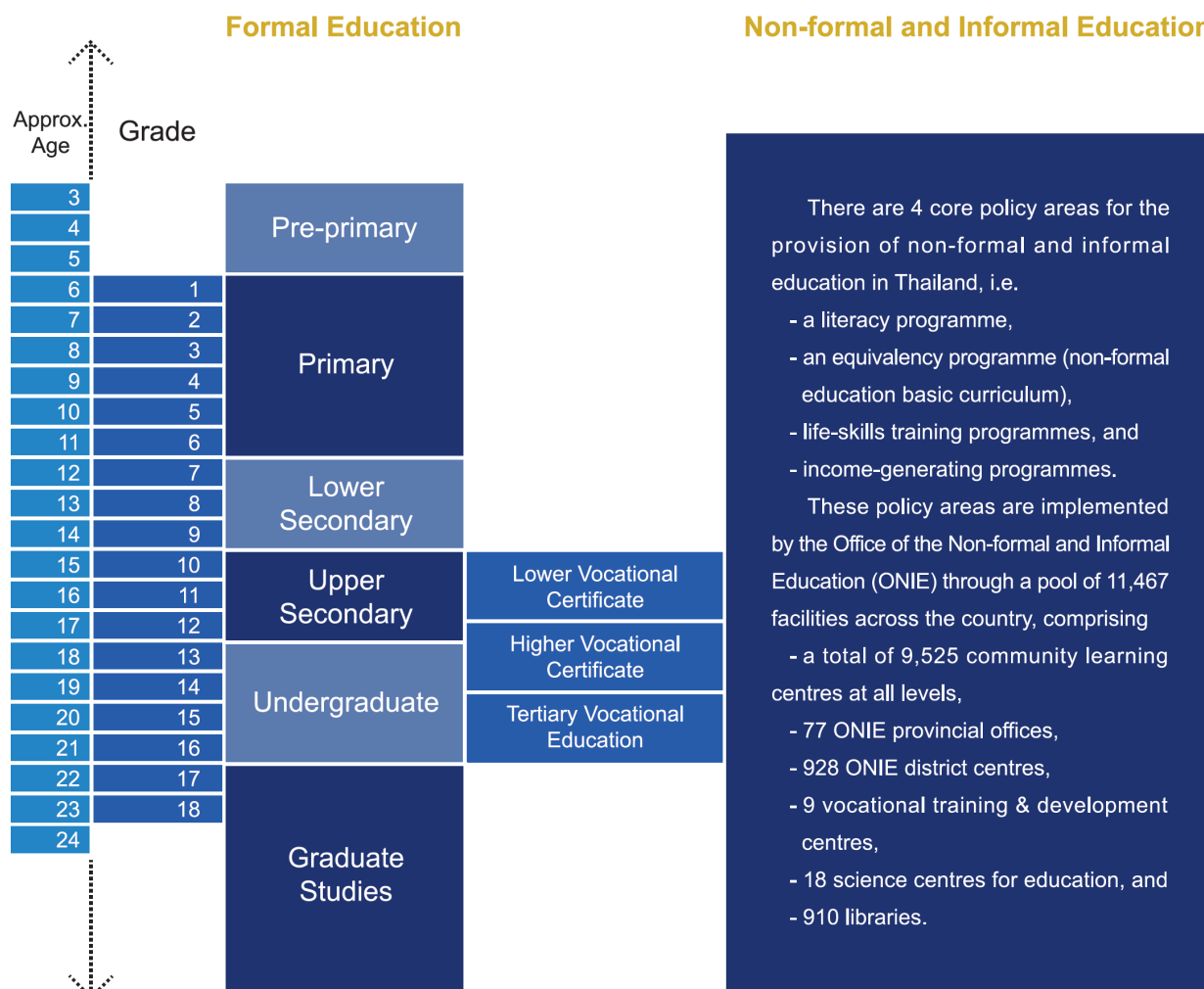


Figure 22: Thailand's Formal and Non-Formal or Informal Education System

Internet Access

Internet access in Thailand continues to widen. In 2020, 16.62 out of 100 people have fixed broadband subscriptions representing 77.85% of the population with internet access. Ten years ago, this rate was 4.84 out of 100 people or 22.4% of the population.³⁰⁶ In addition, in 2020 there are 133,183 secure internet servers being used in Thailand.³⁰⁷

Thailand was the first country in Southeast Asia to launch commercial 5G services. In February 2020, AIS won the bid at auction to the spectrum required to set up 5G infrastructure, with 23 licenses. TRUE Corporation and Total Access Communication received 17 and two licenses, respectively. The state-run agencies, CAT Telecom and TOT (which will merge as the NT company) won a combined six licenses.³⁰⁸

Post

The postal service is operated by the Thailand Post Company, which has a comprehensive network of over 1,200 post offices and 16 postal centers in Bangkok and the provinces.³⁰⁹ Thailand Post offers a comprehensive range of services including financial services and retail services.³¹⁰ International shipping services, FedEx and UPS, are available in Thailand.³¹¹

Mass Media

The government and military control nearly all the national terrestrial television networks and operate many of Thailand's radio networks. Multichannel TV, via cable and satellite, is widely available. In 2014, there were more than 60 stations in and around the capital.³¹² In 2017, there were 26 digital TV stations in Bangkok

broadcasting nationally, with six terrestrial TV stations in Bangkok broadcasting nationally via relay stations. Two of the six stations are owned by the military, and the other four are government-owned or controlled, or leased to private enterprise. All are required to broadcast government-produced news programs twice a day.³¹³

The print media are largely privately-run, with a handful of Thai-language dailies accounting for most newspaper sales. The radio market, particularly in Bangkok, is highly competitive.³¹⁴ Radio frequencies have been allotted for more than 500 government and commercial radio stations, and many small community radio stations operate with low-power transmitters.³¹⁵

The media are free to criticize government policies, and cover instances of corruption and human rights abuses, but journalists tend to exercise self-censorship regarding the military, the monarchy, the judiciary, and other sensitive issues. In Thailand, the lese-majeste law prohibits insult of the monarchy and has been increasingly enforced. Pornographic sites, anti-monarchy sites and anti-government sites are subject to filtering.³¹⁶

Social Media

Facebook is the most popular social network. In 2021, Facebook had 51 million users (more than 70% of the population). The next most popular social media site is YouTube with 37.3 million viewers, followed by Facebook's chat function Messenger with 37 million users.³¹⁷ In 2017, it was reported that Thailand was among the top ten countries in the world in terms of social media usage. Thailand ranked eighth in the world in terms of Facebook usage. And the peak time for Facebook use in Thailand is in the evening from 18:00 to 23:00 hours.³¹⁸

Utilities

Power

Thailand has near universal access to electricity, with 99.9% of the population accessing electricity in 2019.³¹⁹ Thailand's

main electricity provider is the state-owned Electricity Generating Authority (EGAT), which is responsible for generating, transmitting, and wholesaling electricity. EGAT generated about 33% of Thailand's total electricity supply at the end of 2019. EGAT further oversees the balance of the supply and demand in the transmission system and controls and administers all the electricity generated in provincial areas from those power plants connected with its high-voltage transmission lines and high-voltage substations. EGAT is the only organization that can purchase or resell wholesale electricity to other distributors.³²⁰

In addition, two retail distributors, the Metropolitan Electricity Authority (MEA) and the Provincial Electricity Authority (PEA), are responsible for distributing and providing low-voltage electricity. In 2019 MEA accounted for 28% of the market and serves the Bangkok area. PEA accounted for 71% of the market and serves the provinces of Nonthaburi and Samut Prakan.³²¹

In 2020, electrical consumption decreased in almost all sectors of the economy, particularly business and industry, due to the impact of the COVID-19 virus outbreak on exports and tourism. However, in the household sector, electricity usage rose by 7% due to increased usage of air conditioning to combat higher temperatures, coupled with COVID-19 lockdown measures.

Thailand is highly dependent on energy imports. Thailand is collaborating with its neighbors to develop new sources of energy, including renewable sources. Thailand also seeks to improve infrastructure to reduce the cost of transport and to improve efficiency. The Thailand Power Development Plan 2018-2037 was approved by the Cabinet on 30 April 2019, and further updated in 2020 as "PDP 2018 rev.1". It focuses on three priority areas:

- **Energy Security:** coping with the increasing power demand in alignment with the National Economic and Social Development Plan and taking into account fuel diversification;

- Economy: maintaining an appropriate cost of power generation for long-term economic competitiveness;
- Ecology: lessening the carbon dioxide footprint of power generation and focusing on renewable energy sources.³²²

Water and Sanitation

In Thailand only 26% of the population in 2020 is using safely managed sanitation services and 52.7% of the population are exposed to unsafe drinking water.³²³ The percentage of people using safely managed sanitation services is slightly higher in urban areas, at 29.6% of the population, compared to 22% in rural areas.³²⁴

Thailand's water resources have diminished over the years due to disappearing wetlands, corroding watersheds, and pollution. Although wetlands used to be abundant in Thailand, in 2020 only two percent of the original wetlands existed. Water shortages are a potential threat to Thailand's future. Flooding has also been just as detrimental to Thailand's water supply as have repetitive droughts. Standing water from floods poses serious threats that can be harmful to health.³²⁵ Thailand's water infrastructure was considerably damaged during the 2011 floods. It is estimated that water loss amounted to more than a quarter of total extracted water volume.³²⁶

Management of the water sector is an ongoing challenge for the RTG. In 2013, the UN Special Rapporteur on the human right to safe drinking water and sanitation noted that rivers and other resources of water in Thailand are being

polluted by the discharge of untreated human waste and called on the RTG to establish an independent water and sanitation regulator and to take prompt action to fully realize the human rights to water and sanitation for all.³²⁷ A 2016 factsheet produced by the Netherlands Embassy in Bangkok identified the ongoing need to strengthen Thailand's legislative and institutional framework for water management. The factsheet acknowledges the RTG's plans to invest in urgent water management projects, including new canal systems, dredging operations, pumping stations and retention walls. In addition, the RTG will invest in non-structural improvements including relevant agency reorganization, streamlining the line of command during disasters and the establishment of a relief and recovery scheme.³²⁸

In 2017, the RTG formed the Office of National Water Resources (ONWR) to coordinate water related issues, reporting to the Prime Minister. In September 2018, the National Water Resources Act was enacted to provide for the efficient and effective administration of water resources in respect of the allocation, use, development, management, maintenance, rehabilitation, and conservation thereof as well as rights in water.³²⁹ Under the Act the ONWR is responsible for proposing policies; formulating strategic plans, master plans, and measures; integrating information, plans, projects, and budget; and monitoring and evaluating water resources management.³³⁰

HEALTH

In 2021, Thailand was ranked fifth overall in the world under the Global Health Security (GHS) Index. Thailand ranked first in Southeast Asia and first among countries in the upper middle-income level. The GHS Index is an assessment and benchmarking of health security and related capabilities across 195 countries.³³¹ Thailand is among the countries that successfully combatted the COVID-19 in 2020 through strong public health interventions, community engagement, and effective governance. Thailand's response was a reflection of 40 years of investment in, and political commitment to, strong primary health services, universal health coverage, and public health preparedness for pandemics.³³²

Health Care System Structure

Since 2002, all Thai citizens have access to Universal Health Care (UHC). A migrant health insurance scheme has also been added.³³³ The healthcare system in Thailand is publicly dominated; public hospitals account for 78% of all hospitals, and hospitals serving under the Ministry of Public Health (MOPH) account for approximately 67% of all public and private hospitals. Community hospitals, or rural health facilities, are located at the district level providing secondary health services.³³⁴

The MOPH is the national health authority responsible for formulating and implementing health policy. In addition, autonomous health agencies operate alongside the MOPH, notably the Health Systems Research Institute, the Thai Health Promotion Foundation, the National Health Security Office (NHSO), and the National Health Commission Office (NHCO). MOPH and these independent agencies form a complex interdependent governing structure, while non-state actors and civil society groups also play increasing roles in the health system.³³⁵

The NHCO is mandated to convene an annual

National Health Assembly (NHA), ensuring participatory engagement by all government and non-state actors in formulating health policy through NHA resolutions. The advent of the NHSO has had a major impact in transforming the integrated model of MOPH as purchaser and service provider, to the NHSO as purchaser and MOPH as service provider. Figure 23 shows the organizational structure of Thailand's health system at the sub-district (Tambon), district, provincial, regional, and central level, and linkages between the MOPH and NHSO.³³⁶

Health Strategies and Surveillance

Five priority programs were selected in the World Health Organization (WHO) Country Cooperation Strategy for Thailand 2017-2021. The programs cover:

- Antimicrobial Resistance (AMR);
- Global Health Diplomacy (GHD);
- Migrant Health;
- Noncommunicable Diseases (NCD);
- Road Safety.³³⁷

The burden of AMR in Thailand has been estimated in 2010 to result in 3.24 million days of hospitalization and 38,481 deaths per annum, and to cost 0.6% of national GDP. The Thai National Strategic Plan on AMR (2017–2021), which aims to reduce morbidity, mortality, and the economic impact of AMR, was finalized and endorsed by the Cabinet in late 2016. The plan sets targets for a 50% reduction in AMR morbidity; 20% and 30% reductions in antimicrobial use in humans and animals respectively, and a 20% increase in public knowledge about AMR, including awareness of appropriate use of antimicrobials.³³⁸

The MOPH and Ministry of Foreign Affairs issued a directive to have the national global health strategic framework (2016–2020) (GHS) approved by the Cabinet in 2016. The

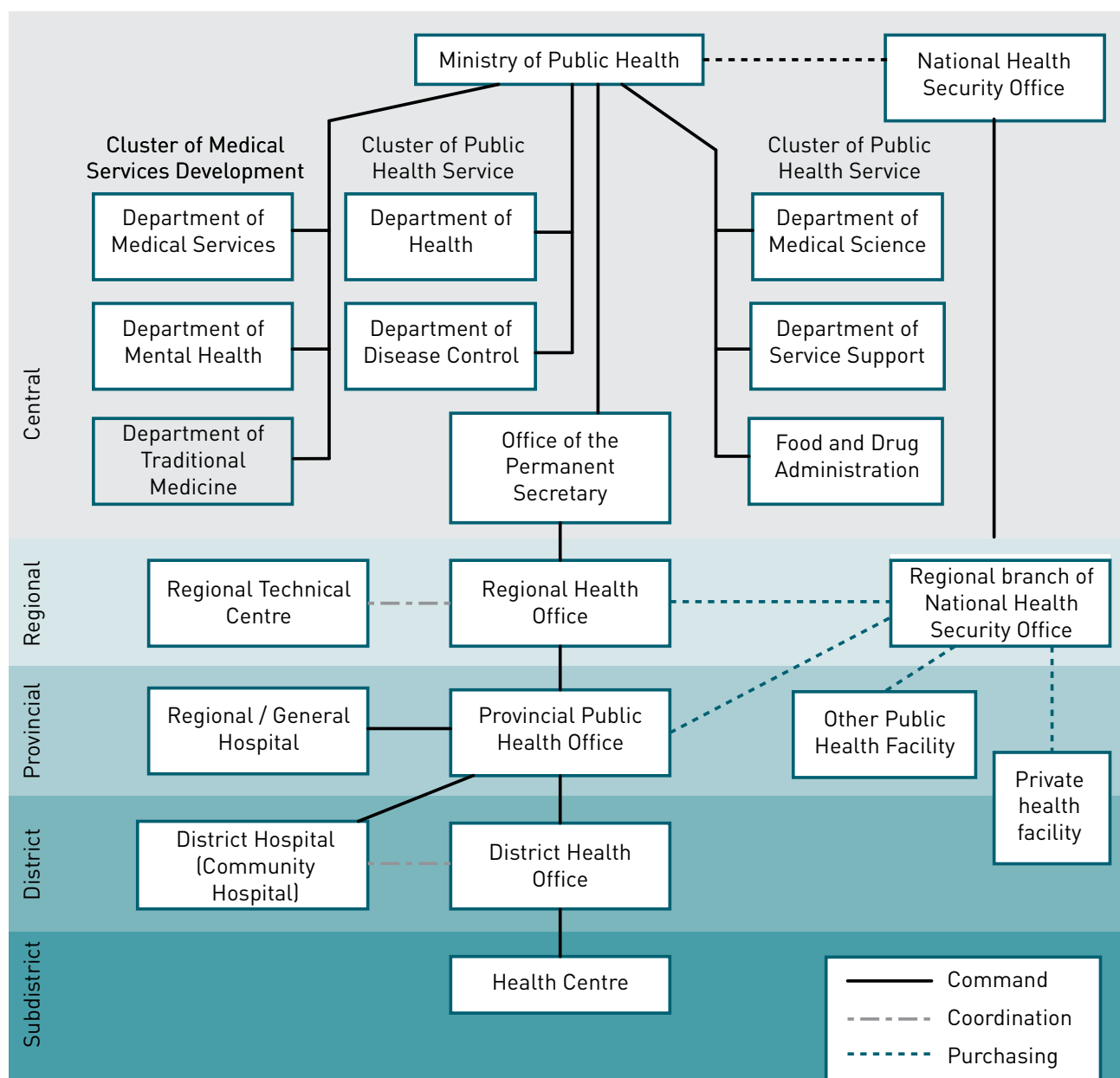


Figure 23: Organizational Structure of the MOPH and NHSO

GHS aims to ensure health security for Thai people and to sustain and further strengthen global health capacity in Thailand. The GHD program will generate evidence to guide effective implementation of the national GHS.³³⁹

The Migrant Health program seeks to address the following issues related to the health of migrant populations in Thailand:

- Linkage of health insurance eligibility to documentation status, with cumbersome administrative procedures, resulting in incomplete coverage and inadequate baseline data to inform policy;

- Multiple stakeholders with high requirement for coordination;
- Sociocultural barriers compounded by limited information on health seeking behavior;
- Limited human resources for migrant health.³⁴⁰

NCDs — such as heart disease, stroke, cancer, diabetes, and chronic lung disease — are the predominant killers in Thailand. NCD risk factors are common in the Thai population: one out of four Thai adults have high blood pressure;

one out of ten have raised blood sugar levels; 40% of adult males smoke; consumption of salt and sugar among Thais exceeds recommended limits; and rates of adult and childhood obesity have dramatically increased in the past decade. To combat NCDs and risk factors, Thailand has adopted nine national targets in line with the global targets.³⁴¹

Moreover, Thailand has the second highest road traffic fatality rate in the world. Motorcyclists, pedestrians, and bicyclists comprise 83% of fatalities. While Thailand is a signatory to Decade of Action for Road Safety and has a national plan in place, the country has seen minimal decrease in road traffic mortalities, from 38.1 per 100,000 population in the Second Global Status Report on Road Safety (2013) to 36.2 in the Third report (2015). The lack of progress is related to fragmented management and suboptimal coordination among responsible authorities, fragmented national injury data sources, and poor enforcement of traffic rules. WHO and the RTG will cooperate to strengthen road safety management and coordination, improve national traffic data system, and improve legislation and enforcement.³⁴²

Communicable Diseases

Thailand is burdened with the following communicable diseases:

HIV/AIDS

Thailand has one of the highest HIV prevalence rates in Asia and the Pacific.³⁴³ In 2020, around 500,000 adults and children were estimated to be living with HIV. This represents a decline from the highest estimate of 800,000 adults and children living with HIV in 1999.³⁴⁴ Although the epidemic is in decline, prevalence remains high among key affected groups, with young people from key populations particularly at risk. Vulnerable groups include men who have sex with men, sex workers and their clients, transgender people and people who inject drugs. Migrants and prisoners are also more vulnerable to HIV infection than other populations in the country. Notably, Thailand is

the first country to effectively eliminate mother-to-child transmissions, with a transmission rate of less than 2%. In 2018, Thailand began to scale up Pre-exposure Prophylaxis (PrEP) — an antiretroviral treatment taken by HIV-negative people before potential exposure to HIV in order to stop transmission — in order to make it nationally available to people at high risk of HIV, making it a leader in the region. Thailand aims to end AIDS by 2030.³⁴⁵

Antimicrobial Resistance (AMR)

Thailand has been fighting Antimicrobial Resistance (AMR) threats. It is reaching crisis proportions in Thailand and the country has developed a plan to combat it. The Thai National Strategic Plan on AMR (2017–2021) aims to reduce the impact of AMR and increase public knowledge and awareness. As discussed earlier, the plan sets targets for a 50% reduction in AMR morbidity; 20% and 30% reductions in antimicrobial use in human and animal respectively, and a 20% increase in public knowledge about AMR, including awareness of appropriate use of antimicrobials.³⁴⁶

Malaria

The incidence of malaria has declined over the years, but it still remains a serious threat to the population. The at-risk population in Thailand is about 17 million, or 21% of the population. The RTG has developed a ten-year National Strategic Plan for Malaria Elimination (2017–2026) with an accompanying 5-year Operational Plan (2017–2021).³⁴⁷

Tuberculosis

Thailand is among the 30 high-burden tuberculosis (TB) countries globally. TB incidence is declining very slowly and is estimated at 176,000 new cases annually. The National Reference Laboratory for TB reported that 510 patients in 2012 had confirmed MDR-TB; however, WHO estimates that there are 2190 annual cases in Thailand. There is a link between the epidemic of HIV infections and the TB situation. TB was detected in 13% of new

cases of HIV infections, and a major concern is addressing the issues related to HIV-TB co-infection.³⁴⁸

Coronavirus Disease (COVID-19) Pandemic

The first confirmed COVID-19 case was reported on 13 January, 2020. The government declared a state of emergency on 26 March 2020 and has subsequently extended the order 15 times. On 30 November 2021, the Prime Minister extended the state of emergency for a further two months until 31 January 2022.³⁴⁹

Thailand's COVID-19 response so far has combined strong public health interventions, community engagement, and effective governance, which helped to limit local transmission in the early phase of the pandemic. The MOPH has led the national response in collaboration with a number of Ministries and Department including the MOI Department of Provincial Administration, and DDPM. The MOH in collaboration with the WHO and other stakeholders conducted a joint review focusing on the nine pillars of the national COVID-19 pandemic response including: 1) Country-level Coordination, Planning and Monitoring, 2) Risk Communication and Community Engagement, 3) Surveillance, Rapid Response Teams, Case Investigation, 4) Points of Entry and Migrant Health, 5) National Laboratory Systems, 6) Infection Prevention and Control in the Community and Healthcare Facilities, 7) Clinical Management, 8) Operational Support and Logistics in Supply Chain and Workforce Management, and 9) Maintaining Essential Services during the COVID-19 Outbreak.³⁵⁰

The review found Thailand had implemented effective and successful prevention and control of COVID-19 in many of the key pillars. Thailand's responses included timely detection of the situation and reporting of confirmed cases, an integrated whole-of-government and whole-of-society approach including engagement of the private sector, surveillance of travelers in quarantine facilities, public health infrastructure, village health volunteers and

more than 1,000 disease investigation teams, efficient communication, a variety of two-way communication channels with the public to encourage and measure compliance and delivery of targeted messages, as well as providing surge capacity in health care facilities, i.e., preparation of facilities, beds, wards, equipment and supplies.³⁵¹

On 17 December 2021, the WHO reports that COVID-19 is still widespread across Thailand, with community transmission in almost every province. Although daily reported cases continue to fall in Southern Thailand, per capita infection rates and positive test rates are still higher than most parts of the country. At the same time, the COVID-19 vaccination rates continue to rise and are at levels that can be expected to significantly reduce levels of severe illness and deaths. However, vaccination rates are still low in some provinces and in some risks groups, including pregnant women.³⁵²

On 20 December 2021, Thailand detected its first cases of the Omicron variant and reinstated mandatory quarantine measures for foreign travelers arriving in the country.³⁵³

On 21 December 2021, Thailand has 2,196,529 confirmed COVID-19 cases, according to Thailand's Department of Disease Control. As shown in Figure 24, Thailand has recorded 21,440 COVID-19 deaths, and has 2,476 new cases, and 880 serious cases.³⁵⁴

Non-Communicable Diseases

Similar to developed countries non-communicable diseases (NCD) have become the main causes of death in Thailand. NCDs have become a critical public health issue for Thailand, contributing to 71% of total deaths in 2014. NCDs are predicted to continue to increase. The highest burden NCDs in Thailand are cancer, cardiovascular diseases, chronic respiratory diseases, and stroke.³⁵⁵

As discussed earlier, road safety is also a critical public health problem in Thailand, despite efforts by the government, WHO, and

Thailand Situation

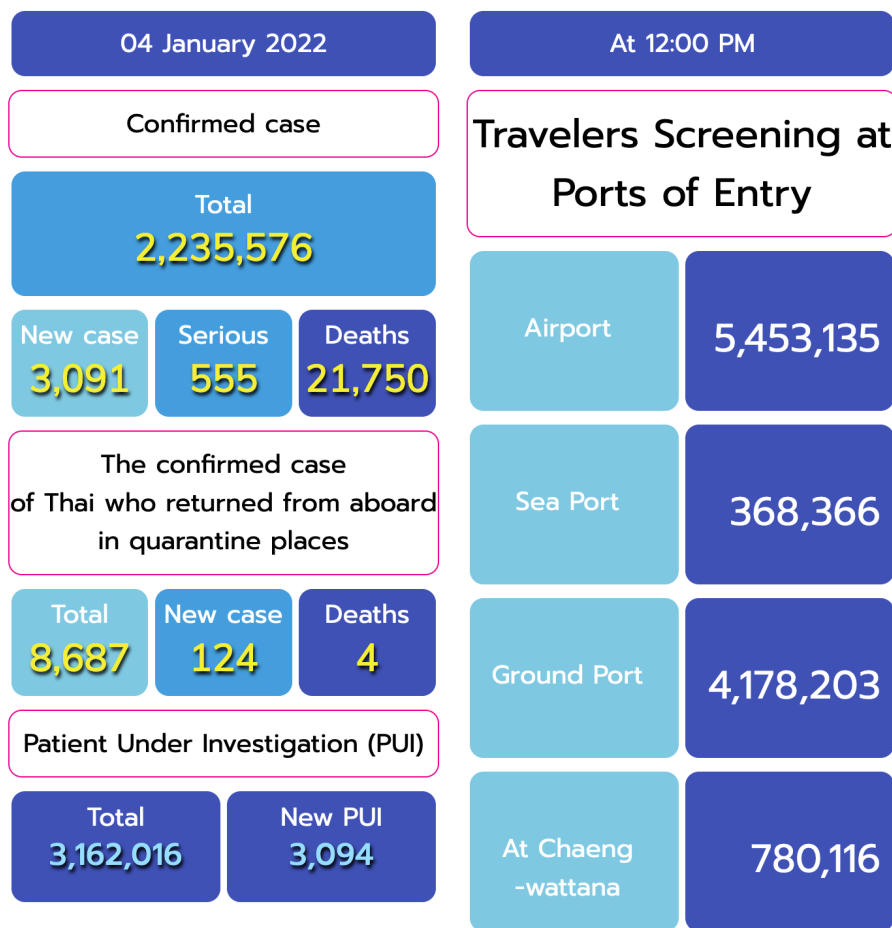


Figure 24: COVID-19 Situation in Thailand on 21 December 2021

other partners to address the issue. According to WHO’s 2015 Global Report, Thailand has the second highest incidence of road traffic fatalities in the world, with 36.2 deaths per 100,000 population per year. Motorcyclists, pedestrians, and bicyclists comprise 83% of fatalities.³⁵⁶

Training for Health Professionals

Thailand has adequate capacity for in-country training of doctors and nurses. Maintaining a stable number of doctors to meet the country’s health needs can be a challenge; however, Thailand has neither a shortage nor a surplus of health personnel. In 2019 the density of physicians was 0.9 per 1000 people, a significant rise from 0.4 per 1000 people in 2016. In the

same year, the density of nurses and midwives was 3.2 per 1000 people.³⁵⁷

Thailand has historically seen an unequal distribution of doctors between rural and urban areas, which have had major impacts on access to healthcare for those living in rural communities. The Collaborative Project to Increase Rural Doctors (CPIRD) was implemented in 1994. The government has implemented several other strategies including introducing a mandate where new graduates must work in the MOPH public service (rural hospitals) for the first three years of their careers. Financial incentives and career advancement were also offered for rural district posts.³⁵⁸ There have been improvements in the rural retention of doctors in Thailand as a result of government-led

initiatives.³⁵⁹

In Thailand, healthcare professionals have to sit and pass the national examination for a license to practice issued by the Medical or Nursing and Midwifery Councils and conducted by the Center for Medical Competency Assessment and Accreditation. Work permits for employment visas and professional practice are granted after medical or nursing council approval in each country once candidates fulfill the required license examination. Nurses that graduate from Thai schools or schools elsewhere that are recognized by the Council, and who pass the national license examination are granted licenses to practice from the Nursing and Midwifery Council.³⁶⁰

WOMEN, PEACE, AND SECURITY

The United Nations Security Council Resolution 1325 (UNSCR 1325), adopted in 2000, reaffirmed the need to implement fully international humanitarian and human rights law that protects the rights of women and girls during and after conflicts. UNSCR 1325 affirms the role of women in the prevention and resolution of conflicts and peacebuilding, and stresses their equal participation and full involvement in all efforts for the promotion of peace and security.³⁶¹

The Thailand Peace Operations Center (POC) of the RTArF has a mandate to contribute troops to United Nations peacekeeping operations. POC has deployed peacekeeping forces in places such as Timor-Leste, Haiti, and South Sudan as shown in Photo 4.³⁶² The POC supports the empowerment of female peacekeepers in pre-deployment training. Training courses delivered to both male and female troops address gender perspectives, conflict-related sexual violence, and sexual exploitation and abuse. The training

courses further addresses the essential role of women peacekeepers. Furthermore, to prevent sexual exploitation and abuse of victims of conflict, Thailand's peacekeeping units are trained with situational awareness and capability in support of efforts to protect those at risk in conflict zones. Thailand plans to increase deployment opportunities for female personnel, and also maintains several highly skilled female instructors at the POC.³⁶³

At home in Thailand, adherence to UNSCR 1325 is seen through the lens of supporting the country's achievement of the United Nations Sustainable Development Goals (SDG) targets. The RTG supports the Women, Peace, and Security (WPS) Agenda through SDG 5 on gender equality and SDG 16 on peace, justice, and strong institutions and continues to seek opportunities to strengthen its commitments to the SDGs and UNSCR 1325. The government has developed Measures and Guidelines on Women and the Promotion of Peace and



Photo 4: Thai Forces Serving in the United Nations-African Union Mission in Darfur (UNAMID)

Security with support from UN Women.³⁶⁴

Thailand has legally advanced women's rights and gender equality through its ratification of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 1985 and its Optional Protocol in 2000, endorsed the Beijing Platform for Action (BPFA) in 1995, and committed to the Sustainable Development Goals (SDG) in 2015.³⁶⁵

In 2015 Thailand enacted the Gender Equality Act 2015 and established a Committee to Promote Gender Equality (CPGE) to enact the Act's legal policies and mechanisms to advance gender equality. Thailand's 2017 Constitution specifies that 'men and women shall enjoy equal rights'. In addition, the Women Development Strategy (2017-2021), developed by the Ministry of Social Development and Human Security, sets out goals, objectives, and targets in the area of gender equality which will be steering tools for effective budget allocations.³⁶⁶

Thailand has a high representation of women in senior leadership roles in the private sector. Women comprise 24% of Chief Executive Officers / Managing Directors, compared to 20% worldwide and only 13% in Asia-Pacific. The senior leadership position commonly held by women in Thailand is Chief Financial Officer (CFO), with 43% of women holding the position. As such, Thailand has the world's highest percentage of female CFOs and the third-highest percentage of female CEOs. In Thailand's mid-market companies, women hold 32% of senior leadership positions, a rate higher than the global average of 27% as well as the Asia-Pacific average of 26%.³⁶⁷

However, women remain under represented in the parliament, government, the judiciary, and government administration both at national and local levels. Women account for only 23.9 % of high-ranking civil servants, and gender equality in senior leadership positions has risen by just 3% in the last 15 years. Yet there has been some recent progress, with the 2019 General Elections resulting in a three-fold increase in women's representation as female Members of Parliament

increased from 5.4% in January 2019 to 16.2%.³⁶⁸

In rural areas, many women remain affected by poverty, discrimination, and exploitation. Discriminatory practices against women still exist in many rural areas in Thailand such as unequal employment practices, unfair treatment of women workers, and access to resources.

Moreover, in 2018, 9.3% of women aged 15-49 years reported that they had been subject to physical and/or sexual violence by a current or former intimate partner in the previous 12 months. Also, women and girls aged five years or older spent 11.8% of their time on unpaid care and domestic work, compared to 3.8% spent by men.³⁶⁹

The WPS agenda is being advanced in Thailand's conflict-affected Southern Border Provinces (SBP) with support from both government and non-government actors. The Coordination Center for Children and Women in the Southern Border Provinces (CCWC-SBP) was established by the Southern Border Provinces Administration Center in cooperation with the Ministry of Social Development and Human Security (MSDHS) and in partnership with UN Women and UNICEF after the National Consultation on Women's Leadership and Peace and Security. The CCWC-SBP is a coordinating mechanism on women and children issues between central and local levels, and among different line Ministries, non-government, and civil society actors.³⁷⁰

Looking forward, to further advance the WPS Agenda, important government agencies – such as the National Security Council, the Ministry of Justice, the Ministry of Human Security and Social Development, and the Ministry of Foreign Affairs — need to integrate the WPS agenda into their combined efforts. While there are no explicit actors who oppose the WPS agenda, there is a lack of coordination between governmental institutions and WPS has not been integrated into policies of government agencies responsible for preventing or resolving violent conflict in Thailand.³⁷¹

CONCLUSION

Thailand's disaster management system has been built over the past four decades with the enactment in 1979 of the Civil Threat Prevention Act as the country's first comprehensive disaster management law. In 2002, the RTG established the DDPM as the lead agency for DRM and disaster response. In 2004, Thailand faced a catastrophic tsunami, which resulted in a high death toll and injuries, and severe damage to livelihoods, the environment, and the economy in southern Thailand. Following the disaster, the RTG further strengthened and systematized its disaster management capabilities. In 2007, the RTG enacted the DPM Act, which sets out the main statutory framework for DRM and disaster response. Additional regulations, and a periodically updated National DRM Plan, which provides a blueprint for the country's DRM and response planning, support the legislation.

In addition to the government-led system, a vast network of NGOs and charities, academic institutions, business and private enterprises, and community and citizen-led networks support the country's disaster management system. There is a growing emphasis by the government in facilitating meaningful participation by members of the community at all levels to improve DRR efforts and local governments are being called upon to play a greater role in connecting the national-level strategy to locally-led action.

Thailand faces recurring natural hazards that climate change is intensifying, such as severe storms, flooding, landslides, and drought. Thailand's agricultural sector stands to be impacted the most by climate-related hazards arising from changes in carbon dioxide availability, precipitation, temperature, and water scarcity. The agriculture sector, employs almost one third of the country's working population. Experts have estimated that loss of farmland value and output alone could exceed US\$94 billion under a high-emissions scenario by 2050, due to changes in temperature and precipitation.³⁷²

Sea level rise is another significant impact of climate change. Rising sea levels are expected to worsen the impact of storms and flooding and lead to permanent inundation in some areas of the country. Low-lying Bangkok City is expected to become one of the world's worst affected cities alongside Jakarta and Manila.³⁷³ Land loss from sea-level rise will impact sustainable land use for economic activities, in the tourism, import and export sectors, and industrial zones. Significant amounts of Thailand's critical infrastructure are located in areas likely to be adversely impacted by climate change.³⁷⁴

To address the challenges of climate change and climate-related natural disasters, the RTG has since 2007 incorporated climate change into its national economic and social development plans. Climate change is addressed at the highest level under the country's National Strategy 2018-2037, an overarching framework for sustainable development.³⁷⁵ The government has also developed the Climate Change Management Master Plan 2015-2050, which set out mitigation, adaptation, and capacity building strategies. Moreover, at the 2021 UN COP26, Thailand pledged to reduce greenhouse gas emissions by 20% by 2030, or by 40% with further financial and technological support.³⁷⁶

Looking forward, key areas of priority for DRM includes water sustainability to meet current demands, addressing the high levels of poverty among vulnerable groups to strengthen resiliency, broadening the engagement of communities and schools in DRR efforts, and strengthening the role of local governments in connecting national development priorities to locally-led action and resilience building.³⁷⁷ Other challenges include promoting better coordination of prevention, mitigation, and preparedness efforts within government, the community, and among relief organizations.³⁷⁸

APPENDICES

DoD DMHA Engagements in the Past Five Years (FY 2016-2021)

The list below describes the Disaster Management and Humanitarian Assistance (DMHA) Engagements that the U.S. has had with Thailand in the last five years.

Cobra Gold 2021 (CG21) – August 2021

The 40th Cobra Gold exercise (CG21) took place on 3-13 August 2021 in Thailand. CG21 emphasized joint military training, civic action, and humanitarian assistance, and disaster relief. In Sa Kaeo Province, Thai and U.S. military engineers worked together to construct a new multipurpose facility at Baan Mai Thai Pattan School, enabling the school to welcome a growing number of students. The project was part of Cobra Gold's Engineering Civic Action Program, which utilizes the capabilities of both the U.S. and RTArF to support local communities.

The fourth annual Humanitarian Assistance and Disaster Relief Tabletop Exercise TTX moved to a fully virtual format for the first time ever. From 30 July to 1 August, a total of 54 participants from nine nations discussed civil-military efforts associated with disaster response and assisting those in need. The TTX featured experts from the U.S. and RTG, as well as international organizations such as the UN, ASEAN, and Red Cross and Red Crescent Societies.³⁷⁹

Southeast Asia Cooperation and Training (SEACAT) – August 2021

The 20th annual Southeast Asia Cooperation and Training (SEACAT) exercise took place from 10-20 August 2021. SEACAT is a multilateral exercise that brought together 21 partner nations, interagencies, international and non-government organizations, designed to provide mutual support and a common goal to address

crises, contingencies, and illegal activities in the maritime domain using standardized tactics, techniques, and procedures. The largest iteration to date, 21 nations participated, including Australia, Bangladesh, Brunei, Canada, France, Germany, India, Indonesia, Japan, Malaysia, Maldives, New Zealand, Philippines, South Korea, Singapore, Sri Lanka, Thailand, Timor-Leste, United Kingdom, United States, and Vietnam.³⁸⁰

Cooperation Afloat Readiness and Training (CARAT) Exercise – September 2021

The U.S. and Thailand conducted joint naval training during the 27th annual CARAT exercise, which took place 6-10 September 2021. The CARAT Exercise included virtual exercises to mitigate the risk of the ongoing COVID-19 pandemic and at-sea training in the Gulf of Thailand. The two countries demonstrated their ability to work together by practicing helicopter landings and search and rescue exercises and testing communications as ships sailed together in complex maneuvers. The at-sea phase took place in territorial and international waters near Sattahip and Ko Samui, where USS Green Bay (LPD 20) and a P-8A Poseidon aircraft joined with ships and aircraft from Thailand for allied training. Royal Thai Navy ships at-sea included the Naresuan-class frigates HTMS Naresuan (FFG 421), HTMS Taksin (FFG 422), and HTMS Bhumibol Adulyadej (FFG 471). Beginning in 1995, CARAT has built upon other engagements in the Indo-Pacific region. Each CARAT exercise features professional symposia and a robust at-sea phase that increases interoperability. CARAT improves a broad range of naval competencies including search and rescue, humanitarian assistance, and disaster response.³⁸¹

Cobra Gold 2020 (CG20) – February 2020

The 39th Cobra Gold 2020 (CG20) was conducted from 25 February to 6 March 2020 in Thailand. The U.S. and Thailand jointly sponsor

the exercise, which includes participation from seven nations including the U.S., Thailand, South Korea, Japan, Malaysia, Singapore, Indonesia, and other observer nations. CG20 is the largest joint and combined military exercise in Southeast Asia. Conducted annually since 1982, CG prepares participant countries to work together multilaterally across a full spectrum of operations. These operations provide great benefits to interoperability and will contribute to the operational readiness of all the forces involved.³⁸²

CARAT Exercise – June 2019

The U.S. and Thailand conducted the 25th annual CARAT exercise on 29 May to 8 June 2019. CARAT Thailand featured more than a dozen ships and aircraft from the U.S. and Royal Thai navies engaged in training at-sea and ashore. The 2019 CARAT exercise focused on Maritime Domain Awareness, submarine operations and tactics tabletop exercises, integrated dive team training and practical dives, jungle survival training, and medical casualty evacuation, etc.³⁸³

Cobra Gold-February 2019

The 38th Cobra Gold Exercise (CG19) took place from 12-22 February 2019 and focused on three major components: a military field training exercise (FTX), humanitarian civic assistance (HCA) to communities, and a humanitarian assistance and disaster relief exercise. Nine countries participated in CG19, including Thailand, the U.S., Singapore, Japan, China, India, Indonesia, Malaysia, and South Korea.

Cobra Gold-February 2018

Cobra Gold was held from 13-23 February 2018 with seven participating nations. Cobra Gold is an annual exercise conducted in Thailand that improves the interoperability and strengthens relationships among participating nations. Activities have included disaster response coordination, diving operations, and a number of civic projects. The U.S., Republic of Korea, and Royal Thai Armed Forces

worked together on this exercise. During Cobra Gold 2018, the exercise featured U.S.-Thai-Republic of Korea amphibious assault vehicles with coordinated air cover overhead from attack aircraft. Marines from all three nations consolidated their positions on Hat Yao Beach.³⁸⁴

CARAT – June 2018

The U.S. Navy and Marine Corps, and Royal Thai Navy held the 24th iteration of the Cooperation Afloat Readiness and Training (CARAT) exercise in Pattaya, Thailand, on 14 June. The multi-nation exercise series is organized in bilateral phases with regional nations and is designed to enhance capabilities in a broad spectrum of naval operations. Additional phases of CARAT took place in Indonesia, Malaysia, Brunei and Bangladesh.³⁸⁵

Lower Mekong Initiative Disaster Response Exercise & Exchange (LMI DREE)-December 2017

The LMI DREE is an annual USINDOPACOM sponsored, multi-national exercise intended to enhance cooperation between the governments of Thailand, Cambodia, Lao PDR, Myanmar, Vietnam, and the U.S. in the areas of connectivity, education, energy security, environment, water, food security, agriculture, and health. The December 2017 LMI DREE was a humanitarian assistance and disaster relief exercise that brought together more than 100 disaster management experts.³⁸⁶

Tempest Express-August 2017

Tempest Express is a USINDOPACOM multilateral exercise co-hosted by the Royal Thai Armed Forces (RTArF) and is designed to create skilled multinational military planners. Tempest Express opening ceremonies began on 22 August 2017 in Bangkok, Thailand. The exercise is also the largest event in the USINDOPACOM's Multinational Planning Augmentation Team program, and this event included over 120 participants from 21 countries.³⁸⁷

Multinational Force Standard Operating Procedures (MNF SOP) Workshop-August 2017

The MNF SOP Workshop took place 21-31 August 2017 at the Royal Thai Armed Forces Centre for Strategic Studies in Bang Saen, Chonburi Province, Thailand. The Workshop was collocated with the Tempest Express 2017 exercise. Participants received academic instruction on Multinational Force Standing Operating Procedures (MNF SOP), and practice crisis action planning in scenarios focusing on HADR and Peacekeeping Operations. CFE-DM personnel gave presentations during the Tempest Express' academic portion, as well as facilitated working groups supporting the MNF SOP.

Disaster Response Regional Architecture Workshop-July 2017

The Asia-Pacific Center for Security Studies (APCSS) and the S. Rajaratnam School of International Studies (RSIS) at the Nanyang Technological University in Singapore (RSIS) cohosted a workshop on "Disaster Response Regional Architectures: Assessing Future Possibilities" in Bangkok, Thailand, from 18-20 July 2017. The co-hosts convened 33 HADR professionals, which included serving military and civilian government officials, educators, and civil society representatives (including CFE-DM and PACOM).

Cooperation Afloat Readiness and Training (CARAT)-May 2017

The 23rd annual Cooperation Afloat Readiness and Training (CARAT) exercise series between the U.S. Navy and the U.S. Marine Corps and the armed forces of nine partner nations. CARAT provides a training venue to address shared maritime security priorities, enhance interoperability among participating forces, and develop sustained naval partnerships with nations in the region. The annual training events ensure forces are ready to operate together and respond effectively to any crisis. Humanitarian assistance and disaster response is just one feature of the training. CARAT 2017 exercise included the Royal Thai Navy and the

U.S. Navy and Marine Corps; it took place in Thailand in May 2017.³⁸⁸

ASEAN Civil-Military Coordination Workshop-April 2017

The ASEAN Civil-Military Coordination workshop was conducted 4-6 April 2017. It consisted of HADR lectures and two separate breakout groups discussing scenarios in the ASEAN Joint Disaster Response Plan (AJDRP). CFE-DM facilitated working groups discussing national disaster response mechanisms focused on scenarios in the AJDRP. This event served as foundation for an enhanced partnership with the Thailand MOD, including the establishment of a formal partnership agreement, and an expanded role in the 2018 ASEAN Civil-Military Coordination Workshop.

Cobra Gold-February 2017

Cobra Gold began its 36th iteration on 14 February 2017. The focus of the exercise in 2017 was to advance regional security and ensure effective responses to regional crises by bringing together a multinational force in the Indo-Asia-Pacific region to address shared goals and security commitments.³⁸⁹

ASEAN Exercise 16-3-September 2016

Association of Southeast Asian Nations (ASEAN) Exercise 16-3 took place in September 2016 in Chonburi Province, Thailand. This humanitarian assistance and disaster relief exercise brings together forces from 18 nations' military and government organizations to apply and hone common standard operating procedures and diversify each other's capabilities to prepare for disasters in the Indo-Asia-Pacific region. The 2016 exercise scenarios included an earthquake induced collapsed building Search and Rescue operation.³⁹⁰

Hanuman Guardian-June 2016

Hanuman Guardian is a joint U.S. – Thai exercise focused on military interoperability while providing disaster relief. The exercise provided the Royal Thai and U.S. Armies with

challenging training scenarios, improve military readiness to respond to crisis and enhance relations. Hanuman Guardian took place at Fort Adisorn, Thailand, in June 2016.³⁹¹

Cooperation Afloat Readiness and Training (CARAT)-June 2016

CARAT exercise began on 1 June 2016 in Malaysia. CARAT 2016 took place on the ground in Sandakan and in the waters and airspace of the Sulu Sea. While the exercise series remains bilateral, elements of CARAT 2016 included multi-lateral cooperation ranging from observers to training activities. Additional bilateral phases of CARAT occurred from June through November 2016 with Thailand, Bangladesh, Brunei, Cambodia, Indonesia, Philippines, Singapore, and Timor-Leste.

ASEAN Civil-Military Coordination Workshop-March 2016

This was the first ASEAN Civil-Military Coordination (CMCOORD) Workshop organized by the Ministry of Defence from the Kingdom of Thailand. The three-day workshop emphasized civil-military partnerships in humanitarian assistance and disaster relief. The workshop was organized and managed by the Thailand Ministry of Defence with the intent of making it an actual ASEAN event in the future. The goals of the workshop were to build partnerships and an extended network of disaster management professionals from the public and private sector.

Cobra Gold-February 2016

Thailand and the U.S. co-hosted this large multinational military exercise in Thailand in February 2016. Approximately 1,500 U.S. Marines, 1,000 U.S. Soldiers, 450 U.S. Sailors, 275 U.S. Airmen, and another 300 from small units and commands came together with Royal Thai service members to participate in Cobra Gold 2016.³⁹²

International/Foreign Relations

The U.S. and Thailand established relations in 1818 and signed a Treaty of Amity and Commerce in 1833, formalizing diplomatic relations. The Treaty of Amity and Commerce of 1833 began a partnership that has developed and strengthened over time. The U.S. and Thailand remain parties to the 1954 Manila Pact of the former Southeast Asia Treaty Organization (SEATO), which, together with the Thanat-Rusk communiqué of 1962 and the 2020 Joint Vision Statement for the Thai-U.S. Defense Alliance, constitutes the foundation of the U.S.-Thai defense alliance.³⁹³ Today the United States and Thailand cooperate on a wide range of program across a vast range of issues, including education and culture, public health, business and trade, democracy, as well as security and military cooperation.

The U.S. partnership with Thailand is bilateral and regional in scope. U.S. support is geared toward promoting regional security and prosperity; infectious disease prevention, treatment, and research; combatting emerging pandemic threats; humanitarian assistance for displaced persons; combatting transnational crime, including conservation crimes; support for civil society; and the promotion of democracy and human rights.³⁹⁴

In 2003, the United States designated Thailand a major non-NATO Ally. Thailand is an important U.S. security ally in Southeast Asia and has a bilateral partnership that continues to increase interoperability among both countries' militaries.³⁹⁵ Thailand and the U.S. jointly host the Cobra Gold, the Indo-Pacific region's largest annual multinational military exercise. Since 1950, Thailand has received U.S. military equipment, essential supplies, training, and other assistance in the construction and improvement of facilities. The U.S. has US\$2.8 billion in ongoing Foreign Military Sales to Thailand, and the two countries have an annual slate of more than 400 joint military exercises and engagements.³⁹⁶

Thailand is currently the U.S. 19th-largest goods trading partner, with US\$48.8 billion in two-way goods trade during 2020. The United States contributed US\$17.7 billion of foreign direct investment (FDI) to Thailand in 2019, making it the third-largest foreign investor after Japan (US\$70 billion) and Singapore (US\$30 billion).

The relationship between the U.S. and Thailand has been strained in the past following the May 2014 coup staged by the Thai military against civilian administration of Yingluck Shinawatra. As a result, the U.S. blocked US\$4.7 million in security-related aid. The U.S. has been pushing for democracy and improved human rights in the country, which can create tension. Since then the Thai and U.S. governments have restored bilateral ties; however, Thailand has adopted stronger defense ties with China and Russia after the 2014 coup and after the U.S. suspension of arms sales during recent years.³⁹⁷

China has not criticized Thailand's coup like Western nations including the U.S. have and as a result have built closer relations with China, who is Thailand's main trade partner. The Royal Thai Navy has placed US\$1 billion in submarines from China and has plans to set up a joint weapons manufacturing facility with China in July 2018 in Thailand. Chinese and Thai militaries participate in overseas joint exercises and joint counter-terrorism exercises. At the same time, Thailand has been neutral in the ongoing conflict between some ASEAN members (Philippines and Vietnam) and China over conflicting maritime claims in the South China Sea.³⁹⁸

Thailand's foreign policy is oriented towards enhancing Thailand's role on the global stage, playing a constructive role in the region, strengthening ASEAN solidarity, promoting economic and cultural relations, enhancing international security cooperation, and proactive diplomacy.³⁹⁹ Currently, Thailand enjoys diplomatic relations with over 190 countries and maintains more than 90 embassies, consulates-general and diplomatic missions abroad. Most recently, Thailand opened an embassy in Astana, Republic of Kazakhstan in 2012.⁴⁰⁰

Participation in International Organizations

Thailand participates in the following international organizations and forums:

Asian Development Bank (ADB), Asia-Pacific Economic Cooperation (APEC), ASEAN Regional Forum (ARF), Association of Southeast Asian Nations (ASEAN), Bank for International Settlements (BIS), Conference on Interaction and Confidence Building Measures in Asia (CICA), Colombo Plan (CP), East Asia Summit (EAS), Food and Agriculture Organization of the United Nations (FAO), International Atomic Energy Agency (IAEA), International Bank for Reconstruction and Development (IBRD), International Civil Aviation Organization (ICAO), International Chamber of Commerce (ICC-national committees), Institute of Catastrophe Risk Management (ICRM), International Fund for Agricultural Development (IFAD), International Finance Corporation (IFC), International Federation of Red Cross and Red Crescent Societies (IFRC), International Hydrographic Organization (IHO), International Labour Organization (ILO), International Monetary Fund (IMF), International Maritime Organization (IMO), International Mobile Satellite Organization (IMSO), International Criminal Police Organisation (INTERPOL), International Olympic Committee (IOC), UN International Organization for Migration (IOM), Inter-Parliamentary Union (IPU), International Organization for Standardization (ISO), International Telecommunications Satellite Organization (ITSO), International Telecommunications Union (ITU), International Trade Union Confederation (ITUC-NGOs), Multilateral Investment Guarantee Agency (MIGA), Non-Aligned Movement (NAM), Organisation for the Prohibition of Chemical Weapons (OPCW), Permanent Court of Arbitration (PCA), United Nations (UN), United Nations Conference on Trade and Development (UNCTAD), UN Educational, Scientific, and Cultural Organization (UNESCO), UN High Commissioner for Refugees (UNHCR), UN

Industrial Development Organization (UNIDO), World Tourism Organization (UNWTO), Universal Postal Union (UPU), World Customs Organization (WCO), World Federation of Trade Unions (WFTU NGOs), World Health Organization (WHO), World Intellectual Property Organization (WIPO), World Meteorological Organization (WMO), World Trade Organization (WTO).

UN peacekeeping missions that Thailand is contributing personnel to, as of 28 December 2021.⁴⁰¹

- UN Mission in Republic of South Sudan (UNMISS) – 268 troops, 8 police, 5 experts
- UN Military Observer Group in India and Pakistan (UNMOGIP) – 5 experts

Force Protection/Pre-Deployment Information

The following information is provided for pre-deployment planning and preparations. Visit www.travel.state.gov prior to deployments for further up-to-date information. DoD personnel must review the Foreign Clearance Guide (FCG) for travel to Thailand (www.fcg.pentagon.mil). All official travel and personal travel for active duty personnel must be submitted through an APACS request. Contact information for the Defense Attaché Office can be found in the FCG if you have additional questions.⁴⁰²

Passport/Visa

A passport with 6 months validity from date of entry is recommended. For U.S. citizens, tourist visas are not required if length of stay is less than 30 days. Business travelers, U.S. government employees travelling on official business, teachers, retirees, and those planning to stay longer than 30 days should check with the Royal Thai Embassy about visa requirements.⁴⁰³

Safety and Security

Terrorism: Terrorist groups and those inspired by such organizations are intent on

attacking U.S. citizens abroad. Terrorists are increasingly using less sophisticated methods of attack – including knives, firearms, and vehicles – to more effectively target crowds.

Periodic acts of violence in Thailand

remain a concern: For example, in August 2019, several small explosions and related arson events occurred in various locations throughout Bangkok resulting in no deaths but some injuries and minor property damage.

Far Southern Thailand: Periodic violence directed mostly at Thai government interests by a domestic insurgency continues to affect security in the southernmost provinces of Yala, Pattani, Narathiwat, and Songkhla. U.S. citizens are at risk of death or injury due to the possibility of indiscriminate attacks in public places. Martial law is in force in this region. The U.S. government has limited ability to provide emergency services to U.S. citizens in these provinces. Travel to this region by U.S. government employees must be reviewed and approved in advance.

Crime: Common criminal activities include crimes of opportunity, violent crimes, and, sexually motivated violence. When traveling alone, exercise caution, stay near other travelers, and ensure friends or family know how to contact you. Taxi and “tuk-tuk” drivers may attempt to charge excessive fares or refuse passengers. You should either request the driver use the meter or agree on the fare beforehand. At the airport use only public transportation from the airport’s official pick-up area, cars from the limousine counters, or a car from your hotel. Rental scams do occur in Thailand. Many rental motorbike, jet ski, and car companies will hold your passport until you pay for real or fictitious damages. We advise against using your passport as collateral. Exorbitant bar tab scams occur in Thailand. Some bars and entertainment venues will charge exorbitant prices for drinks or unadvertised cover charges and threaten violence if you don’t pay. Other scams involving gems, city tours, entertainment venues, and credit cards are common, especially in tourist areas.

Emergency Contact Information

U.S. Embassy Bangkok

95 Wireless Road

Bangkok 10330

Thailand

Telephone: + (66) (2) 205-4049, 02-205-4049
(within Thailand)

Emergency After-Hours Telephone: +(66) (2)
205-4000, 02-205-4000 (within Thailand)

Fax: +(66) (2) 205-4103, 02-205-4103 (within
Thailand)

Email: acsbkk@state.gov

U.S. Consulate General Chiang Mai

387 Wichayanond Road

Chiang Mai 50300

Thailand

Telephone: +(66) (53) 107-777, 053-107-777
(within Thailand)

Emergency After-Hours Telephone: +(66) 81-
881-1878, 081-881-1878 (within Thailand)

Fax: +(66) (53) 252-633, 053-252-633 (within
Thailand)

Email: acschn@state.gov

Currency Information

The currency is the Thai baht. There is no currency restriction on entry or exit.

Travel Health Information

The U.S. Centers for Disease Control and Prevention (CDC) provides guidance that all travelers to Thailand should be up to date on routine vaccinations. The following are additional recommendations for travel to Thailand. The information in Tables 11 and 12 are taken directly from the CDC website under the Travelers Health Section (<https://wwwnc.cdc.gov/travel/destinations/list/>).⁴⁰⁴

Health Alerts for Thailand: At the time of writing this handbook (28 December 2021), the CDC lists Thailand as a “Level 3” or “high level” country for COVID-19. The agency recommends the following for persons traveling to Thailand during the pandemic:

- Make sure you are fully vaccinated before traveling to Thailand.

- Unvaccinated travelers should avoid nonessential travel to Thailand.

The following actions you can take to stay healthy and safe on your trip include:

Eat and Drink Safely

Unclean food and water can cause travelers’ diarrhea and other diseases. Reduce your risk by sticking to safe food and water habits.

Eat

- Food that is cooked and served hot
- Hard-cooked eggs
- Fruits and vegetables you have washed in clean water or peeled yourself
- Pasteurized dairy products

Don’t Eat

- Food served at room temperature
- Food from street vendors
- Raw or soft-cooked (runny) eggs
- Raw or undercooked (rare) meat or fish
- Unwashed or unpeeled raw fruits and vegetables
- Unpasteurized dairy products
- “Bushmeat” (monkeys, bats, or other wild game)

Drink

- Bottled water that is sealed
- Water that has been disinfected
- Ice made with bottled or disinfected water
- Carbonated drinks
- Hot coffee or tea
- Pasteurized milk

Don’t Drink

- Tap or well water
- Ice made with tap or well water
- Drinks made with tap or well water (such as reconstituted juice)
- Unpasteurized milk

Take Medicine

Talk with your doctor about taking prescription or over-the-counter drugs with you on your trip in case you get sick.

Prevent Bug Bites

Bugs (like mosquitoes, ticks, and fleas) can spread a number of diseases in Thailand. Many of these diseases cannot be prevented with a vaccine or medicine. You can reduce your risk by taking steps to prevent bug bites.

What can I do to prevent bug bites?

- Cover exposed skin by wearing long-sleeved shirts, long pants, and hats.
- Use an appropriate insect repellent (see below).
- Use permethrin-treated clothing and gear (such as boots, pants, socks, and tents). Do not use permethrin directly on skin.
- Stay and sleep in air-conditioned or screened rooms.
- Use a bed net if the area where you are sleeping is exposed to the outdoors.

What type of insect repellent should I use?

- **FOR PROTECTION AGAINST TICKS AND MOSQUITOES:** Use a repellent that contains 20% or more DEET for protection that lasts up to several hours.
- **FOR PROTECTION AGAINST MOSQUITOES ONLY:** Products with one of the following active ingredients can also help prevent mosquito bites. Higher percentages of active ingredient provide longer protection.
 - o DEET
 - o Picaridin (also known as KBR 3023, Bayrepel, and icaridin)
 - o Oil of lemon eucalyptus (OLE) or para-menthane-diol (PMD)
 - o IR3535
 - o 2-undecanone
- Always use insect repellent as directed.

What should I do if I am bitten by bugs?

- Avoid scratching bug bites, and apply hydrocortisone cream or calamine lotion to reduce the itching.
- Check your entire body for ticks after outdoor activity. Be sure to remove ticks properly.

What can I do to avoid bed bugs?

Although bed bugs do not carry disease, they are an annoyance. See our information page about avoiding bug bites for some easy tips to avoid them. For more information on bed bugs, see Bed Bugs.

Safety and Security

Note that conditions can change rapidly in a country at any time. To receive updated Travel Advisories and Alerts for the countries you choose, sign up at step.state.gov.

Routine vaccines	<p>Make sure you are up-to-date on all routine vaccines before your trip. Some of these vaccines include</p> <ul style="list-style-type: none"> • Chickenpox (Varicella) • Diphtheria-Tetanus-Pertussis • Flu (influenza) • Measles-Mumps-Rubella (MMR) • Polio • Shingles
COVID-19	Everyone five years of age and older should get fully vaccinated for COVID-19 before travel.
Cholera	There is no longer active cholera transmission and vaccine is not recommended.
Hepatitis A	<p>Recommended for unvaccinated travelers one year old or older going to Thailand. Infants 6 to 11 months old should also be vaccinated against Hepatitis A. The dose does not count toward the routine 2-dose series.</p> <p>Travelers allergic to a vaccine component or who are younger than 6 months should receive a single dose of immune globulin, which provides effective protection for up to 2 months depending on dosage given.</p> <p>Unvaccinated travelers who are over 40 years old, immunocompromised, or have chronic medical conditions planning to depart to a risk area in less than 2 weeks should get the initial dose of vaccine and at the same appointment receive immune globulin.</p>
Hepatitis B	Recommended for unvaccinated travelers of all ages to Thailand.
Japanese Encephalitis	<p>Recommended for travelers who:</p> <ul style="list-style-type: none"> • Are moving to an area with Japanese encephalitis to live • Spend long periods of time, such as a month or more, in areas with Japanese encephalitis • Frequently travel to areas with Japanese encephalitis <p>Consider vaccination for travelers</p> <ul style="list-style-type: none"> • Spending less than a month in areas with Japanese encephalitis but will be doing activities that increase risk of infection, such as visiting rural areas, hiking or camping, or staying in places without air conditioning, screens, or bed nets • Going to areas with Japanese encephalitis who are uncertain of their activities or how long they will be there <p>Not recommended for travelers planning short-term travel to urban areas or travel to areas with no clear Japanese encephalitis season.</p>
Malaria	CDC recommends that travelers going to certain areas of Thailand take prescription medicine to prevent malaria. Depending on the medicine you take, you will need to start taking this medicine multiple days before your trip, as well as during and after your trip. Talk to your doctor about which malaria medication you should take.
Measles	Infants 6 to 11 months old traveling internationally should get 1 dose of measles-mumps-rubella (MMR) vaccine before travel. This dose does not count as part of the routine childhood vaccination series.
Rabies	<p>Rabid dogs are commonly found in Thailand. However, if you are bitten or scratched by a dog or other mammal while in Thailand, rabies treatment is often available.</p> <p>Consider rabies vaccination before your trip if your activities mean you will be around dogs or wildlife.</p> <p>Travelers more likely to encounter rabid animals include</p> <p>Campers, adventure travelers, or cave explorers (spelunkers) Veterinarians, animal handlers, field biologists, or laboratory workers handling animal specimens Visitors to rural areas</p>
Typhoid	Recommended for most travelers, especially those staying with friends or relatives or visiting smaller cities or rural areas.
Yellow fever	<p>Required if traveling from a country with risk of YF virus transmission and ≥9 months of age, including transit >12 hours in an airport located in a country with risk of YF virus transmission. See link for list of countries with yellow fever:</p> <p>https://wwwnc.cdc.gov/travel/yellowbook/2020/travel-related-infectious-diseases/yellow-fever#table423</p>

Table 11: CDC Information for Vaccine-Preventable Diseases in Thailand

Chikungunya	Mosquito bites can carry chikungunya; there is no prophylaxis. Avoid bug bites.
Dengue	Mosquito bites can carry dengue; there is no prophylaxis. Avoid bug bites.
Hantavirus	Hantavirus can be spread by breathing in air or accidentally eating food contaminated with the urine, droppings, or saliva of infected rodents, or bite from an infected rodent. Less commonly, it is spread by being around someone sick with hantavirus (only occurs with Andes virus). To avoid infection, avoid rodents and areas where they live, and avoid sick people.
Leptospirosis	Leptospirosis can be contracted by touching urine or other body fluids from an animal infected with leptospirosis, swimming or wading in urine-contaminated fresh water, or contact with urine-contaminated mud, or by drinking water or eating food contaminated with animal urine. To avoid infection, avoid contaminated water and soil.
Tuberculosis (TB)	TB is most commonly contracted when one breathes in TB bacteria that is in the air from an infected and contagious person who has coughed, spoken, or sang. To avoid potential contamination, avoid sick people.
Zika	Zika is spread by the bite of an infected mosquito or by an infected pregnant woman to her unborn baby. To avoid infection, avoid bug bites.

Table 12: CDC Information for Non-Vaccine-Preventable Diseases in Thailand

Sendai Framework

The Sendai Framework is the global blueprint and fifteen-year plan to build the world’s resilience to natural disasters.⁴⁰⁵ The information in this section is sourced directly from the Sendai Framework. The Sendai Framework for Disaster Risk Reduction 2015-2030 outlines seven clear targets and four priorities for action to prevent new and reduce existing disaster risks:

The Seven Global Targets include:

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality rates in the decade 2020-2030 compared to the period 2005-2015.

- Substantially reduce the number of affected people globally by 2030, aiming to lower average global figure per 100,000 in the decade 2020 -2030 compared to the period 2005-2015.
- Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.
- Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.
- Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.
- Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030.
- Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.⁴⁰⁶

The Four Priorities of Action include:

- Understanding disaster risk;
- Strengthening disaster risk governance to manage disaster risk;
- Investing in disaster reduction for resilience; and
- Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation, and reconstruction.⁴⁰⁷

The Sendai Framework aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods, and health and in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries over the next 15 years. It was adopted at the Third United Nations World Conference on Disaster Risk Reduction in Sendai, Japan in 2015.⁴⁰⁸ The Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters.⁴⁰⁹ Figure 25 shows the Sendai DRR Framework.⁴¹⁰

Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030

Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors

Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

Targets

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015	Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015	Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030	Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030	Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020	Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030	Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030
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Figure 25: UN Sendai Framework for Disaster Risk Reduction 2015-2030

HFA Country Progress Report

The Hyogo Framework for Action (HFA) was adopted as a guideline to reduce vulnerabilities to natural hazards. The HFA assists participating countries to become more resilient and to better manage the hazards that threaten their development. The levels of progress of the 2013-2015 results of the HFA for Thailand are represented in Figure 26 and Table 13. Table 14 provides an overview of the overall challenges and the future outlook statement from the HFA report. The 2013-2015 report is the most recent HFA report available for Thailand.⁴¹¹

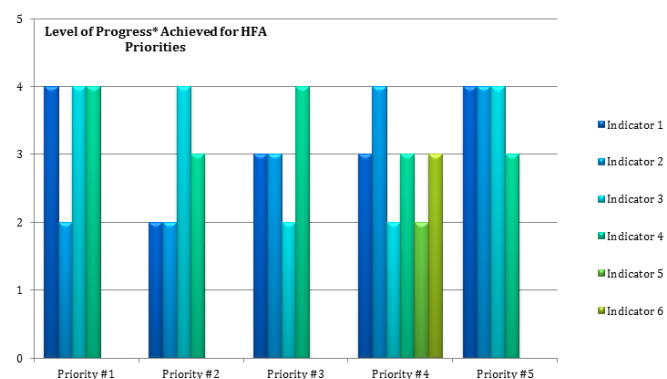


Figure 26: Level of HFA Progress Achieved

Priority for Action #1: Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.		
Core Indicator*	Indicator Description	Level of progress Achieved*
1	National policy and legal framework for disaster risk reduction exists with decentralized responsibilities and capacities at all levels.	4
2	Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels.	2
3	Community participation and decentralization is ensured through the delegation of authority and resources to local levels.	4
4	A national multi sectoral platform for disaster risk reduction is functioning.	4
Priority for Action #2: Identify, assess and monitor disaster risks and enhance early warning.		
1	National and local risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors.	2
2	Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities.	2
3	Early warning systems are in place for all major hazards, with outreach to communities.	4
4	National and local risk assessments take account of regional / trans-boundary risks, with a view to regional cooperation on risk reduction.	3
Priority for Action #3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels		
1	Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information sharing systems, etc.).	3
2	School curricula, education material and relevant trainings include disaster risk reduction and recovery concepts and practices.	3
3	Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.	2
4	Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.	4

Table 13: National Progress Report on the Implementation of the HFA

Priority for Action #4: Reduce the underlying risk factors.		
1	Disaster risk reduction is an integral objective of environment related policies and plans, including for land use natural resource management and adaptation to climate change.	3
2	Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk.	4
3	Economic and productive sectorial policies and plans have been implemented to reduce the vulnerability of economic activities.	2
4	Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.	3
5	Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes.	2
6	Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.	3
Priority for Action #5: Strengthen disaster preparedness for effective response at all levels.		
1	Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place.	4
2	Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programs.	4
3	Financial reserves and contingency mechanisms are in place to support effective response and recovery when required.	4
4	Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews.	2

Table Notes:

*Level of Progress:

1 – Minor progress with few signs of forward action in plans or policy

2 – Some progress, but without systematic policy and/ or institutional commitment

3 – Institutional commitment attained, but achievements are neither comprehensive nor substantial

4 – Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

5 – Comprehensive achievement with sustained commitment and capacities at all levels

Table 13: National Progress Report on the Implementation of the HFA (cont.)

Future Outlook Area 1: The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.	
Challenges:	Disaster Risk Reduction (DRR) mainstreaming in the development plan and sector’s plan.
Future Outlook Statement:	DRR is mainstreamed into development and sectors’ development plan at national, regional, provincial and local level. Existing mechanisms mandated by law (disaster prevention and mitigation committee) are strengthened. Budget is secured on DRR programs.
Future Outlook Area 2: The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards.	
Challenges:	All sectors and stakeholders should share common understanding on DRR to ensure the seamless linkage between global, national and local framework for action in DRR.
Future Outlook Statement:	A shared understanding on DRR is promoted through an agreed strategic communication scheme, including sets of contextualized and user-friendly toolkits and learning kits for each sector and stakeholder groups.
Future Outlook Area 3: The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programs in the reconstruction of affected communities.	
Challenges:	The systematic and participatory monitoring and evaluation mechanism and tools for DRR in the country in all phases of disaster risk management.
Future Outlook Statement:	A systematic DRR monitoring and evaluation mechanism and tools are developed in a participatory manner to ensure the effectiveness of DRR mainstreaming and DRR implementation in Thailand at all levels

Table 14: HFA Country Progress Report Future Outlook Areas, Thailand

Country Profile

The information in the Country Profile section is sourced directly from the CIA World Fact book for Thailand. Additional numbers on country comparison to the world can be found by going directly to the CIA website (<https://www.cia.gov>). It discusses topics including geography, people and society, government, economy, energy, communications, military and security, transportation, terrorism, and transnational issues.⁴¹²

Background

Two unified Thai kingdoms emerged in the mid-13th century. The Sukhothai, located in the south-central plains, gained its independence from the Khmer empire to the east. By the late 13th century, Sukhothai's territory extended into present-day Burma and Laos. Sukhotai lasted until the mid-15th century. The Thai Lan Na kingdom was established in the north with its capital at Chang Mai. Lan Na was conquered by the Burmese in the 16th century. The Ayutthaya kingdom (14th-18th centuries) succeeded the Sukhothai and would become known as the Siamese Kingdom. During the Ayutthaya period, the Thai/Siamese peoples consolidated their hold on what is present-day central and north-central Thailand. Following a military defeat at the hands of the Burmese in 1767, the Siamese Kingdom rose to new heights under the military ruler TAKSIN, who defeated the Burmese occupiers and expanded the kingdom's territory into modern-day northern Thailand (formerly the Lan Na kingdom), Cambodia, Laos, and the Malay Peninsula. The kingdom fought off additional Burmese invasions and raids in the late 1700s and early 1800s. In the mid-1800s, Western pressure led to Siam signing trade treaties that reduced the country's sovereignty and independence. In the 1890s and 1900s, the British and French forced the kingdom to cede Cambodian, Laotian, and Malay territories that had been under Siamese control.

A bloodless revolution in 1932 led to the establishment of a constitutional monarchy. After the Japanese invaded Thailand in 1941, the

government split into a pro-Japan faction and a pro-Ally faction backed by the king. Following the war, Thailand became a US treaty ally in 1954 after sending troops to Korea and later fighting alongside the US in Vietnam. Thailand since 2005 has experienced several rounds of political turmoil including a military coup in 2006 that ousted then Prime Minister THAKSIN Chinnawat, followed by large-scale street protests by competing political factions in 2008, 2009, and 2010. THAKSIN's youngest sister, YINGLAK Chinnawat, in 2011 led the Puea Thai Party to an electoral win and assumed control of the government.

In early May 2014, after months of large-scale anti-government protests in Bangkok beginning in November 2013, YINGLAK was removed from office by the Constitutional Court and in late May 2014 the Royal Thai Army, led by Royal Thai Army Gen. PRAYUT Chan-ocha, staged a coup against the caretaker government. PRAYUT was appointed prime minister in August 2014. Since then, the military-affiliated National Council for Peace and Order (NCPO), led by PRAYUT, has ruled the country. This body drafted a new constitution guaranteeing military sway over Thai politics, which was passed in a national referendum in August 2016. The constitution allows the military to select the entire 250-member Senate and requires a joint meeting of the House and Senate to select the prime minister, effectively giving the military a veto over the top executive by controlling 25% of the House. The NCPO has also restricted civil and political rights and suppressed political opponents. King PHUMIPHON Adunyadet passed away in October 2016 after 70 years on the throne; his only son, WACHIRALONGKON Bodinthathepphayawarakun (aka King Rama X), ascended the throne in December 2016. He signed the new constitution in April 2017. A long-delayed March 2019 election, disputed and widely viewed as skewed in favor of the party aligned with the military, allowed PRAYUT to continue his premiership. The country experienced large-scale pro-democracy protests in 2020.

Geography

Location

Southeastern Asia, bordering the Andaman Sea and the Gulf of Thailand, southeast of Burma

Geographic coordinates

15 00 N, 100 00 E

Map references

Southeast Asia

Area

total: 513,120 sq km

land: 510,890 sq km

water: 2,230 sq km

Area - comparative

About three times the size of Florida; slightly more than twice the size of Wyoming

Land boundaries

Total: 5,673 km

border countries (4): Burma 2416 km, Cambodia 817 km, Laos 1845 km, Malaysia 595 km

Coastline

3,219 km

Maritime claims

Territorial sea: 12 nm

Exclusive economic zone: 200 nm

Continental shelf: 200-m depth or to the depth of exploitation

Climate

Tropical; rainy, warm, cloudy southwest monsoon (mid-May to September); dry, cool northeast monsoon (November to mid-March); southern isthmus always hot and humid

Terrain

Central plain; Khorat Plateau in the east; mountains elsewhere

Elevation

Highest point: Doi Inthanon 2,565 m

Lowest point: Gulf of Thailand 0 m

Mean elevation: 287 m

Natural resources

Tin, rubber, natural gas, tungsten, tantalum, timber, lead, fish, gypsum, lignite, fluorite, arable land

Land use

Agricultural land: 41.2% (2018 est.)

Arable land: 30.8% (2018 est.)

Permanent crops: 8.8% (2018 est.)

Permanent pasture: 1.6% (2018 est.)

Forest: 37.2% (2018 est.)

Other: 21.6% (2018 est.)

Irrigated land

64,150 sq km (2012)

Major lakes (area sq km)

Salt water lake(s): Thalesap Songkhla - 1,290 sq km

Major rivers (by length in km)

Mekong (shared with China [s], Burma, Laos, Cambodia, and Vietnam [m]) - 4,350 km; Salween (shared with China [s] and Burma [m]) - 3,060 km; Mun - 1,162 km

note – [s] after country name indicates river source; [m] after country name indicates river mouth

Major watersheds (area sq km)

Indian Ocean drainage: Salween (271,914 sq km)
Pacific Ocean drainage: Mekong (805,604 sq km)

Population distribution

Highest population density is found in and around Bangkok; significant population clusters found throughout large parts of the country, particularly north and northeast of Bangkok and in the extreme southern region of the country

Natural hazards

Land subsidence in Bangkok area resulting from the depletion of the water table; droughts

Geography - note

Controls only land route from Asia to Malaysia and Singapore; ideas for the construction of a canal across the Kra Isthmus that would create a bypass to the Strait of Malacca and shorten shipping times around Asia continue to be discussed

People and Society**Population**

69,480,520 (July 2021 est.)

Nationality

Noun: Thai (singular and plural)

Adjective: Thai

Ethnic groups

Thai 97.5%, Burmese 1.3%, other 1.1%, unspecified <.1% (2015 est.)

Note: data represent population by nationality

Languages

Thai (official) only 90.7%, Thai and other languages 6.4%, only other languages 2.9% (includes Malay, Burmese); note - data represent population by language(s) spoken at home; English is a secondary language of the elite (2010 est.)

Religions

Buddhist 94.6%, Muslim 4.3%, Christian 1%, other <0.1%, none <0.1% (2015 est.)

Demographic profile

Thailand has experienced a substantial fertility decline since the 1960s largely due to the nationwide success of its voluntary family planning program. In just one generation, the total fertility rate (TFR) shrank from 6.5 children per woman in 1960s to below the replacement level of 2.1 in the late 1980s. Reduced fertility occurred among all segments of the Thai population, despite disparities between urban and rural areas in terms of income, education, and access to public services. The country's "reproductive revolution" gained momentum in the 1970s as a result of the government's launch of an official population policy to reduce population growth, the introduction of new forms of birth control, and the assistance of foreign non-government organizations. Contraceptive use rapidly increased as new ways were developed to deliver family planning services to Thailand's then overwhelmingly rural population. The contraceptive prevalence rate increased from just 14% in 1970 to 58% in 1981 and has remained about 80% since 2000. Thailand's receptiveness to family planning reflects the predominant faith, Theravada Buddhism, which emphasizes individualism, personal responsibility, and independent decision-making. Thai women have more independence and a higher status than women in many other developing countries and are not usually pressured by their husbands or other family members about family planning decisions. Thailand's relatively egalitarian society also does not have the son preference found in a number of other Asian countries; most Thai ideally want one child of each sex.

Because of its low fertility rate, increasing life expectancy, and growing elderly population, Thailand has become an aging society that will face growing labor shortages. The proportion of the population under 15 years of age has

shrunk dramatically, the proportion of working-age individuals has peaked and is starting to decrease, and the proportion of elderly is growing rapidly. In the short-term, Thailand will have to improve educational quality to increase the productivity of its workforce and to compete globally in skills-based industries. An increasing reliance on migrant workers will be necessary to mitigate labor shortfalls.

Thailand is a destination, transit, and source country for migrants. It has 3-4 million migrant workers as of 2017, mainly providing low-skilled labor in the construction, agriculture, manufacturing, services, and fishing and seafood processing sectors. Migrant workers from other Southeast Asian countries with lower wages – primarily Burma and, to a lesser extent, Laos and Cambodia – have been coming to Thailand for decades to work in labor-intensive industries. Many are undocumented and are vulnerable to human trafficking for forced labor, especially in the fisheries industry, or sexual exploitation. A July 2017 migrant worker law stiffening fines on undocumented workers and their employers, prompted tens of thousands of migrants to go home. Fearing a labor shortage, the Thai Government has postponed implementation of the law until January 2018 and is rapidly registering workers. Thailand has also hosted ethnic minority refugees from Burma for more than 30 years; as of 2016, approximately 105,000 mainly Karen refugees from Burma were living in nine camps along the Thailand-Burma border. Thailand has a significant amount of internal migration, most often from rural areas to urban centers, where there are more job opportunities. Low- and semi-skilled Thais also go abroad to work, mainly in Asia and a smaller number in the Middle East and Africa, primarily to more economically developed countries where they can earn higher wages.

Age structure

0-14 years: 16.45% (male 5,812,803/female 5,533,772)

15-24 years: 13.02% (male 4,581,622/female 4,400,997)

25-54 years: 45.69% (male 15,643,583/female 15,875,353)

55-64 years: 13.01% (male 4,200,077/female 4,774,801)

65 years and over: 11.82% (male 3,553,273/female 4,601,119) (2020 est.)

Dependency ratios

Total dependency ratio: 41.9

youth dependency ratio: 23.5

elderly dependency ratio: 18.4

potential support ratio: 5.4 (2020 est.)

Median age

Total: 39 years

male: 37.8 years

female: 40.1 years (2020 est.)

Population growth rate

0.26% (2021 est.)

Birth rate

10.25 births/1,000 population (2021 est.)

Death rate

7.66 deaths/1,000 population (2021 est.)

Net migration rate

-0.03 migrant(s)/1,000 population (2021 est.)

Population distribution

Highest population density is found in and around Bangkok; significant population clusters found throughout large parts of the country, particularly north and northeast of Bangkok and in the extreme southern region of the country

Urbanization

Urban population: 52.2% of total population (2021)

Rate of urbanization: 1.43% annual rate of change (2020-25 est.)

Major urban areas - population

10.723 million BANGKOK (capital), 1.417 Chon Buri, 1.324 million Samut Prakan, 1.182 million Chiang Mai, 979,000 Songkla, 975,000 Nothaburi (2021)

Sex ratio

at birth: 1.05 male(s)/female

0-14 years: 1.05 male(s)/female

15-24 years: 1.04 male(s)/female

25-54 years: 0.99 male(s)/female

55-64 years: 0.88 male(s)/female

65 years and over: 0.77 male(s)/female

total population: 0.96 male(s)/female (2020 est.)

Mother's mean age at first birth

23.3 years (2009 est.)

Maternal mortality ratio

37 deaths/100,000 live births (2017 est.)

Infant mortality rate

Total: 6.58 deaths/1,000 live births

male: 7.2 deaths/1,000 live births

female: 5.92 deaths/1,000 live births (2021 est.)

Life expectancy at birth

Total population: 77.41 years

male: 74.39 years

female: 80.6 years (2021 est.)

Total fertility rate

1.54 children born/woman (2021 est.)

Contraceptive prevalence rate

73% (2019)

Drinking water source

Improved: urban: 100% of population

rural: 100% of population

total: 100% of population

unimproved: urban: 0% of population

rural: 0% of population

total: 0% of population (2017 est.)

Current Health Expenditure

3.8% (2018)

Physician density

0.81 physicians/1,000 population (2018)

Sanitation facility access

Improved: urban: 100% of population

rural: 100% of population

total: 99.9% of population

Unimproved: urban: 0% of population

rural: 0% of population

total: 0.1% of population (2017 est.)

HIV/AIDS - adult prevalence rate

1% (2020 est.)

HIV/AIDS - people living with HIV/AIDS
500,000 (2020 est.)

HIV/AIDS - deaths
12,000 (2020 est.)

Major infectious diseases

Degree of risk: very high (2020)

Food or waterborne diseases: bacterial diarrhea

Vector borne diseases: dengue fever, Japanese encephalitis, and malaria

Obesity - adult prevalence rate
10% (2016)

Children under the age of 5 years underweight
7.7% (2019)

Education expenditures
3% of GDP (2019)

Literacy

Definition: age 15 and over can read and write

Total population: 93.8%

Male: 95.2%

Female: 92.4% (2018)

School life expectancy (primary to tertiary education)

Total: 15 years

Male: 15 years

Female: 16 years (2016)

Unemployment, youth ages 15-24

Total: 5.2%

Male: 4.6%

Female: 5.9% (2020 est.)

Environment

Environment - current issues

Air pollution from vehicle emissions; water pollution from organic and factory wastes; water scarcity; deforestation; soil erosion; wildlife populations threatened by illegal hunting; hazardous waste disposal

Environment - international agreements

Party to: Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Climate Change-Paris Agreement, Comprehensive Nuclear Test Ban, Desertification, Endangered Species, Hazardous Wastes, Law of the Sea, Marine Life Conservation, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Tropical Timber 2006, Wetlands

Signed, but not ratified: none of the selected agreements

Air pollutants

Particulate matter emissions: 26.23 micrograms per cubic meter (2016 est.)

Carbon dioxide emissions: 283.76 megatons (2016 est.)

Methane emissions: 86.98 megatons (2020 est.)

Climate

Tropical; rainy, warm, cloudy southwest monsoon (mid-May to September); dry, cool northeast monsoon (November to mid-March); southern isthmus always hot and humid

Land use**Agricultural land:** 41.2% (2018 est.)

Arable land: 30.8% (2018 est.)

Permanent crops: 8.8% (2018 est.)

Permanent pasture: 1.6% (2018 est.)

Forest: 37.2% (2018 est.)**Other:** 21.6% (2018 est.)**Urbanization****Urban population:** 52.2% of total population (2021)**Rate of urbanization:** 1.43% annual rate of change (2020-25 est.)**Revenue from forest resources****Forest revenues:** 0.34% of GDP (2018 est.)**Revenue from coal****Coal revenues:** 0.03% of GDP (2018 est.)**Major infectious diseases****Degree of risk:** very high (2020)**Food or waterborne diseases:** bacterial diarrhea**Vector borne diseases:** dengue fever, Japanese encephalitis, and malaria**Waste and recycling****Municipal solid waste generated annually:** 26,853,366 tons (2015 est.)**Municipal solid waste recycled annually:** 5,128,993 tons (2012 est.)**Percent of municipal solid waste recycled:** 19.1% (2012 est.)**Major lakes (area sq km)****Salt-water lake(s):** Thalesap Songkhla - 1,290 sq km**Major rivers (by length in km)**

Mekong (shared with China [s], Burma, Laos, Cambodia, and Vietnam [m]) - 4,350 km;

Salween (shared with China [s] and Burma [m]) - 3,060 km; Mun - 1,162 km

Note – [s] after country name indicates river source; [m] after country name indicates river mouth**Major watersheds (area sq km)**

Indian Ocean drainage: Salween (271,914 sq km)

Pacific Ocean drainage: Mekong (805,604 sq km)

Total water withdrawal**Municipal:** 2.739 billion cubic meters (2017 est.)**Industrial:** 2.777 billion cubic meters (2017 est.)**Agricultural:** 51.79 billion cubic meters (2017 est.)**Total renewable water resources**

438.61 billion cubic meters (2017 est.)

Government**Country name****Conventional long form:** Kingdom of Thailand**Conventional short form:** Thailand**Local long form:** Ratcha Anachak Thai**Local short form:** Prathet Thai**Former:** Siam

Etymology: Land of the Tai [People]”; the meaning of “tai” is uncertain, but may originally have meant “human beings,” “people,” or “free people

Government type

Constitutional monarchy

Capital

Name: Bangkok

Geographic coordinates: 13 45 N, 100 31 E

Time difference: UTC+7 (12 hours ahead of Washington, DC, during Standard Time)

Etymology: Bangkok was likely originally a colloquial name, but one that was widely adopted by foreign visitors; the name may derive from “bang ko,” where “bang” is the Thai word for “village on a stream” and “ko” means “island,” both referencing the area’s landscape, which was carved by rivers and canals; alternatively, the name may come from “bang makok,” where “makok” is the name of the Java plum, a plant bearing olive-like fruit; this possibility is supported by the former name of Wat Arun, a historic temple in the area, that used to be called Wat Makok;

Krung Thep, the city’s Thai name, means “City of the Deity” and is a shortening of the full ceremonial name: Krungthepmahanakhon Amonrattanakosin Mahintharayutthaya Mahadilokphop Noppharatchathaniburirom Udomratchaniwetmahasathan Amonphimanawatansathit Sakkathattiyawitsanukamprasit; translated the meaning is: City of angels, great city of immortals, magnificent city of the nine gems, seat of the king, city of royal palaces, home of gods incarnate, erected by Vishvakarman at Indra’s behest; it holds the world’s record as the longest place name (169 letters)

Administrative divisions

76 provinces (changwat, singular and plural) and 1 municipality* (maha nakhon); Amnat Charoen, Ang Thong, Bueng Kan, Buri Ram, Chachoengsao, Chai Nat, Chaiyaphum, Chanthaburi, Chiang Mai, Chiang Rai, Chon Buri, Chumphon, Kalasin, Kamphaeng Phet, Kanchanaburi, Khon Kaen, Krabi, Krung Thep* (Bangkok), Lampang, Lamphun, Loei, Lop Buri, Mae Hong Son, Maha Sarakham, Mukdahan, Nakhon Nayok, Nakhon Pathom, Nakhon Phanom, Nakhon Ratchasima, Nakhon Sawan, Nakhon Si Thammarat, Nan, Narathiwat, Nong Bua Lamphu, Nong Khai, Nonthaburi, Pathum Thani, Pattani, Phangnga, Phatthalung, Phayao, Phetchabun, Phetchaburi, Phichit, Phitsanulok, Phra Nakhon Si Ayutthaya, Phrae, Phuket, Prachin Buri, Prachuap Khiri Khan, Ranong, Ratchaburi, Rayong, Roi Et, Sa Kaeo, Sakon Nakhon, Samut Prakan, Samut Sakhon, Samut Songkhram, Saraburi, Satun, Sing Buri, Si Sa Ket, Songkhla, Sukhothai, Suphan Buri, Surat Thani, Surin, Tak, Trang, Trat, Ubon Ratchathani, Udon Thani, Uthai Thani, Uttaradit, Yala, Yasothon

Independence

1238 (traditional founding date; never colonized)

National holiday

Birthday of King WACHIRALONGKON, 28 July (1952)

Constitution

History: many previous; latest drafted and presented 29 March 2016, approved by referendum 7 August 2016, signed into law by the king 6 April 2017

Amendments: proposed as a joint resolution by the Council of Ministers and the National Council for Peace and Order (the junta that has ruled Thailand since the 2014 coup) and submitted as a draft to the National Legislative Assembly; passage requires majority vote of the existing Assembly members and presentation to the monarch for assent and countersignature of the prime minister

Legal system

Civil law system with common law influences

International law organization participation

Has not submitted an ICJ jurisdiction declaration; non-party state to the ICCT

Citizenship

Citizenship by birth: no

Citizenship by descent only: at least one parent must be a citizen of Thailand

Dual citizenship recognized: no

Residency requirement for naturalization: 5 years

Suffrage

18 years of age; universal and compulsory

Executive branch

Chief of state: King WACHIRALONGKON, also spelled Vajiralongkorn, (since 1 December 2016); note - King PHUMIPHON Adunyadet, also spelled BHUMIBOL Adulyadej (since 9 June 1946) died 13 October 2016

Head of government: Prime Minister PRAYUT Chan-ocha (since 25 August 2014); Deputy Prime Ministers PRAWIT Wongsuwan (since 31 August 2014), WITSANU Kruea-ngam (since 31 August 2014), SUPHATTHANAPHONG Phanmichao (since August 2020), CHURIN Laksanawisit (since November 2019), ANUTHIN Chanwirakun (since November 2019), DON Pramudwinai (since August 2020)

Cabinet: Council of Ministers nominated by the prime minister, appointed by the king; a Privy Council advises the king

Elections/appointments: the monarchy is hereditary; the House of Representatives and Senate approves a person for Prime Minister who must then be appointed by the King (as stated in the transitory provision of the 2017 constitution); the office of prime minister can be held for up to a total of 8 years

Note: PRAYUT Chan-ocha was appointed interim prime minister in August 2014, three months after he staged the coup that removed the previously elected government of Prime Minister YINGLAK Chinnawat; on 5 June 2019 PRAYUT (independent) was approved as prime minister by the parliament - 498 votes to 244 for THANATHON Chuengrungrueangkit (FFP)

Legislative branch

Description: bicameral National Assembly or Rathhasapha consists of:

Senate or Wuthissapha (250 seats; members appointed by the Royal Thai Army to serve 5-year terms)

House of Representatives or Saphaphuthan Ratsadon (500 seats; 375 members directly elected in single-seat constituencies by simple majority vote and 150 members elected in a single nationwide constituency by party-list proportional representation vote; members serve 4-year terms)

Elections: Senate - last held on 14 May 2019 (next to be held in 2024)

House of Representatives - last held on 24 March 2019 (next to be held in 2023)

election results: Senate - percent of vote by party - NA; seats by party - NA; composition - men 224, women 26, percent of women 10.4%
House of Representatives - percent of vote by party - PPRP 23.7%, PTP 22.2%, FFP 17.8%, DP 11.1%, PJT 10.5%, TLP 2.3%, CTP 2.2%, NEP 1.4%, PCC 1.4%, ACT 1.2%, PCP 1.2%, other 5.1%; seats by party - PTP 136, PPRP 116, FFP 81, DP 53, PJT 51, CTP 10, TLP 10, PCC 7, PCP 5, NEP 6, ACT 5, other 20; composition - men 421, women 79, percent of women 15.8%; note - total National Assembly percent of women 14%

Judicial branch

Highest courts: Supreme Court of Justice (consists of the court president, 6 vice presidents, 60-70 judges, and organized into 10 divisions); Constitutional Court (consists of the court president and 8 judges); Supreme Administrative Court (number of judges determined by Judicial Commission of the Administrative Courts)

Judge selection and term of office: Supreme Court judges selected by the Judicial Commission of the Courts of Justice and approved by the monarch; judge term determined by the monarch; Constitutional Court justices - 3 judges drawn from the Supreme Court, 2 judges drawn from the Administrative Court, and 4 judge candidates selected by the Selective Committee for Judges of the Constitutional Court, and confirmed by the Senate; judges appointed by the monarch serve single 9-year terms; Supreme Administrative Court judges selected by the Judicial Commission of the Administrative Courts and appointed by the monarch; judges serve for life

Subordinate courts: courts of first instance and appeals courts within both the judicial and administrative systems; military courts

Political parties and leaders

Action Coalition of Thailand Party or ACT [TAWEESAK Na Takuathung (acting); CHATUMONGKHON Sonakun resigned June 2020]

Chat Phatthana Party (National Development Party) [THEWAN Liptaphanlop]

Chat Thai Phatthana Party (Thai Nation Development Party) or CTP [KANCHANA Sinlapa-acha]

New Economics Party or NEP [MINGKHWAN Sangsuwan]

Move Forward Party or MFP (formed from the disbanded Anakhot Mai Party) [PHITHA Limcharoenrat]

Phalang Pracharat Party or PPP [PRAWIT

Wongsuwan]

Phumchai Thai Party (Thai Pride Party) or PJT [ANUTHIN Chanwirakun]

Prachachat Party of PCC [WAN Muhamad NOOR Matha]

Prachathipat Party (Democrat Party) or DP [CHURIN Laksanawisit]

Puea Chat Party (For Nation Party) or PCP [SONGKHRAM Kitletpairot]

Puea Thai Party (For Thais Party) or PTP [CHONLANON Sikaew]

Puea Tham Party (For Dharma Party) [NALINI Thawisin]

Seri Ruam Thai Party (Thai Liberal Party) or TLP [SERIPHISUT Temiyawet]

Thai Forest Conservation Party or TFCP [DAMRONG Phidet]

Thai Local Power Party or TLP [collective leadership]

Thai Raksa Chat Party (Thai National Preservation Party) [PRICHAPHON Phongpanit]

Note: as of 5 April 2018, 98 new parties applied to be registered with the Election Commission in accordance with the provisions of the new organic law on political parties

International organization participation

ADB, APEC, ARF, ASEAN, BIMSTEC, BIS, CD, CICA, CP, EAS, FAO, G-77, IAEA, IBRD, ICAO, ICC (national committees), ICRM, IDA, IFAD, IFC, IFRC, IHO, ILO, IMF, IMO, IMSO, Interpol, IOC, IOM, IPU, ISO, ITSO, ITU, ITUC (NGOs), MIGA, NAM, OAS (observer), OIC (observer), OIF (observer), OPCW, OSCE (partner), PCA, PIF (partner), UN, UNAMID, UNCTAD, UNESCO, UNHCR, UNIDO, UNMOGIP, UNOCI, UNWTO, UPU, WCO, WFTU (NGOs), WHO, WIPO, WMO, WTO

Diplomatic representation in the US

Chief of mission: Ambassador MANATSAWI Sisodaphon (since 17 February 2021)

chancery: 1024 Wisconsin Avenue NW, Suite 401, Washington, DC 20007

telephone: [1] (202) 944-3600

FAX: [1] (202) 944-3611

Email address and website:

<https://thaiembdc.org>

Consulate(s) general: Chicago, Los Angeles, New York

Diplomatic representation from the US

Chief of mission: Ambassador (vacant); Charge d’Affaires Michael HEATH (since August 2019)

Embassy: 95 Wireless Road, Bangkok 10330

Mailing address: 7200 Bangkok Place, Washington DC 20521-7200

Telephone: [66] 2-205-4000

FAX: [66] 2-205-4103

Email address and website:

acsbkk@state.gov

<https://th.usembassy.gov/>

Consulate(s) general: Chiang Mai

Flag description

Five horizontal bands of red (top), white, blue (double width), white, and red; the red color symbolizes the nation and the blood of life, white represents religion and the purity of Buddhism, and blue stands for the monarchy

note: similar to the flag of Costa Rica but with the blue and red colors reversed

National symbol(s)

Garuda (mythical half-man, half-bird figure), elephant; national colors: red, white, blue

National anthem

Name: “Phleng Chat Thai” (National Anthem of Thailand)

Lyrics/music: Luang SARANUPRAPAN/Phra JENDURIYANG

note: music adopted 1932, lyrics adopted 1939; by law, people are required to stand for the national anthem at 0800 and 1800 every day; the anthem is played in schools, offices, theaters, and on television and radio during this time; “Phleng Sanlasoen Phra Barami” (A Salute to the Monarch) serves as the royal anthem and is played in the presence of the royal family and during certain state ceremonies

Economy

Economic overview

With a relatively well-developed infrastructure, a free-enterprise economy, and generally pro-investment policies, Thailand is highly dependent on international trade, with exports accounting for about two thirds of GDP. Thailand’s exports include electronics, agricultural commodities, automobiles and parts, and processed foods. The industry and service sectors produce about 90% of GDP. The agricultural sector, comprised mostly of small-scale farms, contributes only 10% of GDP but employs about one third of the labor force. Thailand has attracted an estimated 3.0-4.5 million migrant workers, mostly from neighboring countries.

Over the last few decades, Thailand has reduced poverty substantially. In 2013, the Thai Government implemented a nationwide 300 baht (roughly \$10) per day minimum wage policy and deployed new tax reforms designed to lower rates on middle-income earners.

Thailand’s economy is recovering from slow growth during the years since the 2014 coup. Thailand’s economic fundamentals are sound,

with low inflation, low unemployment, and reasonable public and external debt levels. Tourism and government spending - mostly on infrastructure and short-term stimulus measures - have helped to boost the economy, and The Bank of Thailand has been supportive, with several interest rate reductions. Over the longer-term, household debt levels, political uncertainty, and an aging population pose risks to growth.

Real GDP (purchasing power parity)

\$1,206,620,000,000 note: data are in 2017 dollars (2020 est.)

\$1,284,830,000,000 note: data are in 2017 dollars (2019 est.)

\$1,256,360,000,000 note: data are in 2017 dollars (2018 est.)

Note: data are in 2010 dollars

Real GDP growth rate

2.62% (2019 est.)

4.31% (2018 est.)

4.26% (2017 est.)

Real GDP per capita

\$17,300 note: data are in 2017 dollars (2020 est.)

\$18,500 note: data are in 2017 dollars (2019 est.)

\$18,100 note: data are in 2017 dollars (2018 est.)

Note: data are in 2010 dollars

GDP (official exchange rate)

\$543.798 billion (2019 est.)

Inflation rate (consumer prices)

0.7% (2019 est.)

1% (2018 est.)

0.6% (2017 est.)

Credit ratings

Fitch rating: BBB+ (2013)

Moody's rating: Baa1 (2003)

Standard & Poors rating: BBB+ (2004)

GDP - composition, by sector of origin

Agriculture: 8.2% (2017 est.)

Industry: 36.2% (2017 est.)

Services: 55.6% (2017 est.)

GDP - composition, by end use

Household consumption: 48.8% (2017 est.)

Government consumption: 16.4% (2017 est.)

Investment in fixed capital: 23.2% (2017 est.)

Investment in inventories: -0.4% (2017 est.)

Exports of goods and services: 68.2% (2017 est.)

Imports of goods and services: -54.6% (2017 est.)

Agricultural products

Sugar cane, cassava, rice, oil palm fruit, rubber, maize, tropical fruit, poultry, pineapples, mangoes/guavas

Industries

Tourism, textiles and garments, agricultural processing, beverages, tobacco, cement, light manufacturing such as jewelry and electric appliances, computers and parts, integrated circuits, furniture, plastics, automobiles and automotive parts, agricultural machinery, air conditioning and refrigeration, ceramics, aluminum, chemical, environmental management, glass, granite and marble, leather, machinery and metal work, petrochemical,

petroleum refining, pharmaceuticals, printing, pulp and paper, rubber, sugar, rice, fishing, cassava, world's second-largest tungsten producer and third-largest tin producer

Industrial production growth rate

1.6% (2017 est.)

Labor force

37.546 million (2020 est.)

Labor force - by occupation

Agriculture: 31.8%

Industry: 16.7%

Services: 51.5% (2015 est.)

Unemployment rate

0.99% (2019 est.)

1.06% (2018 est.)

Population below poverty line

9.9% (2018 est.)

Gini Index coefficient - distribution of family income

36.4 (2018 est.)

48.4 (2011)

Household income or consumption by percentage share

lowest 10%: 2.8%

highest 10%: 31.5% (2009 est.)

Budget

revenues: 69.23 billion (2017 est.)

expenditures: 85.12 billion (2017 est.)

Budget surplus (+) or deficit (-)

-3.5% (of GDP) (2017 est.)

Public debt

41.9% of GDP (2017 est.)

41.8% of GDP (2016 est.)

note: data cover general government debt and include debt instruments issued (or owned) by government entities other than the treasury; the data include treasury debt held by foreign entities; the data include debt issued by subnational entities, as well as intragovernmental debt; intragovernmental debt consists of treasury borrowings from surpluses in the social funds, such as for retirement, medical care, and unemployment; debt instruments for the social funds are sold at public auctions

Taxes and other revenues

15.2% (of GDP) (2017 est.)

Fiscal year

1 October - 30 September

Current account balance

\$37.033 billion (2019 est.)

\$28.423 billion (2018 est.)

Exports

\$258.42 billion note: data are in current year dollars (2020 est.)

\$323.88 billion note: data are in current year dollars (2019 est.)

\$328.58 billion note: data are in current year dollars (2018 est.)

Exports - partners

United States 13%, China 12%, Japan 10%, Vietnam 5% (2019)

Exports - commodities

Office machinery/parts, cars and vehicle parts, integrated circuits, delivery trucks, gold (2019)

Imports

\$233.75 billion note: data are in current year dollars (2020 est.)

\$272.83 billion note: data are in current year dollars (2019 est.)

\$283.66 billion note: data are in current year dollars (2018 est.)

Imports - partners

China 22%, Japan 14%, United States 7%, Malaysia 6% (2019)

Imports - commodities

crude petroleum, integrated circuits, natural gas, vehicle parts, gold (2019)

Reserves of foreign exchange and gold

\$202.6 billion (31 December 2017 est.)

\$171.9 billion (31 December 2016 est.)

Debt - external

\$167.89 billion (2019 est.)

\$158.964 billion (2018 est.)

Exchange rates

baht per US dollar -

30.03 (2020 est.)

30.29749 (2019 est.)

32.8075 (2018 est.)

34.248 (2014 est.)

32.48 (2013 est.)

Unemployment, youth ages 15-24

Total: 5.2%

Male: 4.6%

Female: 5.9% (2020 est.)

Energy

Electricity access

Electrification - total population: 100% (2020)

Electricity - production

181.5 billion kWh (2016 est.)

Electricity - consumption

187.7 billion kWh (2016 est.)

Electricity - exports

2.267 billion kWh (2015 est.)

Electricity - imports

19.83 billion kWh (2016 est.)

Electricity - installed generating capacity

44.89 million kW (2016 est.)

Electricity - from fossil fuels

76% of total installed capacity (2016 est.)

Electricity - from nuclear fuels

0% of total installed capacity (2017 est.)

Electricity - from hydroelectric plants

8% of total installed capacity (2017 est.)

Electricity - from other renewable sources

16% of total installed capacity (2017 est.)

Crude oil - production

228,000 bbl/day (2018 est.)

Crude oil - exports

790 bbl/day (2015 est.)

Crude oil - imports

875,400 bbl/day (2015 est.)

Crude oil - proved reserves

349.4 million bbl (1 January 2018 est.)

Refined petroleum products - production

1.328 million bbl/day (2015 est.)

Refined petroleum products - consumption

1.326 million bbl/day (2016 est.)

Refined petroleum products - exports

278,300 bbl/day (2015 est.)

Refined petroleum products - imports

134,200 bbl/day (2015 est.)

Natural gas - production

38.59 billion cu m (2017 est.)

Natural gas - consumption

52.64 billion cu m (2017 est.)

Natural gas - exports

0 cu m (2017 est.)

Natural gas - imports

14.41 billion cu m (2017 est.)

Natural gas - proved reserves

193.4 billion cu m (1 January 2018 est.)

Communications**Telephones - fixed lines****Total subscriptions:** 5.003 million (2020)**Subscriptions per 100 inhabitants:** 7.17 (2020 est.)**Telephones - mobile cellular****Total subscriptions:** 116.294 million (2020)**Subscriptions per 100 inhabitants:** 166.6 (2020 est.)**Telecommunication systems**

General assessment: high-quality system, especially in urban areas; mobile and mobile broadband penetration are on the increase; FttH has strong growth in cities; 4G-LTE available with adoption of 5G services; seven smart cities with aim for 100 smart cities by 2024; one of the biggest e-commerce markets in Southeast Asia; fixed-broadband and mobile marketplace on par with other developed Asian markets; development of Asian data center underway; Internet connectivity supported by international bandwidth to Singapore, Malaysia, and Hong Kong, and terrestrial cables with neighboring countries; two more submarine cables under construction with anticipated landings in 2022; government restricts Internet and freedom of press, with additional constraints in response to pandemic-related criticism in 2020; importer of broadcasting equipment and integrated circuits from China and export of same to neighboring countries in Asia (2020)

Domestic: fixed-line system provided by both a government-owned and commercial provider; wireless service expanding rapidly; fixed-line 4 per 100 and mobile-cellular 186 per 100 (2019)

International: country code - 66; landing points for the AAE-1, FEA, SeaMeWe-3,-4, APG, SJC2, TIS, MCT and AAG submarine cable systems providing links throughout Asia, Australia, Africa, Middle East, Europe, and US; satellite earth stations - 2 Intelsat (1 Indian Ocean, 1 Pacific Ocean) (2019)

Note: the COVID-19 pandemic continues to have a significant impact on production and supply chains globally; since 2020, some aspects of the telecom sector have experienced downturn, particularly in mobile device production; many network operators delayed upgrades to infrastructure; progress towards 5G implementation was postponed or slowed in some countries; consumer spending on telecom services and devices was affected by large-scale

job losses and the consequent restriction on disposable incomes; the crucial nature of telecom services as a tool for work and school from home became evident, and received some support from governments

Broadcast media

26 digital TV stations in Bangkok broadcast nationally, 6 terrestrial TV stations in Bangkok broadcast nationally via relay stations - 2 of the stations are owned by the military, the other 4 are government-owned or controlled, leased to private enterprise, and all are required to broadcast government-produced news programs twice a day; multi-channel satellite and cable TV subscription services are available; radio frequencies have been allotted for more than 500 government and commercial radio stations; many small community radio stations operate with low-power transmitters (2017)

Internet country code

.th

Internet users

Total: 38,987,531

percent of population: 56.82% (July 2018 est.)

Broadband - fixed subscriptions

Total: 11,599,513 (2020)

Subscriptions per 100 inhabitants: 16.62 (2020 est.)

Transportation

National air transport system

Number of registered air carriers: 15 (2020)

Inventory of registered aircraft operated by air carriers: 283

Annual passenger traffic on registered air carriers: 76,053,042 (2018)

Annual freight traffic on registered air carriers: 2,666,260,000 mt-km (2018)

Civil aircraft registration country code prefix
HS

Airports

Total: 101 (2013)

Airports - with paved runways

Total: 63

over 3,047 m: 8

2,438 to 3,047 m: 12

1,524 to 2,437 m: 23

914 to 1,523 m: 14

under 914 m: 6 (2013)

Airports - with unpaved runways

total: 38

2,438 to 3,047 m: 1

1,524 to 2,437 m: 1

914 to 1,523 m: 10

under 914 m: 26 (2013)

Heliports

7 (2013)

Pipelines

2 km condensate, 5900 km gas, 85 km liquid petroleum gas, 1 km oil, 1097 km refined products (2013)

Railways

total: 4,127 km (2017)

standard gauge: 84 km 1.435-m gauge (84 km electrified) (2017)

narrow gauge: 4,043 km 1.000-m gauge (2017)

Roadways

total: 180,053 km (includes 450 km of expressways) (2006)

Waterways

4,000 km (3,701 km navigable by boats with drafts up to 0.9 m) (2011)

Merchant marine

Total: 839

by type: bulk carrier 26, container ship 27, general cargo 94, oil tanker 251, other 441 (2021)

Ports and terminals

Major seaport(s): Bangkok, Laem Chabang, Map Ta Phut, Prachuap Port, Si Racha

container port(s) (TEUs): Laem Chabang (8,106,928) (2019)

LNG terminal(s) (import): Map Ta Phut

Military and Security

Military and security forces

Royal Thai Armed Forces (Kongthap Thai, RTARF): Royal Thai Army (Kongthap Bok Thai, RTA; includes Thai Rangers (Thahan Phrahan)), Royal Thai Navy (Kongthap Ruea Thai, RTN; includes Royal Thai Marine Corps), Royal Thai Air Force (Kongthap Akaat Thai, RTAF); Office of the Prime Minister: Royal Thai Police; Internal Security Operations Command (ISOC; oversees counter-insurgency operations, as well as countering terrorism, narcotics and weapons trafficking, and other internal security duties); Ministry of Interior: Volunteer Defense Corps (2021)

note: the Thai Rangers (aka Thahan Phrahan or 'Hunter Soldiers') is a paramilitary force formed in 1978 to clear Communist Party of Thailand guerrillas from mountain strongholds in the country's northeast; it is a light infantry force led by regular officers and non-commissioned officers and comprised of both full- and part-time personnel; it conducts counterinsurgency operations in the southern region; on the eastern border with Laos and Cambodia, the Rangers have primary responsibility for border surveillance and protection

Military expenditures

1.4% of GDP (2020 est.)

1.3% of GDP (2019)

1.4% of GDP (2018)

1.6% of GDP (2017)

1.6% of GDP (2016)

Military and security service personnel strengths

Estimates for the size of the Royal Thai Armed Forces (RTARF) vary widely; approximately 350,000 active duty personnel (240,000 Army; 65,000 Navy; 45,000 Air Force); est. 20,000 Thai Rangers; est. 5-6,000 Internal Security Operations Command (2021)

Military equipment inventories and acquisitions

The RTARF has a diverse array of foreign-supplied weapons systems, including a large amount of obsolescent or second-hand US equipment; since 2010, Thailand has received military equipment from nearly 20 countries with China, South Korea, Sweden, Ukraine, and the US as the leading suppliers (2020)

Military deployments

275 South Sudan (UNMISS) (Sep 2021)

Military service age and obligation

21 years of age for compulsory military service; 18 years of age for voluntary military service; males register at 18 years of age; 2-year conscript service obligation based on lottery (2019)

Military - note

Including the most recent in 2014, the military has attempted nearly 20 coups since the fall of absolute monarchy in 1932

Since 2004, the military has fought against separatist insurgents in the southern provinces of Pattani, Yala, and Narathiwat, as well as parts of Songkhla; the insurgency is rooted in ethnic Malay nationalist resistance to Thai rule that followed the extension of Siamese sovereignty over the Patani Sultanate in the 18th century; the insurgency consists of several armed groups, the largest of which is the Barisan Revolusi Nasional-Koordinasi (BRN-C): since 2018, the Thai military has been negotiating with an umbrella organization, MARA Pattani, that claims to represent the insurgency groups; since 2004, the fighting has claimed about 7,000 lives; as of late 2020, as many as 100,000 military and paramilitary forces were deployed in the south to combat the insurgency

Thailand has Major Non-NATO Ally (MNNA) status with the US; MNNA is a designation under US law that provides foreign partners with certain benefits in the areas of defense trade and security cooperation; while MNNA status provides military and economic privileges, it does not entail any security commitments

Transnational Issues

Disputes - international

Separatist violence in Thailand's predominantly Malay-Muslim southern provinces prompt border closures and controls with Malaysia to stem insurgent activities; Southeast Asian states have enhanced border surveillance to check the spread of avian flu; talks continue on completion of demarcation with Laos but disputes remain over several islands in the Mekong River; despite

continuing border committee talks, Thailand must deal with Karen and other ethnic rebels, refugees, and illegal cross-border activities; Cambodia and Thailand dispute sections of boundary; in 2011, Thailand and Cambodia resorted to arms in the dispute over the location of the boundary on the precipice surmounted by Preah Vihear temple ruins, awarded to Cambodia by ICJ decision in 1962 and part of a planned UN World Heritage site; Thailand is studying the feasibility of jointly constructing the Hatgyi Dam on the Salween river near the border with Burma; in 2004, international environmentalist pressure prompted China to halt construction of 13 dams on the Salween River that flows through China, Burma, and Thailand; approximately 100,000 mostly Karen refugees fleeing civil strife, political upheaval and economic stagnation in Burma live in remote camps in Thailand near the border

Refugees and internally displaced persons

Refugees (country of origin): 91,479 (Burma) (2021)

IDPs: 41,000

stateless persons: 480,695 (2020) (estimate represents stateless persons registered with the Thai Government; actual number may be as high as 3.5 million); note - about half of Thailand's northern hill tribe people do not have citizenship and make up the bulk of Thailand's stateless population; most lack documentation showing they or one of their parents were born in Thailand; children born to Burmese refugees are not eligible for Burmese or Thai citizenship and are stateless; most Chao Lay, maritime nomadic peoples, who travel from island to island in the Andaman Sea west of Thailand are also stateless; stateless Rohingya refugees from Burma are considered illegal migrants by Thai authorities and are detained in inhumane conditions or expelled; stateless persons are denied access to voting, property, education, employment, healthcare, and driving

note: Thai nationality was granted to more than 23,000 stateless persons between 2012 and 2016; in 2016, the Government of Thailand approved changes to its citizenship laws that could make 80,000 stateless persons eligible for citizenship, as part of its effort to achieve zero statelessness by 2024 (2018)

Illicit drugs

A minor producer of opium, heroin, and cannabis products; major part of the illegal drug market for the Southeast Asia region and the interconnected markets in East Asia and Oceania; transit point for illicit heroin en route to the international drug market from Burma and Laos; “Yaba,” a tablet containing methamphetamine, caffeine, and other stimulants, is the most widely abused drug in Thailand.

Acronyms and Abbreviations

°C	degree Celsius
°F	degree Fahrenheit
%	percentage
ACMECS	Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy
ADB	Asian Development Bank
ADINET	ASEAN Disaster Information Network
ADPC	Asian Disaster Preparedness Center
ADRA	Adventist Development and Relief Agency
AEDP	Alternative Energy Development Plan
AFRIMS	Armed Forces Research Institute of Medical Sciences
AHA Centre	ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management
AIS	Advanced Info Service
AMR	Antimicrobial Resistance
AOT	Airports of Thailand Public Company Limited
APAN	All Partners Access Network
APEC	Asia-Pacific Economic Cooperation
APCSS	Asia-Pacific Center for Security Studies
ARF	ASEAN Regional Forum
ASEAN	Association of Southeast Asian Nations
BHA	Bureau for Humanitarian Assistance
BIS	Bank for International Settlements
BMA	Bangkok Metropolitan Authority
BPFA	Beijing Platform for Action
BMDMC	Bangkok Metropolitan Disaster Management Center
BTS	Bangkok Transit System
CARAT	Cooperation Afloat Readiness and Training
CCWC-SBP	Children and Women in the Southern Border Provinces
CDC	Centers for Disease Control (CDC)
CFE-DM	Center for Excellence in Disaster Management and Humanitarian Assistance
CFO	Chief Financial Officer
CG20	Cobra Gold 2020
CG21	Cobra Gold exercise 2021
CICA	Conference on Interaction and Confidence Building Measures in Asia
COVID-19	Coronavirus Disease 2019
COP26	26th UN Climate Change Conference
CMCOORD	Civil-Military Coordination
CP	Colombo Plan
CPGE	Committee to Promote Gender Equality

CPIRD	Collaborative Project to Increase Rural Doctors
CSSF	Comprehensive School Safety Framework
DMC	Disaster Management Center
DDPM	Department of Disaster Prevention and Mitigation
DDMC	District Disaster Management Centers
DFAT	Australian Government Department of Foreign Affairs and Trade
DKI-APCSS	Daniel K. Inouye Asia-Pacific Center for Security Studies
DOD	U.S. Department of Defense
DRC	Disaster Relief Center
DRM	Disaster Risk Management
DRM Act 2007	Disaster Prevention and Mitigation Act of 2007
DRR	Disaster Risk Reduction
DWT	Deadweight tonnage
EGAT	Electricity Generating Authority
EMOPs	Emergency Operations
EU	European Union
EXAT	Expressway Authority of Thailand
EWS	Early Warning System
FAO	Food and Agriculture Organization of the United Nations
FDI	foreign direct investment
ft.	feet
GDP	Gross Domestic Product
GDACS	Global Disaster Alert and Coordination System
GFDRR	Global Facility for Disaster Risk Reduction and Response
GHD	Global Health Diplomacy
GHS	Global Health Security
HADR	Humanitarian assistance and disaster response
HCT	Humanitarian Country Teams
HDI	Human Development Index
HDX	Humanitarian Data Exchange
HFA	Hyogo Framework for Action
IAEA	International Atomic Energy Agency
IATA	International Air Transport Association
IBRD	International Bank for Reconstruction and Development
ICAO	International Civil Aviation Organization
ICRC	International Committee of the Red Cross
ICC	International Chamber of Commerce
ICRM	Institute of Catastrophe Risk Management
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation

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IFRC	International Federation of Red Cross and Red Crescent Societies
ILO	International Labour Organization
IHO	International Hydrographic Organization
IMF	International Monetary Fund
IMO	International Maritime Organization
IMSO	International Mobil Satellite Organization
INFORM GRI	INFORM GRI
INTERPOL	International Criminal Police Organisation
IOC	International Olympic Committee
IOM	UN International Organization for Migration
IPU	Inter-Parliamentary Union
ISO	International Organization for Standardization
ITCZ	Inter Tropical Convergence Zone
ITSO	International Telecommunications Satellite Organization
ITU	International Telecommunications Union
ITUC	International Trade Union Confederation
JHU	John Hopkins University
JICA	Japan International Cooperation Agency
JUSMAGTHAI	Joint US Military Advisory Group Thailand
km	kilometers
LGU	Local administrative units
LMI DREE	Lower Mekong Initiative Disaster Response Exercise & Exchange
LNG	Liquefied Natural Gas
m	meters
MERS	Middle East Respiratory Syndrome
mi	miles
mm	millimeters
MIGA	Multilateral Investment Guarantee Agency
MNF SOP	Multinational Force Standard Operating Procedures
MOD	Ministry of Defence
MOE	Ministry of Education
MOI	Ministry of Interior
MOPH	Ministry of Public Health
MOT	Ministry of Transport
MOU	Memorandum of understanding
MRT	Mass Rapid Transit
NAM	Non-Aligned Movement
NAP	National Adaptation Plan
NCDs	Non-communicable Diseases
ND-GAIN Index	Notre Dame Global Adaption Initiative Index

NDPMC	National Disaster Prevention and Mitigation Committee
NDWC	National Disaster Warning Center
NSCT	National Safety Council of Thailand
NT	National Telecom
OPCW	Organisation for the Prohibition of Chemical Weapons
OPSD	Office of the Permanent Secretary for Defence
OSOCC	On-Site Operations Coordination Centre
PAT	Port Authority of Thailand
PEA	Provincial Electricity Authority
PCA	Permanent Court of Arbitration
POC	Peace Operations Center
PPP	Public-private partnerships
PrEP	Pre-exposure Prophylaxis
RHCC	Changi Regional HADR Coordination Centre
sq. km	square kilometers
sq. mi	square miles
TAO	Tambon Administrative Organizations
TB	Tuberculosis
TDPF	Thailand Disaster Preparedness Foundation
TMD	Thai Meteorological Department
TNDR	Thai Network for Disaster Resilience
TRCS	Thai Red Cross Society
UHC	Universal Health Care
UISS	Unclassified Information Sharing Service
UNPAF	UN Partnership Framework
USAID	U.S. Agency for International Development
USG	U.S. Government
OBEC	Office of the Basic Education Commission
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
ONWR	Office of National Water Resources
PAO	Provincial Administrative Organization
PDC	Pacific Disaster Center
PDP	Power Development Plan
PDPMC	Provincial Disaster Prevention and Mitigation Committees
MRTA	Mass Transit Authority of Thailand
National DRM Plan	National Disaster Risk Management Plan
ND-GAINS	Notre Dame Global Adaption Initiative
NDPMC	National Disaster Prevention and Mitigation Committee
NGOs	Non-Government Organizations
NHA	National Health Assembly

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NHCO	National Health Commission Office
NHSO	National Health Security Office
PAT	Port Authority of Thailand
ROAP	Regional Office for Asia and the Pacific
RTA	Royal Thai Army
RTArF	Royal Thai Armed Forces
RTF	Royal Thai Air Force
RTG	Royal Thai Government
RTP	Royal Thai Police
SBP	Southern Border Provinces
SDG	Sustainable Development Goals
SEACAT	Southeast Asia Cooperation and Training
SEATO	Southeast Asia Treaty Organization
SRT	State Railway of Thailand
TSSN	Thailand School Safety Network
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDRR	UN Office for Disaster Risk Reduction
UNESCO	UN Educational, Scientific, and Cultural Organization
UNHCR	UN High Commissioner for Refugees
UNIDO	UN Industrial Development Organization
UNMISS	UN Mission in Republic of South Sudan
UNMOGIP	UN Military Observer Group in India and Pakistan
UNSCR	United Nations Security Council Resolution
UNWTO	World Tourism Organization
UPU	Universal Postal Union
USAID	U.S. Agency for International Development
BHA/USAID	U.S. Agency for International Development Bureau of Humanitarian Assistance
RDMA/USAID	U.S. Agency for International Development Regional Development Mission for Asia
WBG	World Bank Group
WCO	World Customs Organization
WEF	World Economic Forum
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WFTU	World Federation of Trade Unions
WMO	World Meteorological Organization
WPS	Women, Peace, and Security
WTO	World Trade Organization

Endnotes

- 1 “Political – Security Cooperation”, Royal Thai Embassy, Washington D.C, accessed 4 January 2021, <https://thaiembdc.org/political-security-cooperation/>
- 2 Maj. Spencer Garrison, “US, Royal Thai Armed Forces complete 40th Exercise Cobra Gold”, U.S. Army, 24 August 2021, https://www.army.mil/article/249675/us_royal_thai_armed_forces_complete_40th_exercise_cobra_gold
- 3 “Disaster Risk Reduction in Thailand: Status Report 2020”, UN Office for Disaster Risk Reduction (UNDRR) and Asian Disaster Preparedness Center (ADPC), <https://www.undrr.org/user/login?destination=publication/disaster-risk-reduction-thailand-status-report-2020,18>.
- 4 Ibid, 6, 11.
- 5 Ibid, 8; See also Sophita Thanyalakmetha, “Thailand Country Report 2020”, Asian Disaster Reduction Center, Visiting Research Program, 2020, <https://www.adrc.asia/nationinformation.php?NationCode=764&Lang=en,3>; “Climate Risk Country Profile: Thailand (2021)”, The World Bank Group (WBG) and the Asian Development Bank (ADB), https://climateknowledgeportal.worldbank.org/sites/default/files/2021-08/15853-WB_Thailand%20Country%20Profile-WEB_0.pdf,2.
- 6 31.8% of Thailand’s workforce is employed in the agricultural sector. CIA World Factbook, Thailand, accessed 29 December 2021, <https://www.cia.gov/the-world-factbook/countries/thailand/#introduction>; see also “Climate Risk Country Profile: Thailand (2021)”, WBG and ADB, https://climateknowledgeportal.worldbank.org/sites/default/files/2021-08/15853-WB_Thailand%20Country%20Profile-WEB_0.pdf,13; UNDRR and ADPC, 5-6, 8.
- 7 UNDRR and ADPC, 18.
- 8 Ibid.
- 9 The National Strategy 2018-2037 is the first long-term strategy developed pursuant to Article 65 of the Constitution of the Kingdom of Thailand. See “National Strategy (Summary) 2018-2037”, National Strategy Secretariat Office, Office of the National Economic and Social Development Board, [https://www.moac.go.th/pyp-dwl-files-402791791893#:~:text=The%20National%20Strategy%20\(2018%2D2037,developed%20pursuant%20to%20the%20Constitution.&text=Therefore%2C%20Thailand%20needs%20a%20comprehensive,towards%20security%2C%20prosperity%20and%20sustainability,3](https://www.moac.go.th/pyp-dwl-files-402791791893#:~:text=The%20National%20Strategy%20(2018%2D2037,developed%20pursuant%20to%20the%20Constitution.&text=Therefore%2C%20Thailand%20needs%20a%20comprehensive,towards%20security%2C%20prosperity%20and%20sustainability,3).
- 10 Although these targets were announced at the COP26, Thailand has not submitted an updated Nationally Determined Contribution to the UNFCCC at the time of writing (19 January 2021). See reporting of the COP26 pledges by Thailand. Pratch Rujivanarom “Thai pledges undermining climate push”, Bangkok Post, 22 November 2021, accessed <https://www.bangkokpost.com/thailand/general/2219231/thai-pledges-undermining-climate-push>.
- 11 UNDRR and ADPC, 33.
- 12 CIA World Factbook, Updated 2 December 2021, accessed 22 December 2021, <https://www.cia.gov/the-world-factbook/countries/thailand/>
- 13 “Overview: World Bank in Thailand”, World Bank, accessed 22 December 2021, <https://www.worldbank.org/en/country/thailand/overview#1>
- 14 “Thailand country brief: bilateral relations”, Australian Government Department of Foreign Affairs and Trade, accessed 22 December 2021, <https://www.dfat.gov.au/geo/thailand/thailand-country-brief>
- 15 CIA World Factbook.
- 16 Ibid.
- 17 Ibid.
- 18 Ibid.
- 19 “Thailand: Population”, United Nations Population Fund, World Population Dashboard, accessed 22 December 2021, <https://www.unfpa.org/data/world-population/TH>
- 20 “2010 Population and Housing Census”, National Statistical Office, Ministry of Information and Communication Technology, Thailand, http://web.nso.go.th/en/census/poph/cen_poph_10.htm,Chapter2.
- 21 CIA World Factbook.
- 22 UNFPA; CIA World Factbook.
- 23 “Human Development Report 2020”, United Nations Development Programme, <http://hdr.undp.org/sites/default/files/Country-Profiles/THA.pdf,2-3>.
- 24 Ibid.
- 25 CIA World Factbook.
- 26 “Thailand: Introduction & Quick Facts”, Britannica, accessed 22 December 2021, <https://www.britannica.com/place/Thailand>
- 27 “2010 Population and Housing Census”, National Statistical Office, Ministry of Information and Communication Technology, Thailand, http://web.nso.go.th/en/census/poph/cen_poph_10.htm,Chapter2.
- 28 CIA World Factbook.
- 29 Ibid.
- 30 Ibid.
- 31 National DRM Plan, 130.
- 32 Ibid, 85.
- 33 Communication from Nidhirat Srisirirojanakorn, Humanitarian Affairs Analyst, United Nations Office for the Coordination of Humanitarian Affairs (OCHA), Regional Office for Asia and the Pacific (ROAP) 20 December 2021.
- 34 “500,000 children affected by Thai floods”, ReliefWeb, 14 October 2011, <https://reliefweb.int/report/thailand/500000-children-affected-thai-floods>; “Many children dying and jobs being lost in Asian floods says UNISDR”, PreventionWeb, 21 October 2021, <https://www.preventionweb.net/news/many-children-dying-and-jobs-being-lost-asian-floods-says-unisdr>; “Child Rights Situation Analysis in Thailand”, Save the Children, 12 July 2021, https://thailand.savethechildren.net/sites/thailand.savethechildren.net/files/library/2021_CRSA%20SCI%20Thailand_EN.pdf
- 35 “Child Rights Situation Analysis in Thailand”, Save the Children, 12 July 2021, https://thailand.savethechildren.net/sites/thailand.savethechildren.net/files/library/2021_CRSA%20SCI%20Thailand_EN.pdf

- 36 National DRM Plan 2015, 85.
- 37 “What we do”, Save the Children, Thailand, accessed 23 December 2021.
- 38 “Uncertainty for the elderly”, Bangkok Post, 22 March 2021, accessed 26 December 2021, <https://www.bangkokpost.com/business/2087527/uncertainty-for-the-elderly>
- 39 “Where we work: Thailand”, HelpAge International, accessed 26 December 2021, <https://www.helpage.org/where-we-work/helpage-global-network-members-in-asia/thailand/>
- 40 J., Vanichkulbodee, A., Sinsuwan, N. et al. Disaster preparedness among Thai elderly emergency department patients: a survey of patients’ perspective. *BMC Emerg Med* 19, 58 (2019). <https://bmcmemergmed.biomedcentral.com/articles/10.1186/s12873-019-0269-7#citeas>
- 41 National DRM Plan 2015, 85.
- 42 “Thailand’s Poverty on the Rise Amid Slowing Economic Growth”, The World Bank, Press Release, 5 March 2020, <https://www.worldbank.org/en/news/press-release/2020/03/03/thailands-poverty-on-the-rise-amid-slowng-economic-growth>
- 43 “Disability and poverty in Thailand”, The Borgen Project, 9 February 2021, <https://borgenproject.org/disability-and-poverty-in-thailand/>
- 44 National DRM Plan 2015, 85.
- 45 UNDRR and ADPC, 16.
- 46 Somruedi Banchongduang, “World Bank: 1.5m fell into poverty”, Bangkok Post, 21 January 2021, accessed 26 December 2021, <https://www.bangkokpost.com/business/2054387/world-bank-1-5m-fell-into-poverty>
- 47 “International Rescue Committee Thailand: Strategy Action Plan 2020”, International Rescue Committee, June 2019, <https://www.rescue.org/sites/default/files/document/752/thailandexternalsap-2019.pdf>
- 48 Hanni Stoklosa, Courtney Julia Burns, Abraar Karan, Michelle Lyman, Nathene Morley, Reena Tadee, Eric Goodwin, “Mitigating trafficking of migrants and children through disaster risk reduction: Insights from the Thailand flood”, *International Journal of Disaster Risk Reduction*, Volume 60, 2021, 102268, ISSN 2212-4209, <https://www.sciencedirect.com/science/article/pii/S221242092100234X>
- 49 “Overview: World Bank in Thailand”, World Bank, accessed 22 December 2021, <https://www.worldbank.org/en/country/thailand/overview#1>
- 50 The G20 or Group of Twenty is an intergovernmental forum comprising 19 countries and the European Union (EU). See “Bilateral Economic Relations”, U.S Embassy & Consulate Thailand, 4 May 2021, accessed 28 December 2021, <https://www.state.gov/u-s-relations-with-thailand/>
- 51 World Bank Group, Climate Change Portal, Thailand, accessed 30 November 2021, <https://climateknowledgeportal.worldbank.org/country/thailand/climate-data-projections>
- 52 UNDRR and ADPC, 5-6.
- 53 Priya Sunil, “Thai PM Prayut outlines 13th National Economic and Social Development Plan”, Human Resources Online, 23 September 2021, accessed 22 December 2021, <https://www.humanresourcesonline.net/thai-pm-prayut-outlines-13th-national-economic-and-social-development-plan>
- 54 CIA World Factbook.
- 55 Ibid.
- 56 UNDRR and ADPC, 5.
- 57 The Constitutional Court of the Kingdom of Thailand was first established by the Constitution in 1997. It is a specialized court following the idea of Hans Kelsen to safeguard the supremacy of the Constitution. The Constitutional Court of the Republic of Austria in 1920 and the Constitutional Court of the Federal Republic of Germany in 1949 are the models for the Thai Constitutional Court. See Thailand, European Law Institute, accessed 22 December 2021, <https://www.europeanlawinstitute.eu/membership/institutional-members/constitutional-court-of-the-kingdom-of-thailand/>
- 58 “Mediation in the Administrative Court of Thailand: Experiences and Current Situation”, the Administrative Court of Thailand, accessed 22 December 2021, <https://www.admincourt.go.th/admincourt/site/?lang=en&page=06articledetail&id=439>
- 59 CIA World Factbook.
- 60 Ibid.
- 61 CIA World Factbook, Thailand Map, accessed 22 December 2021, <https://www.cia.gov/the-world-factbook/countries/thailand/map>
- 62 Disaster Risk Reduction in Thailand: Status Report 2020”, UN Office for Disaster Risk Reduction (UNDRR) and Asian Disaster Preparedness Center (ADPC), 5.
- 63 National DRM Plan 2015.
- 64 UNDRR and ADPC, 6.
- 65 “The Water Sector in Thailand”, Kingdom of the Netherlands, 18 May 2016, accessed 21 December 2021, <https://www.netherlandsandyou.nl/documents/publications/2016/05/18/factsheet-water-sector-in-thailand, 1>
- 66 Ibid, 6-7.
- 67 UNDRR and ADPC, 33.
- 68 “Mainstreaming Disaster Risk Management (DRM) in Government Institutions”, Presentation by Dr Bhichit Rattakul, President Thai Network for Disaster Resilience (TNRD), <https://cesdrr.org/uploads/eptisa/en/Effective%20leadership%20and%20coordination%20in%20disaster%20risk%20management%20and%20climate%20change.pdf>, 6-9.
- 69 “Climate Risk Country Profile: Thailand (2021)”, The World Bank Group and the Asian Development Bank, https://climateknowledgeportal.worldbank.org/sites/default/files/2021-08/15853-WB_Thailand%20Country%20Profile-WEB_0.pdf, 3, 18.
- 70 World Bank Group, Climate Change Portal, Thailand, accessed 30 November 2021, <https://climateknowledgeportal.worldbank.org/country/thailand/climate-data-projections>

- 71 WBG and ADB, 6.
- 72 Ibid, 13.
- 73 UNDRR and ADPC, 13.
- 74 World Bank Group, Climate Change Portal, Thailand, accessed 30 November 2021, <https://climateknowledgeportal.worldbank.org/country/thailand/climate-data-projections>
- 75 UNDRR and ADPC, 21.
- 76 Ibid, 18.
- 77 Ibid.
- 78 WBG and ADB, 19.
- 79 University of Notre Dame, Notre Dame Global Adaption Initiative, accessed 30 November 2021, <https://gain.nd.edu/our-work/country-index/rankings/>
- 80 Ibid, Thailand.
- 81 The National Strategy 2018-2037 is the first long-term strategy developed pursuant to Article 65 of the Constitution of the Kingdom of Thailand. See “National Strategy (Summary) 2018-2037”, National Strategy Secretariat Office, Office of the National Economic and Social Development Board, [https://www.moac.go.th/pyp-dwl-files-402791791893#:~:text=The%20National%20Strategy%20\(2018%2D2037,developed%20pursuant%20to%20the%20Constitution.&text=Therefore%2C%20Thailand%20needs%20a%20comprehensive,towards%20security%2C%20prosperity%20and%20sustainability,3](https://www.moac.go.th/pyp-dwl-files-402791791893#:~:text=The%20National%20Strategy%20(2018%2D2037,developed%20pursuant%20to%20the%20Constitution.&text=Therefore%2C%20Thailand%20needs%20a%20comprehensive,towards%20security%2C%20prosperity%20and%20sustainability,3).
- 82 “Thailand’s Updated Nationally Determined Contribution”, October 2020, <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Thailand%20First/Thailand%20Updated%20NDC.pdf>, 2.
- 83 “EGAT showcases Thailand’s electric power industry innovation at EGAT Energy Forum 2021”, Electricity Generating Authority of Thailand (EGAT), 12 November 2021, <https://www.egat.co.th/en/news-announcement/news-release/egat-showcases-thailand-s-electric-power-industry-innovation-at-egat-energy-forum-2021>.”
- 84 Ibid.
- 85 “Glasgow Pact: Decision -/CP”, UNFCCC, COP26, accessed 23 November 2021, https://unfccc.int/sites/default/files/resource/cop26_auv_2f_cover_decision.pdf, 3.
- 86 “Thai Prime Minister pledges more electric vehicles at COP26”, Royal Thai Embassy, Washington DC, accessed 30 November 2021, <https://thaiembdc.org/2021/11/10/thai-prime-minister-pledges-more-electric-vehicles-at-cop26/>.
- 87 Although these targets were announced at the COP26, Thailand has not submitted an updated Nationally Determined Contribution to the UNFCCC at the time of writing (19 January 2021). See reporting of the COP26 pledges by Thailand. Pratch Rujivanarom “Thai pledges undermining climate push”, Bangkok Post, 22 November 2021, accessed <https://www.bangkokpost.com/thailand/general/2219231/thai-pledges-undermining-climate-push>
- 88 Panithan Onthaworn, “Thailand refuses to sign COP26’s pledge to end deforestation by 2030”, Thai Inquirer, 3 November 2021, accessed 30 November 2021, <https://www.thaiinquirer.com/34648/thailand-refuses-to-sign-cop26s-pledge-to-end-deforestation-by-2030/>
- 89 “Thai Prime Minister pledges more electric vehicles at COP26”, Royal Thai Embassy, Washington DC, accessed 30 November 2021, <https://thaiembdc.org/2021/11/10/thai-prime-minister-pledges-more-electric-vehicles-at-cop26/>; “Thailand poised to target 50% EV use, carbon neutrality by 2050”, The Nation Thailand, 11 March 2021, <https://www.nationthailand.com/in-focus/30403629>
- 90 Royal Thai Embassy.
- 91 WBG and ADB, 13.
- 92 Sophita Thanyalakmetha, “Thailand Country Report 2020”, Asian Disaster Reduction Center (ADRC), Visiting Research Program, 2020, <https://www.adrc.asia/nationinformation.php?NationCode=764&Lang=en>, 3.
- 93 Ibid, 2.
- 94 UNDRR and ADPC 2020, 5.
- 95 Ibid.
- 96 Ibid, 14.
- 97 Ibid, 13.
- 98 Ibid, 11.
- 99 “The Water Sector in Thailand”, Kingdom of the Netherlands, 18 May 2016, accessed 21 December 2021, <https://www.netherlandsandyou.nl/documents/publications/2016/05/18/factsheet-water-sector-in-thailand,1>.
- 100 “UNDRR and ADPC 2020, 11.
- 101 Ibid.
- 102 WBG and ADB, 13.
- 103 UNDRR and ADPC 2020, 11.
- 104 Ibid, 13.
- 105 Ibid.
- 106 “The Water Sector in Thailand”, Kingdom of the Netherlands, 18 May 2016, accessed 21 December 2021, <https://www.netherlandsandyou.nl/documents/publications/2016/05/18/factsheet-water-sector-in-thailand,2>.
- 107 Ibid, 12.
- 108 “Chiang Rai rocked by latest 4.6-magnitude quake”, Reliefweb, accessed 3 December 2021, <https://reliefweb.int/report/thailand/chiang-rai-rocked-latest-46-magnitude-quake>
- 109 “Tsunami Thailand, one year later - National response and the contribution of international partners”, Reliefweb, 22 December 2005, accessed 3 December 2021, <https://reliefweb.int/report/thailand/tsunami-thailand-one-year-later-national-response-and-contribution-international>
- 110 “2004 Indian Ocean earthquake and tsunami: Facts, FAQs, and how to help”, World Vision, From the Field, Updated 26 December 2019, accessed 3 December 2021, <https://www.worldvision.org/disaster-relief-news-stories/2004-indian-ocean-earthquake-tsunami-facts>
- 111 “Tsunami Thailand, one year later - National response and the contribution of international partners”, ReliefWeb, 22 December 2005, accessed 3 December 2021, <https://reliefweb.int/report/thailand/tsunami-thailand-one-year-later-national-response-and-contribution-international>

- 112 See for e.g., Tanyaluk Sakoot , “Thailand’s tsunami-warning buoys both out of action”, The Phuket News, 15 September 2020, accessed 3 December 2021.
- 113 WBG and ADB, 13.
- 114 “Scorching heat wave in Thailand is longest in 65 years”, Chicago Tribune, News Service, 27 April 2016, accessed 3 December 2021.
- 115 WBG and ADB, 14.
- 116 Sanitsuda Ekachai, “A forest lockdown will fuel more fires”, Bangkok Post, 11 April 2020, accessed 3 December 2021, <https://www.bangkokpost.com/opinion/opinion/1897615/a-forest-lockdown-will-fuel-more-fires>.
- 117 “2020 Northern Thailand forest fires snapshot”, World Wildlife Fund Thailand, Sustainable and Consumption Project, 15 April 2020, accessed 3 December 2021, <https://www.wwf.or.th/en/?362337/2020-Northern-Thailand-forest-fires-snapshot>.
- 118 Sanitsuda Ekachai, “A forest lockdown will fuel more fires”, Bangkok Post, 11 April 2020, accessed 3 December 2021, <https://www.bangkokpost.com/opinion/opinion/1897615/a-forest-lockdown-will-fuel-more-fires>
- 119 UNDRR and ADPC, 12.
- 120 Thailand, Coronavirus Resource Center, John Hopkins University, accessed 3 December 2021.
- 121 UNDRR and ADPC, 4.
- 122 “Thousands evacuated after Thai factory blast kills one rescue worker, wounds dozens”, Australian Broadcasting Corporation (ABC), 5 July 2021, accessed 26 December 2021, <https://www.abc.net.au/news/2021-07-05/mass-evacuation-after-thai-factory-blast/100269532>
- 123 See for e.g. Cheewin Sattha “Chiang Mai chemical blast kills 2”, Bangkok Post, 5 November 2014, accessed 26 December 2021, “Death toll rises to 26 in Thai blast”, Taipei Times, 21 September 1999, accessed 26 December 2021, <https://www.taipetimes.com/News/local/archives/1999/09/21/0000003389>
- 124 “Thailand - Floods (TMD, DDPM) (ECHO Daily Flash of 03 December 2021)”, ReliefWeb, 3 December 2021, accessed 6 December 2021, <https://reliefweb.int/report/thailand/thailand-floods-tmd-ddpm-echo-daily-flash-03-december-2021>
- 125 “Thailand – Tropical Storm Dianmu Brings Flooding to North and Central Regions”, Floodlist, 27 September 2021, <https://floodlist.com/asia/thailand-tropical-storm-dianmu-floods-september-2021>; “Tropical Storm Dianmu inundated at least 10 provinces in Thailand”. ReliefWeb, 6 October 2021, accessed 6 December 2021, <https://reliefweb.int/report/thailand/tropical-storm-dianmu-inundated-least-10-provinces-thailand>
- 126 “Thailand – Flooding Affects Thousands in Central Provinces”, Floodlist, 1 September 2021, accessed 6 December 2021, <https://floodlist.com/asia/thailand-floods-august-2021>; “Thailand: Floods and Landslides - Aug 2021”, ReliefWeb, accessed 3 December 2021, <https://reliefweb.int/disaster/fl-2021-000147-tha>
- 127 “Thailand – Over 50,000 Households Hit by Floods in South”, Floodlist, 10 January 2021, accessed 6 December 2021, <https://floodlist.com/asia/thailand-floods-south-january-2021>
- 128 “South East Asia – Tropical Storm Sinlaku Brings Flooding Rains to Vietnam, Laos and Thailand”, Floodlist, 3 August 2021, accessed 6 December 2021, <https://floodlist.com/asia/storm-sinlaku-flood-vietnam-laos-thailand-august-2020>
- 129 “Thailand – Wind Storms and Flash Floods in North”, Floodlist, 18 June 2020, accessed 6 December 2021; “Thailand – Hundreds Affected After Monsoon Rain Triggers Floods in Lampang and Pathum Thani Provinces”, Floodlist, 27 July 2020, accessed 6 December 2021, <https://floodlist.com/asia/thailand-monsoon-rain-floods-july-2020>
- 130 “Thailand Faces Record Drought”, VOA, East Asia, 29 March 2020, accessed 6 December 2021, https://www.voanews.com/a/east-asia-pacific_thailand-faces-record-drought/6186589.html
- 131 “Thailand tackles worst drought in 40 years”, Bangkok Post, Business, 8 February 2020, accessed 6 December 2021, <https://www.bangkokpost.com/business/1853069/nation-tackles-worst-drought-in-40-years>
- 132 “Thailand: Floods and Landslides - Aug 2019”, ReliefWeb, accessed 3 December 2021, <https://reliefweb.int/disaster/fl-2019-000104-tha>; Sophita Thanyalakmetha, “Thailand Country Report 2020”, Asian Disaster Reduction Center, Visiting Research Program, 2020, <https://www.adrc.asia/nationinformation.php?NationCode=764&Lang=en, 3>.
- 133 Thanyalakmetha, ADRC, 6.
- 134 “Thailand – Tropical Storm Pabuk Hits Southern Provinces”, Floodlist, 7 January 2019, accessed 6 December 2021, <https://floodlist.com/asia/thailand-tropical-storm-pabuk-january-2019>
- 135 “Thailand – Flash Floods Hit Southern Provinces”, Floodlist, 20 December 2018, accessed 6 December 2021, <https://floodlist.com/asia/thailand-floods-southern-provinces-december-2018>
- 136 “Thailand – 2 Dead, 6 Missing After Landslides in Mae Hong Son Province”, Floodlist, 19 September 2018, accessed 6 December 2021, <https://floodlist.com/asia/thailand-landslide-mae-hong-son-province-september-2018>
- 137 “Thailand – 17 Provinces Still Affected After Three Weeks of Flooding”, Floodlist, 2 November 2017, accessed 6 December 2021, <https://floodlist.com/asia/thailand-flooding-ocotber-november-2017>
- 138 “Thailand – Floods in South Leave 11 Dead and 350,000 Affected”, Floodlist, 5 December 2016, accessed 6 December 2021, <https://floodlist.com/asia/thailand-floods-south-december-2016>
- 139 “Thailand – Floods Reported in 14 Provinces, 3 Dead in Nakornsawan”, Floodlist, 7 October 2016, accessed 6 December 2021, <https://floodlist.com/asia/thailand-floods-reported-14-provinces-3-dead-nakornsawan>
- 140 “Thailand – Bangkok Streets Flooded After 200mm of Rain”, Floodlist, 22 June 2016, accessed 6 December 2021, <https://floodlist.com/asia/thailand-bangkok-flood-june-2016>

- 141 “The Water Sector in Thailand”, Kingdom of the Netherlands, 18 May 2016, accessed 21 December 2021, <https://www.netherlandsandyou.nl/documents/publications/2016/05/18/factsheet-water-sector-in-thailand>, 1.
- 142 Everton Fox, “Thailand hit by its worst drought in decades”, Al Jazeera, 30 March 2016, accessed 26 December 2021, <https://www.aljazeera.com/news/2016/3/30/thailand-hit-by-its-worst-drought-in-decades>
- 143 Terry Fredrickson, “Big earthquake shakes Thailand’s North (updated Wednesday)”, Bangkok Post, 6 May 2014, accessed 26 December 2021, <https://www.bangkokpost.com/learning/advanced/408301/big-earthquake-shakes-thailand-north>
- 144 Hanni Stoklosa, Courtney Julia Burns, Abraar Karan, Michelle Lyman, Nathene Morley, Reena Tadee, Eric Goodwin, Mitigating trafficking of migrants and children through disaster risk reduction: Insights from the Thailand flood, *International Journal of Disaster Risk Reduction*, Volume 60, 2021, 102268, ISSN 2212-4209, <https://www.sciencedirect.com/science/article/pii/S221242092100234X>
- 145 “The Water Sector in Thailand”, Kingdom of the Netherlands, 18 May 2016, accessed 21 December 2021, <https://www.netherlandsandyou.nl/documents/publications/2016/05/18/factsheet-water-sector-in-thailand>, 1.
- 146 European Commission. Disaster Risk Management Knowledge Centre (DRMKC). INFORM Global Risk Index. Methodology. <https://drmkc.jrc.ec.europa.eu/inform-index/InDepth/Methodology>
- 147 INFORM Report 2020. Shared Evidence for Managing Crisis and Disasters. https://publications.jrc.ec.europa.eu/repository/bitstream/JRC120275/01_inform_2020_online_%284%29.pdf
- 148 “INFORM Risk Index 2022”, European Commission, Disaster Risk Management Knowledge Centre (DRMKC), INFORM Risk, Results and Data, Thailand, accessed 13 December 2021, <https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk/Results-and-data/moduleId/1782/id/433/controller/Admin/action/Results>
- 149 Somporn Khunwishit and David A. McEntire, “Emergency Management in Thailand: On the Way to Creating a More Systematic Approach to Disasters”, Federal Emergency Management Agency, <https://training.fema.gov/hiedu/downloads/compeemgmtbookproject/comparative%20em%20book%20-%20chapter%20-%20em%20in%20thailand-on%20the%20way%20to%20creating%20a%20more%20systematic%20approach%20.doc>
- 150 UNDRR and ADPC, 21.
- 151 Section 17 of the DPM Act 2007.
- 152 Section 3.2 of the National Disaster Prevention and Mitigation Plan 2015, 28.
- 153 Ibid, 28-32.
- 154 Ibid, 48. Accessed 14 December 2021, https://www.preventionweb.net/files/54086_54086thailandsnationaldrmpln2015.pdf
- 155 Section 6 and 7 of the DPM Act 2007.
- 156 UNDRR and ADPC, 21.
- 157 Asuncion, Xavier Venn & Manoharan, Gurusaravanan, “An Overview of Disaster Governance in Thailand with a Focus on Flooding: Chiang Mai Case Study”, 2019, 10.13140/RG.2.2.10146.99529, https://www.researchgate.net/publication/339140052_An_Overview_of_Disaster_Governance_in_Thailand_with_a_Focus_on_Flooding_Chiang_Mai_Case_Study
- 158 “Background”, DDPM, accessed 13 December 2021, <https://www.disaster.go.th/en/about-about01/>
- 159 “Remarks”, DPM Act 2007.
- 160 UNDRR and ADPC, 21.
- 161 “Background” DDPM, accessed 14 December 2021, <https://www.disaster.go.th/en/about-about01/Background>; “Organization Structure” DDPM, accessed 14 December 2021, <https://www.disaster.go.th/en/about-about07/>
- 162 “Background”, DDPM, accessed 13 December 2021, <https://www.disaster.go.th/en/about-about01/>
- 163 Areerat Wijitpatcharaphon, “Thailand’s Disaster Management System”, ADRC Visiting Researcher Presentation, ADRC, https://www.adrc.asia/aboutus/vrdata/countryreport/areerat2009_cr.pdf, 23.
- 164 “Tambon Administration Organization”, Bangkok Post, accessed 14 December 2021.
- 165 Section 17 of the DPM Act 2007.
- 166 Section 15 of the DPM Act 2007.
- 167 National DRM Plan, 22.
- 168 Section 6 of the DPM Act 2007. See also Section 3.2 of the National Plan, 33.
- 169 National DRM Plan, 83 and 48.
- 170 National DRM Plan, 38.
- 171 National DRM Plan, 30.
- 172 National DRM Plan, 31.
- 173 National DRM Plan, 32.
- 174 Ibid.
- 175 “Ministry of Defense”, Global Security, accessed 15 December 2021, <https://www.globalsecurity.org/military/world/thailand/mod.htm>
- 176 James Hookway, “Thailand’s Annual Draft Highlights Growing Unease Over Military Rule”, Wall Street Journal, 18 April 2019, accessed 15 December 2021, <https://www.wsj.com/articles/thailands-annual-draft-highlights-growing-unease-over-military-rule-1155579801>
- 177 Wassana Nanuam, “Voluntary military enlistment goes online”, Bangkok Post, 22 January 2021, <https://www.bangkokpost.com/thailand/general/2055323/voluntary-military-enlistment-goes-online>
- 178 National DRM Plan, 42.
- 179 Email communication from Col. Rossarin Chanleka, Policy Cooperation Officer, Office of Civil Affairs, Office of Policy and Planning to CFE-DM on 18 April, 2018. Published in CFE-DM Thailand Disaster Management Reference Handbook 2018, 34.

- 180 National Plan, 46.
- 181 “Thailand country brief: bilateral relations”, DFAT, accessed 19 December 2021, <https://www.dfat.gov.au/geo/thailand/thailand-country-brief>
- 182 “World Bank in Thailand”, World Bank, accessed 19 December 2021, <https://www.worldbank.org/en/country/thailand#:~:text=Thailand%20became%20an%20upper%2Dmiddle,in%20less%20than%20a%20generation.>
- 183 “Thailand, 2021–2025—Prosperity and Sustainability through Knowledge”, ADB, <https://www.adb.org/documents/thailand-country-partnership-strategy-2021-2025-and-Private-Sector-Led-Growth>
- 184 “The World Bank in Thailand”, accessed 19 December 2021, <https://www.worldbank.org/en/country/thailand/overview#2>
- 185 “Thailand country brief: bilateral relations”, DFAT, accessed 19 December 2021, <https://www.dfat.gov.au/geo/thailand/thailand-country-brief>
- 186 “Thailand”, USAID, accessed 19 December 2021, <https://www.usaid.gov/thailand>
- 187 “Delegation of the European Commission to Thailand”, DevEx, accessed 19 December 2021, <https://www.devex.com/organizations/delegation-of-the-european-union-to-thailand-123457>
- 188 “Thailand”, JICA, accessed 19 December 2021, <https://www.jica.go.jp/thailand/english/index.html>
- 189 “Thailand”, GFDRR, accessed 19 December 2021, <https://www.gfdrr.org/en/region/thailand>
- 190 “The UN in Thailand” accessed 19 December 2021, <https://thailand.un.org/en/about/about-the-un>
- 191 “ADPC At a Glance”, ADPC, accessed 19 December 2021, <https://www.adpc.net/igo/contents/adpcpage.asp?pid=2>
- 192 “Tag: Thailand”, ADRA, accessed 19 December 2021, <https://adra.org/tag/thailand>
- 193 “Thailand” CARE, accessed 19 December 2021, <https://stage.care-international.org/where-we-work/thailand>
- 194 “Thailand”, Oxfam International, accessed 19 December 2021, <https://www.oxfam.org/en/what-we-do/countries/thailand>
- 195 “HM the King Accepts Rajaprajanugroh Foundation under Royal Patronage”, The RGT Public Relations Department, 18 April 2021, accessed 19 December 2021, https://thailand.prd.go.th/ewt_news.php?nid=10997&filename=index
- 196 National DRM Plan, 46.
- 197 Khunwishit and McEntire, 14.
- 198 “Thailand”, Save the Children, accessed 19 December 2021, <https://thailand.savethechildren.net/what-we-do/humanitarian-response-disaster-risk-reduction-and-child-safety>
- 199 “TNRD History”, TNRD, accessed 15 December 2021, <https://tnrd-tdpf.info/history>
- 200 “Chula Joins 15 Academic Institutions and the Thai Network for Disaster Resilience (TDNR) in Disaster Prevention Efforts”, CU News, 11 February 2021, <https://www.chula.ac.th/en/news/43363/>
- 201 “MSU sings MoU with Thai Network for Disaster Resilience”, MSU, News and Events, 26 November 2020, https://inter.msu.ac.th/news_detail-1150-msu-sings-mou-with-thai-network-for-disaster-resilience.html
- 202 Thailand Red Cross Society, accessed 19 December 2021, <https://english.redcross.or.th/>
- 203 “World Vision Foundation of Thailand”, World Vision accessed 19 December 2021, <https://www.worldvision.or.th/>
- 204 International Committee of the Red Cross (ICRC). The Movement. Accessed 23 March 2020. <https://www.icrc.org/en/movement#:~:text=The%20International%20Red%20Cross%20and,armed%20conflicts%20and%20other%20emergencies.>
- 205 International Federation of Red Cross (IFRC). Who we are. Accessed 23 March 2021. <http://www.ifrc.org/en/who-we-are/>
- 206 Email from IFRC Country Cluster Delegation for Thailand, Cambodia, Laos, and Vietnam Programme Coordinator, Hung Ha Nguyen 28 October 2021.
- 207 Ibid.
- 208 Thai Red Cross Society. 2018. About Us: Historical. <https://english.redcross.or.th/node/47>
- 209 Thailand Red Cross Society, accessed 19 December 2021, <https://english.redcross.or.th/>
- 210 ACMC. 2015. Civil-military-police coordination in disaster management. Perspectives from South East Asian countries. Section 2: Stakeholders Guide. https://www.acmc.gov.au/wp-content/uploads/2015/07/Research-Project-Asian-Perspectives-Disaster-Mgt-HAG-Stakeholder-Guide-Attachment-4_.pdf
- 211 “The Administration of The Thai red Cross Society”, Thai Red Cross Society, accessed 19 December 2021, <https://english.redcross.or.th/aboutus/management/#tab1>
- 212 Ibid.
- 213 Ibid.
- 214 Email from Hung Ha, Programme Coordinator, Mekong Cluster Thailand, Cambodia, Laos, Vietnam on 4 January 2021.
- 215 Thai Red Cross Society, accessed 4 January 2021, <https://english.redcross.or.th/>
- 216 Email from Hung Ha, Programme Coordinator, Mekong Cluster Thailand, Cambodia, Laos, Vietnam on 4 January 2021.
- 217 “Policy & History”, U.S. Embassy & Consulate in Thailand, accessed 19 December 2021, <https://th.usembassy.gov/our-relationship/policy-history/>
- 218 U.S. Embassy & Consulate in Thailand, accessed 19 December 2021, <https://th.usembassy.gov/embassy-consulate/chiang-mai/>
- 219 “Thailand”, USAID, accessed 19 December 2021, <https://www.usaid.gov/thailand>
- 220 “Joint US Military Advisory Group Thailand (JUSMAGTHAI)”, U.S Embassy & Consulate Thailand, accessed 19 December 2021, <https://th.usembassy.gov/embassy-consulate/bangkok/us-agencies/jusmagthai/>

- 221 U.S. Embassy & Consulate in Thailand, accessed 19 December 2021, <https://th.usembassy.gov/embassy-consulate/bangkok/us-agencies/usamd-afirms/>
- 222 “Centers for Disease Control” U.S. Embassy and Consulate Thailand, accessed 19 December 2021, https://th.usembassy.gov/embassy-consulate/bangkok/us-agencies/centers-disease-control-cdc/?_ga=2.179283873.408696426.1639963466-2063613110.1633141192
- 223 UNDRR and ADPC 2020, 22.
- 224 Section 4 of the DPM Act 2007.
- 225 UNDRR and ADPC 2020, 21.
- 226 Section 3.6.1 of the National DRM Plan, 51.
- 227 Preface to the National DRM Plan.
- 228 National DRM Plan, 16.
- 229 Ibid, 17.
- 230 Ibid, 20.
- 231 Communication from Nidhirat Srisirojanakorn, Humanitarian Affairs Analyst United Nations Office for the Coordination of Humanitarian Affairs (OCHA), Regional Office for Asia and the Pacific (ROAP) 20 December 2021.
- 232 Ibid, 31.
- 233 Ibid.
- 234 Ibid, 54-58.
- 235 UNDRR and ADPC, 24.
- 236 “Thailand: Disaster warning operations established but problems remain”, ReliefWeb, 24 December 2007, <https://reliefweb.int/report/thailand/thailand-disaster-warning-operations-established-problems-remain>; “DDPM and National Disaster Warning Center (NDWC) leverage effectively synergies - upgrade national early warning system”, DDPM, accessed 17 December 2021, https://www.disaster.go.th/en/cdetail-8314-disaster_news-147-1/, 20.
- 237 Ibid.
- 238 “DDPM and National Disaster Warning Center (NDWC) leverage effectively synergies - upgrade national early warning system”, DDPM, accessed 17 December 2021, https://www.disaster.go.th/en/cdetail-8314-disaster_news-147-1/, 16, 18.
- 239 Khunwishit and McEntire, 9.
- 240 “Department of Disaster Prevention and Mitigation (DDPM) AND National Disaster Warning Center (NDWC)”, UNESCAP, accessed 16 December 2021, https://www.unescap.org/sites/default/files/Thailand_ASEAN%20Briefing%20on%20ESBN%20Maritime.pdf, 18.
- 241 UNDP. Institutional and Legislative Systems for Early Warning and Disaster Risk Reduction. Thailand Summary. Regional Programme on Capacity Building for Sustainable Recovery and Risk Reduction. July 2009. <http://www.undp.org/content/dam/rbap/docs/Research%20&%20Publications/CPR/RBAP-CPR-2009-EWS-DRR-Thailand-Summary.pdf>
- 242 Pacific Disaster Center (PDC). Disasterware in Thailand (NDWC). Disasterware Platform used by National Disaster Center-Thailand. <http://www.pdc.org/about/projects/ThailandNDWC/> “Thailand’s population of nearly 70 million to be protected by new early warning and hazard monitoring technologies”, ReliefWeb, 29 December 2021, <https://reliefweb.int/report/thailand/thailand-s-population-nearly-70-million-be-protected-new-early-warning-and-hazard>
- 243 Thai Meteorological Department (TMD). About us: Vision and missions. <https://www.tmd.go.th/en/aboutus/vision.php>
- 244 “Earthquake Observation Division”, accessed 16 December 2021, <https://earthquake.tmd.go.th/>
- 245 UNDRR and ADPC, 24.
- 246 National DRM Plan, 68, accessed 14 December 2021, https://www.preventionweb.net/files/54086_54086thaillandsnationaldrmpln2015.pdf
- 247 Center for Excellence in Disaster Management & Humanitarian Assistance. Humanitarian Assistance Response Training (HART) Module: HA/DR Information. September 2018.
- 248 Joint Publication 3-29. Foreign Humanitarian Assistance. 14 May 2019. Page IV-35. https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_29.pdf?ver=2019-05-21-150525-607
- 249 APMC. 2015. Civil-military-police coordination in disaster management. Perspectives from South East Asian countries. Section 2: Stakeholders Guide. https://www.acmc.gov.au/wp-content/uploads/2015/07/Research-Project-Asian-Perspectives-Disaster-Mgt-HAG-Stakeholder-Guide-Attachment-4_.pdf
- 250 Email communication from Julia Hartelius, Interim Disaster Law Coordinator, International Federation of Red Cross and Red Crescent Societies (IFRC). Asia Pacific Regional Office. April 15, 2019.
- 251 “About IFRC”, IFRC, accessed 5 January 2022, <https://www.ifrc.org/about-ifrc>
- 252 U.S. Agency for International Development (USAID). Humanitarian Assistance. Accessed 23 March 2021. <https://www.usaid.gov/humanitarian-assistance>
- 253 Pacific Disaster Center (PDC Global). About DisasterAWARE. Accessed 23 March 2021. <https://www.pdc.org/apps/disasteraware/about-disasteraware/>
- 254 Pacific Disaster Center (PDC Global). Disaster Alert. Accessed 23 March 2021. <https://disasteralert.pdc.org/disasteralert/> Pacific Disaster Center (PDC Global). DisasterAWARE Quick Start User Guide, 2019, Version 6.5. <https://disasteraware.pdc.org/help/Quick-Start-Guide-DisasterAWARE-screen.pdf>
- 255 Pacific Disaster Center (PDC Global). DisasterAlert™. Accessed 23 March 2021. <https://www.pdc.org/apps/disaster-alert/>
- 256 All Partners Access Network (APAN). About Us. Accessed 23 March 2021. <https://www.apan.org/pages/about>
- 257 All Partners Access Network (APAN). Solutions. Accessed 23 March 2021. <https://www.apan.org/pages/solutions-hadr>

- 258 HDX, 'INFORM COVID-19 Risk Index Version 0.1.4', accessed 23 October 2021, <https://data.humdata.org/dataset/inform-covid-19-risk-index-version-0-1-4>
- 259 "INFORM Covid-19", DRMK-INFORM, <https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Covid-19>
- 260 Ibid.
- 261 Ibid.
- 262 The 2020 WEF Global Competitiveness Report did provide an economy profile of Thailand similar to the 2019 report and a 2021 Global Competitive Report has not been released. See Klaus Schwab, "The Global Competitiveness Report 2019", WEF, 2019, https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf, 550; Klaus Schwab and Saadia Zahidi, "The Global Competitive Report: Special Edition 2020: How Countries are Performing in the Road to Recovery", WEF, 2020.
- 263 WEF, 550.
- 264 Ibid.
- 265 "Railways", Thailand Board of Investments, accessed 20 December 2021, <https://www.boi.go.th/index.php?page=seaports>
- 266 From each authorities respective website as listed in Table 8.
- 267 For a list of airports operated by Airports of Thailand see "Code for Thailand Airport", AOT, accessed 20 December 2021, <https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/code-for-thailand-airport-icao/>; for lists of airport operated by DOA and runway length see "Airports" DOA, accessed 20 December 2021, <https://www.airports.go.th/th/index.php>.
- 268 NESDC. Accessed 20 December 2021. https://www.nesdc.go.th/suvarnabhumi/suwat_dr_center/interview%20-%209jan47/suvarnabhumi_airport_article.htm
- 269 Airport Hub Thailand, accessed 20 December 2021, [http://donmueang.thailandairportshub.com/th/category-view/airport-information#:~:text=ICAO%20%3A%20VTBD%20IATA%20%3A%20DMK%20%E0%B9%80%E0%B8%A7%E0%B8%A5%E0%B8%B2,\(11%2C461%20%E0%B8%9F%E0%B8%B8%E0%B8%95%2F147%20%E0%B8%9F%E0%B8%B8%E0%B8%95\)](http://donmueang.thailandairportshub.com/th/category-view/airport-information#:~:text=ICAO%20%3A%20VTBD%20IATA%20%3A%20DMK%20%E0%B9%80%E0%B8%A7%E0%B8%A5%E0%B8%B2,(11%2C461%20%E0%B8%9F%E0%B8%B8%E0%B8%95%2F147%20%E0%B8%9F%E0%B8%B8%E0%B8%95))
- 270 Chiang Mai Thailand Airport Hub. Accessed 20 December 2021, <http://chiangmai.thailandairportshub.com/th/category-view/chiangmai-airport-information>
- 271 Chiang Rai Thailand Airport Hub, accessed 20 December 2021, <http://chiangrai.thailandairportshub.com/th/category-view/airport-information>
- 272 Hatyai Thailand Airports Hub, accessed 20 December 2021, <http://hatyai.thailandairportshub.com/th/category-view/airport-information>
- 273 Phuket Thailand Airport Hub, accessed 20 December 2021, <http://phuket.thailandairportshub.com/th/category-view/airport-information>
- 274 "U-Tapao Airport and Eastern Aviation City", ECCO, accessed 20 December 2021, <https://www.eeco.or.th/th/utapao-airport-and-the-eastern-aviation-city>
- 275 Sukhothai Airport, Bangkok Airway, <https://www.bangkokair.com/pages/view/sukhothai-airport>; Trat Airport, Bangkok Airways, <https://www.bangkokair.com/tha/pages/view/trat-airport>
- 276 Thailand Department of Airports, accessed 20 December 2021, <https://www.airports.go.th/en/contact.html>
- 277 "Trat Airport", Bangkok Airway, accessed 20 December 2021, <https://www.bangkokair.com/tha/pages/view/trat-airport>
- 278 "Trat Airport", Bangkok Airway, accessed 20 December 2021, <https://www.bangkokair.com/tha/pages/view/trat-airport>
- 279 "Seaports", Thailand Board of Investment, accessed 20 December 2021, <https://www.boi.go.th/index.php?page=seaports>
- 280 "Seaports", Thailand Board of Investment, accessed 20 December 2021, <https://www.boi.go.th/index.php?page=seaports>
- 281 CIA World Factbook; "Seaports", Thailand Board of Investment, accessed 20 December 2021, <https://www.boi.go.th/index.php?page=seaports>
- 282 "Ports and Terminals", CIA World Factbook.
- 283 "Seaports", Thailand Board of Investment, accessed 19 January 2022, <https://www.boi.go.th/index.php?page=seaports>
- 284 "Waterways", CIA World Factbook.
- 285 "Seaports: Regional River Ports", Thailand Board of Investment, accessed 20 December 2021, <https://www.boi.go.th/index.php?page=seaports>
- 286 Ibid.
- 287 "Highways", Thailand Board of Investments, <https://www.boi.go.th/index.php?page=highways>
- 288 Ibid.
- 289 Ibid.
- 290 Ibid.
- 291 Transit Bangkok, accessed 20 December 2021, <https://www.transitbangkok.com/brt.html>
- 292 Ibid.
- 293 "Country Partnership Strategy: Thailand, 2013-2016. Sector Assessment (Summary): Transport", Asian Development Bank, 2016, <https://www.adb.org/sites/default/files/linked-documents/cps-tha-2013-2016-ssa-01.pdf>, 2.
- 294 "Railways", Thailand Board of Investment, accessed 20 December 2021, <https://www.boi.go.th/index.php?page=railways>
- 295 "Railways", CIA World Factbook.
- 296 "Railways", Thailand Board of Investment, accessed 20 December 2021, <https://www.boi.go.th/index.php?page=railways>
- 297 "China, Thailand sign agreement on high-speed rail line, set to open in 2026", Global Times, 29 March 2021, accessed 20 December 2021, <https://www.globaltimes.cn/page/202103/1219753.shtml>

- 298 James Clark, “Bangkok – Chiang Mai High-Speed Railway”, *Future Southeast Asia*, 19 October 2021, accessed 20 December 2021.
- 299 “Fate of Bangkok’s Hua Lamphong railway station up in the air”, *The Star*, 10 January 2022, <https://www.thestar.com.my/aseanplus/aseanplus-news/2022/01/10/fate-of-bangkok039s-hua-lamphong-railway-station-up-in-the-air>
- 300 “Thai Education in Brief: Education as a Spearhead to Break through the Middle Income Trap”, Ministry of Education Thailand, 19 October 2017, accessed 20 December 2021, <http://www.en.moe.go.th/enMoe2017/index.php/policy-and-plan/thai-education-in-brief>
- 301 Ibid.
- 302 “School Safety in Thailand”, ASEAN Safe Schools Initiative, 1 December 2015, <https://aseansafeschoolsinitiative.org/school-safety-in-thailand-2/>
- 303 “Mobile cellular subscription (per 100 people) – Thailand”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=TH>
- 304 “Fixed telephone subscriptions (per 100 people) – Thailand”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/IT.MLT.MAIN.P2?locations=TH>
- 305 “Secure Internet servers – Thailand”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/IT.NET.SECR?locations=TH>
- 306 “Fixed broadband subscriptions (per 100 people)”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/IT.NET.BBND.P2?locations=TH>; “Individuals using the Internet (% of the population)”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=TH>
- 307 “Secure Internet servers – Thailand”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/IT.NET.SECR?locations=TH>
- 308 “Thailand Country Commercial Guide: Thailand Telecommunication”, International Trade Administration, accessed 21 December 2021, <https://www.trade.gov/country-commercial-guides/thailand-telecommunications>
- 309 “Thailand’s Post History”, Thailand Post, accessed 21 December 2021, https://www.thailandpost.co.th/index.php?page=article_list_with_detail&addon=aboutus&group_id=85&language=en
- 310 “Products and Services”, Thailand Post, accessed 21 December 2021, <https://www.thailandpost.co.th/index.php?page=index&language=en>
- 311 UPS Thailand, <https://www.ups.com/th/en/Home.page>; FedEx Thailand, <https://www.fedex.com/en-th/shipping.html>
- 312 “Thailand profile - media”, BBC News, 2 June 2014, accessed 21 December 2021, <https://www.bbc.com/news/world-asia-15639421>
- 313 “Broadcast Media”, CIA World Factbook, Thailand, accessed 21 December 2021, <https://www.cia.gov/the-world-factbook/countries/thailand/#government>
- 314 “Thailand profile - media”, BBC News, 2 June 2014, accessed 21 December 2021, <https://www.bbc.com/news/world-asia-15639421>
- 315 “Broadcast Media”, CIA World Factbook, Thailand, accessed 21 December 2021, <https://www.cia.gov/the-world-factbook/countries/thailand/#government>
- 316 Ibid.
- 317 “Digital Marketing in Thailand in 2021”, ICAT Thailand, 10 March 2021, accessed 21 December 2021, <https://www.icat.co.th/en/blog/digital-marketing-in-thailand-2021/>
- 318 Suchit Leesa-Nguansuk, “Thailand makes top 10 in social media use”, Bangkok Post, 1 March 2018, accessed 21 December 2021, <https://www.bangkokpost.com/business/1420086/thailand-makes-%20top-10-in-social-media-use>
- 319 “Access to electricity (% of population) – Thailand”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=TH>
- 320 “Electricity”, Thailand Board of Investment, accessed 21 December 2021, <https://www.boi.go.th/index.php?page=electricity>
- 321 Ibid.
- 322 Ibid.
- 323 “People using safely managed sanitation services (% of the population) – Thailand”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/SH.STA.SMSS.ZS?locations=TH>; WEF, 550.
- 324 “People using safely managed sanitation services, urban (% of urban population) – Thailand”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/SH.STA.SMSS.UR.ZS?locations=TH>; “People using safely managed sanitation services, rural (% of rural population) – Thailand”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/SH.STA.SMSS.RU.ZS?locations=TH>
- 325 Jennifer Philip, “Water Quality in Thailand”, Borgen Project. Blog, 5 February 2020, accessed 21 December 2021, <https://borgenproject.org/tag/sanitation-in-thailand/>
- 326 “The Water Sector in Thailand”, Kingdom of the Netherlands, 18 May 2016, accessed 21 December 2021, <https://www.netherlandsandyou.nl/documents/publications/2016/05/18/factsheet-water-sector-in-thailand, 2>.
- 327 “Thailand: Striking contrasts in access to safe drinking water and sanitation - UN expert urges establishment of independent water and sanitation regulator”, UN Office of the High Commissioner for Human Rights, News Archive, 8 February 2013, accessed 21 December 2021, <https://newsarchive.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=12975&LangID=E>

- 328 “The Water Sector in Thailand”, Kingdom of the Netherlands, 18 May 2016, accessed 21 December 2021, <https://www.netherlandsandyou.nl/documents/publications/2016/05/18/factsheet-water-sector-in-thailand>, 2.
- 329 “Water Resources Act B.E.2561 (2018)”, FAO, FAOLEX Database, 25 December 2018, <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC201938/>
- 330 “History of The National Water Resources”, ONWR, accessed 21 December 2021, http://www.onwr.go.th/en/?page_id=3992
- 331 The 2021 GHS Index assesses countries across 6 categories, 37 indicators, and 171 questions using publicly available information. The GHS Index benchmarks health security in the context of other factors critical to fighting outbreaks, such as political and security risks, the broader strength of the health system, and country adherence to global norms. See “What is the GHS Index”, GHS Index, accessed 21 December 2021, <https://www.ghsindex.org/about/>
- 332 UNDRR and ADPC, 4.
- 333 “WHO Country Cooperation Strategy (CCS) Thailand 2017-2021”, WHO, <https://apps.who.int/iris/bitstream/handle/10665/255510/9789290225829-eng.pdf?sequence=1&isAllowed=y>
- 334 “WHO Country Cooperation Strategy Thailand 2017-2021”, WHO, <https://apps.who.int/iris/bitstream/handle/10665/255510/9789290225829-eng.pdf?sequence=1&isAllowed=y>
- 335 “The Kingdom of Thailand health system review”, World Health Organization, Regional Office for the Western Pacific, 2015, <https://apps.who.int/iris/handle/10665/208216>, 17.
- 336 Ibid, 23.
- 337 WHO CCS, 17.
- 338 Ibid.
- 339 Ibid, 18.
- 340 Ibid, 21.
- 341 Ibid, 22.
- 342 Ibid, 24.
- 343 “HIV and AIDs in Thailand”, Avert, accessed 21 December 2021, <https://www.avert.org/professionals/hiv-around-world/asia-pacific/thailand>
- 344 “Thailand”, UNAIDs, accessed 21 December 2021, <https://www.unaids.org/en/regionscountries/countries/thailand>
- 345 Avert.
- 346 WHO CCS, 17.
- 347 Ibid, 7.
- 348 Ibid.
- 349 “Thailand extends Emergency Decree for fifteenth time until 31 January 2022”, accessed 21 December 2021, <https://www.tatnews.org/2021/12/thailand-extends-emergency-decree-for-fifteenth-time-until-31-january-2022/>
- 350 UNDRR and ADPC, 4.
- 351 Ibid.
- 352 “Coronavirus disease 2019 (COVID-19) WHO Thailand Situation Report 214 - 17 December 2021 [EN/TH]”, ReliefWeb, 17 December 2021, <https://reliefweb.int/report/thailand/coronavirus-disease-2019-covid-19-who-thailand-situation-report-214-17-december-2021>
- 353 “Thailand reports first local Omicron case, eyes reinstating quarantine”, Reuters, 19 December 2021, <https://www.reuters.com/world/asia-pacific/thailand-consider-reinstating-mandatory-quarantine-over-omicron-2021-12-20/>
- 354 “Thailand Situation”, Thailand Department of Disease Control, accessed 21 December 2021, <https://ddc.moph.go.th/viralpneumonia/eng/index.php>
- 355 Ibid, 5.
- 356 Ibid, 6 and 22.
- 357 “Physician (per 1,000 people) – Thailand”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/SH.MED.PHYS.ZS?locations=TH>; “Nurses and Midwife (per 1,000 people) – Thailand”, World Bank Data, accessed 21 December 2021, <https://data.worldbank.org/indicator/SH.MED.PHYS.ZS?locations=TH>
- 358 Human Resources for Health. Rural retention of doctors graduating from the rural medical education project to increase rural doctors in Thailand: a cohort study. March 1 2015. 13 (10) doi: 10.1186/s12960-015-0001-y. <https://pubmed.ncbi.nlm.nih.gov/25889590/>
- 359 Health Affairs. Health Professional Education And Universal Health Coverage: A Summary Of Challenges And Selected Case Studies. November 2017. Sripathy et al. <https://pubmed.ncbi.nlm.nih.gov/29137508/>
- 360 International Journal of Health Policy and Management. 2018. 7(2) 137-143. Managing In- and Out-Migration of Health Workforce in Selected Countries in South East Asia Region. Doi 10.15171/ijhpm.2017.49. Tangcharoensathien et al. https://www.ijhpm.com/article_3357.html
- 361 “Landmark resolution on Women, Peace and Security”, Office of the Special Advisor on Gender Issues and the Advancement of Women (OSAGI), UN Women, accessed 26 December 2021, <https://www.un.org/womenwatch/osagi/wps/>
- 362 UN Peackeeping, Thailand, <https://peacekeeping.un.org/en/thailand>
- 363 “ASEAN Regional Study on Women, Peace, and Security”, ASEAN, USAID Partnership for Regional Optimization with the Political Security and Socio-Cultural Communities (PROSPECT), UN Women, 2021, <https://asean.org/wp-content/uploads/2021/03/ASEAN-WPS-Study-01082021.pdf>, 51.
- 364 Ibid, 65.
- 365 “Thailand”, UN Women, accessed 26 December 2021, <https://asiapacific.unwomen.org/en/countries/thailand>
- 366 Ibid.
- 367 Ibid.
- 368 Ibid.

- 369 “Thailand”, UN Women, Data, accessed 26 December 2021, <https://data.unwomen.org/country/thailand>
- 370 “ASEAN Regional Study on Women, Peace, and Security”, ASEAN, USAID Partnership for Regional Optimization with the Political Security and Socio-Cultural Communities (PROSPECT), UN Women, 2021, <https://asean.org/wp-content/uploads/2021/03/ASEAN-WPS-Study-01082021.pdf>, 65.
- 371 Ibid.
- 372 Ibid, 18.
- 373 Ibid.
- 374 WBG and ADB, 19.
- 375 The National Strategy 2018-2037 is the first long-term strategy developed pursuant to Article 65 of the Constitution of the Kingdom of Thailand. See “National Strategy (Summary) 2018-2037”, National Strategy Secretariat Office, Office of the National Economic and Social Development Board, [https://www.moac.go.th/pyp-dwl-files-402791791893#:~:text=The%20National%20Strategy%20\(2018%2D2037,developed%20pursuant%20to%20the%20Constitution.&text=Therefore%2C%20Thailand%20needs%20a%20comprehensive,towards%20security%2C%20prosperity%20and%20sustainability,3](https://www.moac.go.th/pyp-dwl-files-402791791893#:~:text=The%20National%20Strategy%20(2018%2D2037,developed%20pursuant%20to%20the%20Constitution.&text=Therefore%2C%20Thailand%20needs%20a%20comprehensive,towards%20security%2C%20prosperity%20and%20sustainability,3).
- 376 Although these targets were announced at the COP26, Thailand has not submitted an updated Nationally Determined Contribution to the UNFCCC at the time of writing (19 January 2021). See reporting of the COP26 pledges by Thailand. Pratch Rujivanarom “Thai pledges undermining climate push”, Bangkok Post, 22 November 2021, accessed <https://www.bangkokpost.com/thailand/general/2219231/thai-pledges-undermining-climate-push>
- 377 UNDRR and ADPC, 33.
- 378 “Mainstreaming Disaster Risk Management (DRM) in Government Institutions”, Presentation by Dr Bhichit Rattakul, President Thai Network for Disaster Resilience (TNRD), <https://cesdrr.org/uploads/eptisa/en/Effective%20leadership%20and%20coordination%20in%20disaster%20risk%20management%20and%20climate%20change.pdf>, 6-9.
- 379 Maj. Spencer Garrison, “US, Royal Thai Armed Forces complete 40th Exercise Cobra Gold”, U.S. Army, News, 24 August 2021, https://www.army.mil/article/249675/us_royal_thai_armed_forces_complete_40th_exercise_cobra_gold
- 380 “20th SEACAT concludes, puts cooperative maritime security first”, U.S. Navy, News, 20 August 2021, <https://www.cpf.navy.mil/News/Article/2743017/20th-seacat-concludes-puts-cooperative-maritime-security-first/>
- 381 “United States and Thailand Expand Maritime Partnership”, U.S. Indo-Pacific Command, 14 September 2021, <https://www.pacom.mil/Media/News/News-Article-View/Article/2774622/united-states-and-thailand-expand-maritime-partnership/>
- 382 “World’s Longest-running Military Exercise Commences in Thailand”, U.S. Indo-Pacific Command, News, 26 February 2020, <https://www.pacom.mil/Media/News/News-Article-View/Article/2095184/worlds-longest-running-military-exercise-commences-in-thailand/>
- 383 “U.S., Thailand Kick Off 25th Cooperation Afloat Readiness and Training Exercise”, U.S. Indo-Pacific Command, News, 30 May 2019, <https://www.pacom.mil/Media/News/News-Article-View/Article/1861689/us-thailand-kick-off-25th-cooperation-afloat-readiness-and-training-exercise/>; “US, Royal Thai Navy Conclude CARAT Thailand 2019”, U.S. Indo-Pacific Command, News, 10 June 2019, <https://www.pacom.mil/Media/News/News-Article-View/Article/1871383/us-royal-thai-navy-conclude-carat-thailand-2019/>
- 384 Thai-ROK-U.S. Amphibious Force Conducts Beach Assault During Cobra Gold 2018. By Amphibious Force, U.S. 7th Fleet, Feb. 21, 2018. www.pacom.mil/Media/News/News-Article-View/Article/1447297/thai-rok-us-amphibious-force-conducts-beach-assault-during-cobra-gold-2018/
- 385 “U.S. Thailand Continues to Expand Partnership with 24th CARAT Exercise”, U.S. Indo-Pacific Command, News, 14 June 2018, <https://www.pacom.mil/Media/News/News-Article-View/Article/1551046/us-thailand-continues-to-expand-partnership-with-24th-carat-exercise/>
- 386 U.S. Indo-Pacific Command. U.S. Pacific Command Disaster Response Exercise Begins in Vietnam By Sgt. 1st Class Corey Ray. Dec. 6, 2017. <http://www.pacom.mil/Media/News/News-Article-View/Article/1390324/us-pacific-command-disaster-response-exercise-begins-in-vietnam/>
- 387 U.S. Embassy & Consulate. Tempest Express 2017. Opening Ceremony. August 22, 2017. <http://www.pacom.mil/Media/News/News-Article-View/Article/1286040/tempest-express-2017-opening-ceremony/>
- 388 U.S. Indo-Pacific Command. Cooperation Afloat Readiness and Training 2017 Series Begins, Strengthening Maritime Partnerships, Cooperation. Task Force 73, Destroyer Squadron 7 Public Affairs. May 30, 2017. <http://www.pacom.mil/Media/News/News-Article-View/Article/1197187/cooperation-afloat-readiness-and-training-2017-series-begins-strengthening-maritime-partnerships-cooperation-task-force-73-destroyer-squadron-7-public-affairs>
- 389 U.S. Indo-Pacific Command. Cobra Gold 2017 Officially Kicks Off In Thailand. 15 February 2017. <https://www.pacom.mil/Media/News/News-Article-View/Article/1084897/cobra-gold-2017-officially-kicks-off-in-thailand/>
- 390 U.S. Indo-Pacific Command. 18 Nations Participate in ASEAN Exercise 16-3. 1st Lt. Natalie Poggemeyer. U.S. Marine Corps Forces, Pacific. Sept. 6, 2016. www.pacom.mil/Media/News/News-Article-View/Article/935617/18-nations-participate-in-asean-exercise-16-3/
- 391 U.S. Indo-Pacific Command. Annual Bilateral Exercise, Hanuman Guardian under Way in Thailand. Capt. Derek Wamsley. June 30, 2016. www.pacom.mil/Media/News/News-Article-View/Article/821997/annual-bilateral-exercise-hanuman-guardian-under-way-in-thailand/
- 392 U.S. Indo-Pacific Command. U.S. Exercise Strengthens Pacific Relationships. Cpl. Jonathan Lopez Cruet. February 22, 2016. www.pacom.mil/Media/News/Article/670822/us-exercise-strengthens-pacific-relationships/
- 393 “Policy & History”, U.S. Embassy & Consulate in Thailand, accessed 28 December 2021, <https://th.usembassy.gov/our-relationship/policy-history/>

394 Ibid.

395 Ibid.

396 Ibid.

397 Jane's By IHS Markit. Jane's Sentinel Security Assessment. Thailand. March 7, 2018.

398 Ibid.

399 "Foreign Policy", Thailand Ministry of Foreign Affairs, accessed 28 December 2021, <https://www.mfa.go.th/en/page/foreign-policy?menu=5e1fcc1657b01e001a03f7d2>

400 "Thailand in brief: International Relations", Thailand Embassy in the U.S., accessed 28 December 2021, <https://thaiembdc.org/about-thailand/thailand-in-brief/>

401 UN Peace Operations. Contributions of Uniformed Personnel to UN by Country, Mission, and Personnel Type. 28 December 2021, <https://peacekeeping.un.org/en/thailand>

402 U.S. Department of State. Thailand International Travel Information. Accessed 28 December 2021. <https://travel.state.gov/content/travel/en/international-travel/International-Travel-Country-Information-Pages/Thailand.html>

403 Thailand, International Travel, U.S. Department of State, accessed 28 December 2021, <https://travel.state.gov/content/travel/en/international-travel/International-Travel-Country-Information-Pages/Thailand.html>

404 CDC. Travelers' Health: Thailand. Accessed 28 December 2021. https://wwwnc.cdc.gov/travel/destinations/traveler/none/thailand?s_cid=ncezid-dgmq-travel-single-001

405 PreventionWeb.net. Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030. http://www.preventionweb.net/files/44983_sendaiframeworkchart.pdf

406 UNISDR. Sendai Framework for Disaster Risk Reduction. <https://www.unisdr.org/we/coordinate/sendai-framework>

407 UNISDR. Sendai Framework for Disaster Risk Reduction. <https://www.unisdr.org/we/coordinate/sendai-framework>

408 PreventionWeb.net. Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030. http://www.preventionweb.net/files/44983_sendaiframeworkchart.pdf

409 UNISDR. Sendai Framework for Disaster Risk Reduction. <https://www.unisdr.org/we/coordinate/sendai-framework>

410 PreventionWeb.net. Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030. http://www.preventionweb.net/files/44983_sendaiframeworkchart.pdf

411 PreventionWeb.Net. Thailand. National progress report on the implementation of the Hyogo Framework for Action (2013-2015). https://www.preventionweb.net/files/41674_THA_NationalHFAProgress_2013-15.pdf

412 CIA World Factbook. Thailand. Accessed 28 December 2021. <https://www.cia.gov/the-world-factbook/countries/thailand/#introduction>



Center for Excellence in Disaster Management & Humanitarian Assistance
456 Hornet Avenue, Building 76, Joint Base Pearl Harbor - Hickam, Hawaii 96860-3503
Telephone: 808.472.0518 | DSN: 315.472.0518
<https://www.cfe-dmha.org>

  @cfedmha